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Balancing Personalities and Perspectives Among Cross-Functional Project Teams: A Narrative Analysis of Interactions and Work Handoffs from the Viewpoints of Different Activity Cycles

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by

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

May 2018

Dedication

I would like to dedicate this dissertation to my father, the late Richard Burns, who once told me that he woke from a dream in which I was elected Governor of the State of Hawaii. He explained that the meaningful part of his dream was his abiding sense of reassurance that I would be all right in life, regardless of the paths I chose. His calm, amused, and steadfast confidence has always been a centering source of strength.

Acknowledgements

I would like to thank all of the people who helped and supported me with writing this dissertation. First, I would like to thank Danna for her tireless hours of proofreading, editing, patience, and unrelenting support. Second, I want to thank Cliff who was absolutely insistent that this work be completed and for his assurance that Shuffleboard Sundays would still be there afterwards. Third, I wish to enthusiastically thank the crew at Hill's Café, including Cliff, Daniel, Erica, Josh, Marianna, and Tracie, for their continuous support and encouragement as I spent a few hours nearly every day in one of my usual spots writing for months on end. Finally, I want to thank Matt, Jason, and Chris. Completing this dissertation would absolutely not have been possible without their explicit, unwavering, and unflinching support.

Abstract

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This dissertation examines a collection of stories describing interactions and work handoffs between co-workers who are working to complete a project. The majority of the narratives focus on development projects occurring in the tech sector. The selected narratives include a description of the storyteller's role, and the role of others who were also working on the same project but in a different capacity. This dissertation provides an overview of the concept of activity cycles (Ballard, 2009) and the traditional project cycle in order to provide grounding and context for the narratives and analysis that follows. The interactants in each narrative are identified as primarily operating in one of four different activity cycles. This 2x2 matrix is derived from two axes, which are time windows and task variability. This dissertation provides four chapters that focus, in turn, on each of the four activity cycles. The analysis that follows each narrative identifies the prominent characteristics of the interactions and handoffs with actors operating in that activity cycle. These characteristics are then grouped into themes, and those themes are compared to the definitional descriptions of each activity cycle. This analysis results in the identification of 16 themes distributed across the quadrants. Nine of the 16 themes go beyond the initial descriptions of the activity cycles and have the potential to expand understanding of these activity cycles.

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CHAPTER 1: INTRODUCTION

This study is an examination of the stories told by people participating in a post-mortem debriefing at their company. A traditional part of a project management cycle is the post-mortem examination where the people who helped deliver the project reflect on what went well, what could have gone better and what lessons were learned. A large tech company recently tried a new format for their post-mortem conversations in which a facilitator met one-on-one with a wide range of employees who regularly worked on projects in different roles. Some of the employees worked in a role where they were engaged in a relatively narrow scope of discrete tasks for multiple projects, while others had both a broader and more intensive focus on a single project at a time. The facilitator engaged the people he met with in a more open-ended conversation and encouraged them to think more broadly about their past experiences with projects. The facilitator explained that he was interested in collecting their reflections on and perceptions about their role in past projects that they wanted to discuss. The goal was to collect a broader set of reflections that were less focused on lessons learned on a single project and more on experiences that focused on the project management process more holistically. The conversations were not limited to experiences on past projects within the company, but to any past projects that provided a learning experience for future growth and development. The facilitator approached this task with an informal air and encouraged people to take a conversational approach. He also drew the information out in a way that led to the experiences to be shared in a form of storytelling as people shared their stories about past projects.

This researcher was given access to the recordings, notes and other materials collected as a part of these conversations. In reviewing these secondary sources, this researcher found that

these informal conversations provided a rich source of first-hand stories telling about experiences on particular projects with rich descriptions of interactions with others who also worked on the same project. They worked in different roles and had different interactions that revolved around key work handoffs between the individuals and teams.

Key criteria were identified as being a necessity for any stories to be selected for this work. First, the story includes a description of the individual's role. Second, the story must feature the storyteller’s interactions with others who were also working on the same project but in a different capacity; interactions that include work handoffs were prioritized. The third is that at least one of the characters with whom the storyteller interacted was identified by this researcher as being in a different activity cycle than the storyteller. This research was intended to be a qualitative examination of this phenomenon using a narrative methodology where narratives were drawn from the secondary sources described above.

The concept of activity cycles used in this research effort is grounded in the model of activity cycles defined by Ballard (2009) and applied to a communication design context by Ballard and McVey (2014). In this model, four different activity cycles are depicted in a 2x2 matrix in Figure 1. The dominant activity cycle in which an individual is centered is dependent on the variability of one's tasks and the duration and scope of the time frame in which one works. The project management cycle was selected as the framework for this data collection because formal projects go through discrete and agreed upon phases where the time frame and task variability within each phase differ notably from one another, as do the various roles and functions performed by different people working collectively on a project. Often in professional organizations that take part in formal projects, many individuals will not work on a singular

project from start to finish. Rather, they will work on the same phase of an ongoing series of different projects. In these situations, the actual type of work being done remains fairly constant, but the context in which the work is being done changes depending on the goals of each project.

Meanwhile, there are others who have a more extended focus and are responsible for the management of a project from an initial concept to its completion. The people in these roles are interdependent and work collectively to achieve the goals of the project. The research design collect stories from individuals and groups who work in this latter type of environment. Collectively, the selected stories came from individuals who, in the context of completing the phases that make up a project, worked within and interacted with others across four activity cycles. This collection provided an opportunity to examine the perspectives of individuals working in different activity cycles while remaining connected to each other through the shared goal of completing a successful project.

This research was a qualitative examination of secondary source materials to identify patterns of communication among individuals working within and across activity cycles. A narrative methodology was used to examine and organize the stories told by individuals who were reflecting on and telling stories about their work on past projects. Narrative methodology offered a complementary framework for this research because the project management cycle shares many common characteristics with a story. A traditional narrative has a beginning, middle and end where the narrator knows these pieces at the time of the telling of the story. The narratives collected for this research often featured surprises and challenges that were faced by the storyteller. As humans, we often construct meaning and understanding of past events and challenges by combining those events into sequences that take the form of stories with known

beginnings, middles and ends. Collecting stories about events and interactions that have already been represented as part of a project with a defined and commonly understood temporal framework offered a chance to collect participant perspectives in a way that felt familiar and intuitive.

This dissertation includes a description and typology of work-based activity cycles that are a central framework for the analysis of the data collected in this study. This dissertation also includes a narrative methodology section that provides a more in-depth explanation of the data collection methods used and the narrative methodology that will help organize and frame the data. The literature review includes an overview of professional project management literature to help provide a context for the reader as well as a description of a typical project management cycle for software and technical development. All but one of the collected narratives were stories about working in the technology sector and the area of software and technical program development. The one exception is explicitly identified, and the rationale for including it is provided in the introduction of that narrative. This focus on stories from the tech sector provides a greater level of consistency across the narratives and helps make the narratives more comparable in the discussion, analysis and conclusions in each of the four chapters in this dissertation.

CHAPTER 2: ACTIVITY CYCLES

Monge and Kalman (1996) offer a set of key terms that together form a vocabulary for building frameworks that depict communication processes as they relate to the perception and passage of time. These key terms include time windows, panes, moments, cycles and frames. To better explain each of these terms and provide a context for the narratives and analysis that follows, the first part of this section provides descriptions of each of these terms and then puts each term in the context of a typical software development project.

Time windows represent the temporal boundaries of, or the time required to contain a given communication phenomena or interaction genre. This can be brief (as in a five-minute instant messaging conversation) or extended (as in a three-month assignment or a five-year research and development effort) and reflects both micro and macro pacers, respectively. Time windows lie between moments that serve to define the boundaries of a window and are typically nearly instantaneous (e.g., the space between ending one call and starting another) but may consist of longer periods of time (e.g., the three days of time between nursing shift schedules that are four days on and three days off) and may even vary in size (e.g., the duration of winter semester break as compared to the summer semester break). Put differently, the time between moments, or recurrent activities, constitutes the time window. Thus, time windows represent the temporal boundaries of, or the time required to contain, a given communication phenomena or interaction genre.

Time windows also contain panes, which are smaller regions of time that constitute the window, like miniature time windows (like a multi-pane window). They reflect the fact that different-sized windows will offer a view on different phenomena or aspects of the same

phenomena (Zaheer, Albert, & Zaheer, 1999). Consider the nursing shift schedule used as an example earlier. If a three-day shift is identified by a researcher as a time window, and a nurse makes rounds (i.e., visits each patient on his or her floor) ten times per day (or 30 times per 3-day shift), then one could say that each round is a pane within the time window that is the 3-day shift.

Moments are simply activities that are even shorter, and typically a pane contains multiple moments. Moments, panes and time windows are a framework that a researcher can use when classifying and codifying multiple connected activities of varying durations for analysis taken together.

Of the three nested time frames described above, panes are most directly related to cycles. Cycles, of which activity cycles are an example, are marked by at least two panes in a window and illustrate a pattern of events over time. The relative position of panes helps to illustrate the potentially overlapping nature of varied activity cycles.

Finally, frames are bracketing events and activities that emerge in social interaction rather than clock time. This is the work itself as defined by the temporal structures. The temporal structures associated with various types of work create different frames and are represented by unique activity cycles. In entrainment terms, these structures introduce an exogenous cycle. Because frames are created by varied temporal structures, members will often have to contend with entrainment to multiple, often competing activity cycles either due to multiple group memberships or as associated with one role. Frames are powerful symbolic tools that shape and guide human interaction due to their temporal structuring of members' day-to-day practices. It is important to note that a given activity is usually framed by multiple temporal structures.

As an example of how these concepts are tied together, consider the question of how one might use Monge and Kalman's terminology to create a framework for studying the work of a project team that is developing a new version of a piece of software. One research study said a project team could choose to define the *time window* as the boundary between the ending of one project and the start of a next. The *panes* could then be defined as each of the major phases of a project. For example, securing funding and approval, creating business requirements, coding and development, testing; deployment and assessment of the success of the software release. *Moments* would then be each of the milestones or steps that make up any one of the project phases.

When testing software a testing team typically creates and follows a test script for each action a user could take while using the software. The implementation of each test script could be considered a moment within the testing pane. In this construct, an example of a cycle is found between the first two phases (securing funding and approval and creating business requirements). Often an initial concept is approved, and an estimated amount of funding is secured. Once this happens, a project manager develops business requirements that provide a detailed description of the software to be developed. This more detailed review leads to a more informed estimate of the true cost of development. This revised estimate is then given to the leadership team to review and approve the additional funding and resources needed. In the early days of a development project, additional functionality is often called for and added to project requirements. As this happens, the request for approval for these new costs is sent to management. When approved, the new requirements are added to the scope of the project. This back-and-forth flow between the

first two phases of a software development project is a set of examples of a *cycle* as defined by Monge and Kalman (1996).

The start and end of a fiscal year is an example of the bracketing events that Monge and Kalman (1996) label as *frames*. Many software development efforts occur in sync with the fiscal year of the company. That is, funding for new projects is made available, and work begins at the start of a fiscal year. Most projects are completed within the same fiscal year so that a wave of new work is ready to commence in the following year. A researcher could expand or shrink Monge and Kalman's (1996) concepts to help focus the particular phenomenon of interest to the researcher. One could define the time window as one of the project phases and then the panes, moments, cycles and frames would shift in scope accordingly. The research in this dissertation largely uses a full project cycle as a time window in line with the example provided above.

Ballard (2009) draws upon Monge and Kalman's (1996) vocabulary and the entrainment perspective to illustrate how activity cycles shape members' temporal experience. Below is a modified version of the illustration provided by Ballard of a 2x2 matrix that describes four different types of temporal cycles that are determined by the duration of a time window and the variability of one's tasks (Figure 1). Each activity cycle includes a brief description and examples of each cycle from the context of a software development project team.

Time Window

← **Brief** **Extended** →

Task Variability: Low → / ← High

Concentration Cycle **Brief time span** **Highly routine task** Examples • Software engineer files a series of "bug" tickets • Software tester runs a series of testing scripts to validate whether software features are functioning as expected • Employee reviews and answers all of the new emails that came in the previous day	**Cultivation Cycle** **Extended time period** **Long term processes** Examples • Project Manager plans overall implementation of a project and project phases • Software test lead writes the testing scripts and plans the strategy for an upcoming project • Project manager plans communication strategy for the lead up to and after the launch of a new tool.
Commotion Cycle **Decisions made by an ad hoc group that affects decisions made by others** Examples • Software engineers quickly problem solve a high priority "bug" • The person responsible for sustaining a tool determines the impact of an emerging issue and assembles a response team • A programmer is unfamiliar with how to code a new feature and consults his team members to work out the solution	**Creation Cycle** **Highly extended time frame** **Creative and iterative processes** Examples • Software engineers brainstorm future enhancement ideas to address long-standing issues • Business manager develops and maintains strategy for adressing long-term business goals in future projects • User experience designer works to ensure that future devlopment continues to improve a tool and better meet the needs of people with disabilities

Figure 1 Activity Cycle Matrix

The time window axis depicted in the figure above refers to the length of time it takes organizational members to perform a complete task as they define and understand it. This may range from a few seconds to several years, depending on the task. The task variability axis references the level of uncertainty and unpredictability involved in task execution. This may

range from a mundane, routinized task with fairly predictable results to a completely novel task with highly uncertain outcomes. Together, these two axes form a 2x2 matrix of four different types of activity cycles, characterized variously as concentration, cultivation, commotion and creation cycles. The multiple frames make up an activity cycle that suggests a particular communication process or practice. For instance, the beginning and end of a daily coordinating call would make up the frame that alerts the project manager to the proper actions to take within that window. A brief description of each of these four activity cycles is in order.

Concentration cycles. Concentration activity cycles take place within a brief span of time and are highly routinized. Organizational work that occurs within concentration cycles is often tied to modest changes in the day-to-day operations of an organization owed to the common quality of sameness and small-time windows within which these activities unfold. Sending and responding to email as part of a daily routine is an example of the kind of interaction that typifies this activity cycle. Complex software development in a large global company offers a relevant example. Email traffic is voluminous, often resulting in individuals receiving hundreds of emails a day. Also, as bugs emerge in development and testing phases, adjustments to coding and affected systems are doled out to many employees. The act of receiving the request, implementing the change and reporting this update to a chain of affected and monitoring individuals happens with an expectation of a short turnaround time, in a highly routinized fashion, and amid a network of call and response activities moving across multiple teams is the large number of simultaneous and interconnected tasks being completed from a concentration cycle perspective.

The speed at which an individual completes concentration cycle activities can affect how they are perceived and, ultimately, how successful they are in the workplace. Kalman and Rafaeli (2011) examine norms around email response times. Through using a vignette where job applicants were rated, they found that applicants suffered negative evaluations when their response latency was longer than one day. Recently, a great deal of research has considered the problem of email overload with which contemporary knowledge workers contend (Barley, Meyerson, & Grodal, 2011), as well as the trend of shrinking response times (Ballard, 2007; Dabbish, Mark, & Gonzalez, 2011). Specifically, as popularized interventions (e.g., Inbox Zero) respond to concerns about email response time by viewing the problem from within the concentration cycle time window, the relationship of email practices to other aspects of work that occur within larger time windows (e.g., cultivation cycles) is lost. Thus, the problem of operating on a tactical versus strategic level characterizes much of the improvement efforts around activities that fall within concentration cycles. However, research that considers the problem through a more expansive time window reveals different needs (Dabbish et al., 2011), finding that typical patterns of email usage, characterized by quick response times, can lead to ineffectual, interruption-filled work (Mark, Voida, & Cardello, 2012). Thus, an improvement effort that focuses solely at this smaller time window may overlook data suggesting that a responder is violating expectations around email response time because their attention and efforts are focused in a larger time frame, such as a cultivation cycle. As well, an individual who is highly focused on managing and responding to email promptly may be losing effectiveness by inordinately focusing on concentration cycle activities.

Cultivation cycles. In contrast to concentration cycles, other work unfolds over an extended period of time. This more extended period reflects cultivation activity cycles that involve long-term processes, such as employee satisfaction, recruitment and retention which are outside of one's immediate control but within established parameters of development. For instance, in the context of a software development effort, other cultivation-level activities would focus on those aspects that more traditionally fall in the perspective of the project manager; planning, organizing and resourcing of the effort. One might also focus on the sets of responsibilities that coincide with clearly stated phases of a software development effort such as the requirements gathering, interface design, development or testing phases. A cultivation cycle perspective on work often calls into examination work that is more representative of titles such as Corporate Attorney or Manager. This is unlike the work contained in the concentration cycle, as people are not typically hired under a job-title of Email Answerer. Work that unfolds within cultivation cycles often lends itself to a set of procedures that guides the sense-making process.

A study by Kuhn (2006) on the long working hours, or "demented work ethic," observed across two similar organizations illustrates why the larger time windows needed to contain cultivation cycles are often ignored by organizational members. In examining the temporal structures that support this type of time commitment, Kuhn found that rather than this was the result of clear dictates by management. How individuals allocated time in the workplace was the result of an array of efforts they put forth to portray a positive and distinct identity in an organizational culture that reinforced this behavior. He also found that this was supported by organizational and social structures that, in turn, helped to shape those identities. Hence, Bluedorn's (2002) observation about the weekend being a common temporal frame offers some

insight as to why weekly hours logged serves as a time-based metric that reflects identity and commitment.

Perlow (2012) explores the short-term and long-term ramifications of organizational cultures that encourage non-sustainable working hours. Through a new intervention called Predictable Night Off, a six-person team agreed to curtail their working hours one planned night a week. The impact of change within this smaller concentration time window was enormous for outcomes that unfolded in the larger time window centered on cultivation: employee satisfaction rose; reports of greater work-life balance followed; recruitment and retention improved and client satisfaction increased. This work redesign focused on the long-term impact for this small six-person team eventually leading to a global initiative involving more than 900 teams.

While an examination of the communication design at this level is informative, the understanding would be incomplete without also understanding the commotion cycle that is descriptive of fast-paced and chaotic moments of project crisis, as described below.

Commotion cycles. People working in software development in large global technology sector companies continually collaborate in fast crunch-time scenarios at every stage of the process where they are handling a range of issues as they occur. Often teams work in different geographic locations around the world developing different aspects of a software package. Decisions made by one group both inform and affect decisions made by others. As different challenges and questions surface, different groups temporarily form long enough to discuss and decide on courses of action. In this setting, basic job duties for some work may occur within commotion cycles, characterized by moment-to-moment, rapidly unfolding and changing events that must be managed quickly.

The majority of the narratives featured in this dissertation include the work experiences of individuals working for global tech companies. A commotion activity cycle is common for organizational members working on virtual teams. These are individuals who, given the nature of working virtually, have an ongoing disruption of space while simultaneously seeking a new sense of place. Shockley-Zalabak (2002) explores how virtual team members adapt and respond to a "…changing series of involvements with people, ideas, and activities" (p. 232). Shockley-Zalabak work culminates in identifying what she terms "Protean Places," which is the ever-evolving creation of a sense of place by team members in the face of turbulent times characterized by ongoing change. She stresses that to understand the communication processes that define and continually redefine the character of teams who operate within constant cycles of commotion, multiple and iterative vantage points must be taken and repeatedly shifted. Thus, even on a small-time scale, no singular activity cycle adequately captures their work due to the daily contradictions these team members face. The degree of task variability is further explored in the 2x2 matrix (Figure 1) described by Ballard, which includes a fourth activity cycle: creation cycles.

Creation cycles. Creation activity cycles are highly extended across time and characterized by enormous task variability. The work and processes are more iterative than linear. The fundamental task of groups working in a creation cycle is to create new things, neither the timeline nor the outcome of which can ever really be known. Researchers and software developers alike often perform this type of work. The need to focus on long-term outcomes may partially obscure sensitivity in the day-to-day shifts noticed quickly by others. To

best understand the aspects that comprise creation activity cycles, information is gleaned from the other three cycles.

A perspective drawn across time spans becomes more complex in modernity, particularly in an area like the global technology sector. While many individuals are involved in developing a particular piece of software, there is a comparably large and complex set of people adapting to new directions in a quickly changing environment. This group is calling for changes to software currently under development while also strategically planning and securing funding for the development that will occur in multiple upcoming fiscal years. Typically, teams might be developing, for example, versions 5.0, 5.1, 5.2 and 5.3 of a piece of software while others are outlining the direction of the 6.x series.

This new age of attention management suggests there is a growing spectrum of needs and activities with varying tinges of urgency competing for attention to the degree that time frames become more difficult for workers to parse from reflections on their experience. CRushkoff's (2013) argues in his book *Present Shock* that:

> There's no story, no narrative to explain why things are the way things are. Previously distinct causes and effects collapse into one another. There's no time between doing something and seeing the result. Instead, the results begin accumulating and influencing us before we have even completed an action. Moreover, there's so much information coming in at once from so many different sources that there's simply no way to trace the plot over time. (pp. 198–199)

On the surface, Rushkoff's description of this increasingly chaotic environment suggests attention to commotion activity cycles. However, he is referencing how processes that traditionally were contained in larger windows of time come into view much more quickly in contemporary, globalized work and culture.

Lawrence and Lorsch (1967) compared teams by the types of activity cycles within which much of their work is directed (based on membership in one of four departments: sales, production, applied research and fundamental research). They found that the temporal structures that enable and constrain members' work shape their time horizon, or the windows they consider on a daily basis. Members of the sales department considered the smallest time windows followed by members in the production department. The most expansive time windows were viewed by members in the departments responsible for fundamental research projects, followed by members of the departments responsible for applied research projects. Lawrence and Lorsch found support for their hypothesis that work groups' temporal structures (their feedback cycles) impact their temporal views.

Equally important, work by Lorsch and Morse (1974) found a recursive relationship between the temporal structures that guide members' work and the time windows they consider. Specifically, when members of research and development groups (who view their work through temporally expansive windows) were required to submit regular progress reports, inconsistent with the inherent time window of their projects and corresponding temporal views, had poorer performance, compared with groups who were allowed to demonstrate their progress following the actual temporal structures that guide their work.

This dissertation examines the perceptions of individuals who primarily worked on a single project as part of their role. Collectively, the narratives in this dissertation will be representative of individuals in each of the four quadrants describing interactions and work handoffs with others for whom an argument can be made, based on an analysis of the individual's narrative, were operating in a different quadrant.

CHAPTER 3: PROJECT MANAGEMENT

The individuals from whom stories are collected in this work are organizational members who work professionally to perform an ongoing series of projects that are managed by a project manager. In each narrative, the storyteller describes experiences of working in the context of a project with discrete and well-defined roles. The nature of larger technical projects provides a helpful context for this study as different groups carry out different facets of a project and organizational members are responsible for tracking and delivering overall projects on schedule and within budget. These are done in a way that means they are both supporting and actively carrying out work handoffs between individuals who are primarily working within different activity cycles.

This section describes traditional project management and the project cycle as understood by practitioners. This section draws heavily from the fourth edition of *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* to do this. PMBOK provides a set of standard terminology and guidelines for project management. It is produced by the Project Management Institute (PMI) and is recognized as the project management standard by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Anecdotally, in my professional career, I have enrolled and participated in three separate project management training series provided by the Thompson Conference Center at the University of Texas, the Stanford Advanced Project Management Courses & Certificate program offered by Stanford University, and the Project Management Institute (creator of the PMBOK). In all three instances, the PMBOK was offered up as the source for project management instruction and was the resource on which all three of the course tracks were primarily based. Because of this

resource's prominence among project managers and the project management field, this prospectus relies on the PMBOK to first define the process and structure of project management. Then, this chapter describes a typical project management cycle in the development of a new version of a piece of software with a focus on the roles that different individuals play and the activity cycles to which those roles most align.

A key step is defining what a project is. The PMBOK defines a project as a "temporary endeavor undertaken to create a unique product, service or result" (p.5). The text goes on to explain that:

> …The temporary nature of projects indicates a definite beginning and end. The end is reached when the project's objectives have been achieved or when the project is terminated because the objectives will not or cannot be met, or when the need for the project no longer exists. Temporary does not necessarily mean short in duration. Temporary does not generally apply to the product, service or result created by the project; most projects are undertaken to create a lasting outcome. Projects can also have impacts that far outlast the projects themselves.
>
> A project life cycle predictably moves through four phases.

According to the PMBOK, "…Projects vary in size and complexity. No matter how large, or small, simple or complex, all projects can be mapped to [the same] life cycle structure" (p. 16). The four phases are 1) starting the project, 2) organizing and preparing, 3) carrying out the work and 4) closing the project. The one-on-one post-mortem conversations that are the source of the data for this dissertation occur as a part of this final phase of closing the project. The PMBOK notes that, "…This high-level view can provide a common frame of reference for

comparing projects—even if they are dissimilar in nature”" (p. 16). For this effort, these phases will be used to help classify, compare and align the work of individuals working on different projects. The fact that projects have a distinct beginning, middle and end is a feature that aligns with the use of a narrative methodology to conduct this research. This will be expanded on further in the following methodology section.

All but one of the narratives in this dissertation are told from the perspective of one who works in the technology sector in the area of software development. The one narrative that came from outside of the technology sector came from an individual who works in the tech sector and participated in the one-on-one post-mortem conversations that were the data source. The story she shared was from earlier in her career when she worked on a manufacturing and shipping project before she transitioned into the tech sector. The decision was made to keep this narrative because the story is interesting and holds up as a solid example of her role in one activity cycle and the challenging interactions that she had with others who were operating in different cycles.

Given that all but one narrative has a tech sector context, a more detailed description of a traditional software development project flow is in order. This will help provide more context for the nature of the relevant work carried out by the storytellers featured is this collection of narratives. A diagram of a software development project flow based on my professional experience and interactions with others working in a similar field is found in Figure 2. In software development there are two dominant approaches. The first is waterfall, where one phase of the work is carried out to near completion before the next phase begins. The other is Agile, where development happens in fast, small iterative micro steps. The description that follows more closely matches a waterfall approach because the majority of storytellers' narratives are in a

waterfall context. For this research, waterfall-centered description provides a better framework for describing the general flow for an audience unfamiliar with software development.

The rest of this section provides a brief description of 15 segments including the roles/functions of the primary actors, which of the four project phases (as defined by the PMBOK) each segment falls in and which activity cycle(s) the principal actors are focused on during each of these segments.

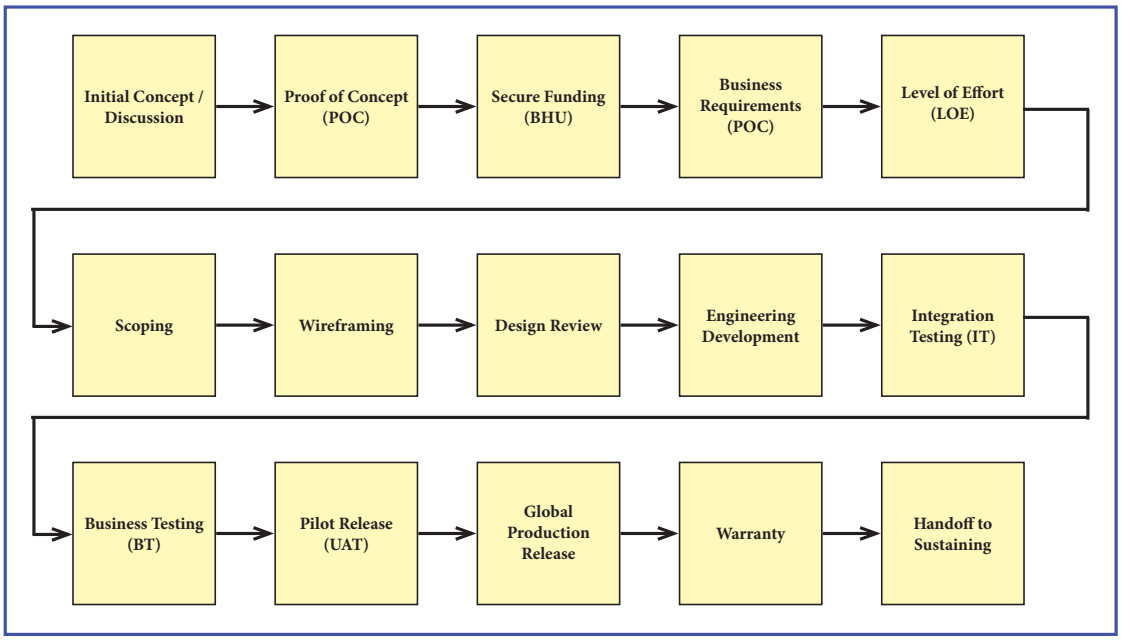

Figure 2. Software Development Project Flow

Figure 2 has been vetted through feedback occurring during multiple presentations and professional discussions with co-workers and peers. The description is meant to provide an example of a standard software development project flow that will likely be similar to the flow described in the narratives. This description is meant to be informative background information for readers who are less familiar with this process.

Initial Concept / Discussion

This is the initial phase where ideas for future projects are discussed and described in detail. The key actors in these discussions are the more senior decision-makers, portfolio managers and program managers who have oversight over a suite of projects. The PMBOK describes portfolio managers as individuals who manage, "a collection of projects or programs and other work that are grouped to facilitate effective management of that work" (p. 8). The PMBOK goes on to explain that, "a program is …a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually" (p. 9). Individuals involved at this phase often include individuals from a Project Management Office (PMO), which the PMBOK describes as "an organizational body …assigned various responsibilities related to the centralized and coordinated management of those projects under its domain" (p. 11). The individuals deciding whether a project will move forward at this initial phase are not generally the individuals responsible for managing or implementing the work of a project, but those with a higher level of oversight.

Proof of Concept (POC)

Many technical projects go through a proof of concept (POC) stage where business leaders have identified the end goal they want to accomplish but are less clear on how to implement this goal technically. Business leaders know what they want to accomplish but do not yet know how to do so. The POC stage is when it is determined whether a goal is feasible and, if so, how to accomplish it. The principal actors involved in this phase are a small group of more senior engineers, designers and project managers who will become more involved if the concept is found to be viable and affordable.

Secure Funding (BHU)

Once a POC is found to be viable, the next step is to secure funding. Part of this process is to create a document that details the nature of the project, the funding and resources necessary for implementation. This document is commonly referred to as a Business Heads-Up (BHU). The individuals who are primarily involved in creating BHUs and approving/allocating funding and resources are more senior directors, program managers and the leadership in the PMO.

Business Requirements (BRD)

Once funding and resources are secured, the next step is to create a detailed document that specifies the new development to be accomplished at a technical level with enough specificity that software engineers can perform the required work. These details are called requirements and the document that contains all of these requirements is called a Business Requirements Document (BRD). The project manager who will be overseeing the project is the individual typically responsible for writing the BRD. The requirements are based on multiple conversations and more formal, requirement-gathering meetings that are held with varied audiences. The construction of this document is a part of the starting the project phase. The completed BRD is an artifact that, once distributed, marks the transition into the organizing and preparing phase of the project management cycle.

Level of Effort (LOE)

Once the BRD is complete, the document is sent to all of the different groups that will be involved in carrying out the project. This is often an iterative process where drafts are sent to groups for feedback and input until a final and official draft of the BRD is distributed. At this point, an engineering project manager is assigned to this project. One of the first tasks this

individual performs is to assess the Level of Effort (LOE) for the project. Once a detailed BRD is available, the engineering PM creates a detailed estimate of the amount of time, the number of dollars and the employees needed to carry out the project as described in the BRD. While a preliminary LOE estimate is included in the BHU, this is the point where a more detailed and informed estimate is made.

Scoping

This phase does not always occur, but if the more detailed LOE is returned with a cost, time or staffing estimate that is greater than what was budgeted, a scoping phase occurs. The project manager leads a series of discussions with program managers and leaders from the PMO office and the engineering PM to decide whether additional resources need to be allocated and/or some requirements need to be de-scoped (i.e., removed) from the BRD to refocus the project. This phase is also in the organizing and preparing phase. The timeframe for this work is relatively short, and a variety of decisions and actions need to be taken to address the emerging issue of a project plan and any resource allocation out of alignment.

Wireframing

The software engineers who will be carrying out the development need a set of wireframes in addition to the business requirements. Wireframes are a collection of images that display exactly what the user's screen should show at every step of the new development called for in the requirements. The detailed visual images combined with the written descriptions of the requirements are needed to inform the work of the engineers. Typically, a user experience team with a strong design background creates this document. As a part of the design process, they will spend time with the end-users to better understand their needs and workflows. Understanding the

needs of the users and the business is central to the design thinking that goes into this process. This process continues the organizing and preparing phase of the project cycle.

Design Review

Once the BRD is written, the wireframes are complete and the engineering PM and his key team members have had a chance to review, a formal meeting is held. This meeting is called the design review. It is often a multi-day series of all-day meetings that can last a week or longer. Stakeholders from a broad range of business groups assemble to have a detailed discussion about each requirement and wireframe diagram. This helps ensure a common understanding, raise questions, voice concerns and make any design changes. Once agreed upon changes are documented and distributed, the requirements are considered final and official. This meeting also serves as a symbolic transition from planning the work to implementing the work. This process concludes the organizing and preparing phase of the project cycle.

Engineering Development

This is the phase that carries out the second half of the maxim, "Plan the work. Work the plan." The software engineers develop the new software and integrate it into existing systems. The length of this phase varies but will typically last multiple weeks and can extend into multiple months. The engineering PM holds regular, often daily, meetings with the teams implementing the plan. Other stakeholders often attend to stay current on the status of the project. The engineers developing the new software are kicking off the ‘carrying out the work' phase of the project cycle. However, there is a subset of the developers who are focused on more short-term short-turnaround tasks.

Integration Testing (IT)

Once the development is near completion, the engineering teams integrate the development into the other systems with which it will interface and interact. A testing period begins where every functional aspect of the new development is tested on its own, as well as whether it interacts with existing systems as expected. Each test that yields an undesired result triggers the investigation into the cause, identification and implementation of a solution and retesting of the functionality. The same engineers responsible for the development are the testers and issue-resolvers in this phase. This is a continuation of the ‘carrying out the work' phase of the project cycle. Time and emphasis are spent at this point executing test scripts, gathering results and taking the next steps. Unexpected results that lead to unexpected problems sometimes emerge while a solution is quickly, and sometimes urgently sought.

Business Testing (BT)

Once the engineering team and key people, such as the project manager, agree that the software is acceptable and none of the known issues are barriers for moving forward, a handoff meeting is held with the engineers and the Quality Assurance (QA) team. The QA team receives the new software. Then a battery of testers begin a testing process called Business Testing (BT) that is similar in many ways to the IT process described earlier. This is an independent testing group. As issues and failed tests arise those issues are sent back to the engineers to investigate, fix and send back to the QA Team for re-testing. This process continues until the QA Team and the key stakeholders agree that the software is ready to move into a pilot release.

Pilot Release (UAT)

Once the software has been vetted and determined stable enough to move forward, a pilot version of the software is released for User Acceptance Testing (UAT). In the pilot, a small subset of the total group of users are identified and given the updated version of the software to use a few weeks in advance of the larger population. These pilot users file any issues, bugs or unexpected behaviors they experience. These problems are then investigated by the QA team to determine if the issue can be replicated and under what conditions. Problems found to be replicable are given to the engineering team to fix. Solutions are then instituted for the pilot users to see if the issue persists. This phase is a continuation of testing with a larger pool of testers who are also daily users of the tool.

Global Production Release

Once the pilot version of the software is considered stable and functional, the software will be released to all users. This is typically referred to as a global production release, an event that happens on a specific day and time. There are usually ‘war rooms’ of engineers, QA testers and project managers overseeing the integration of this new software into existing systems. Representatives of the teams supporting areas of existing functionality are typically on-call or actively participating in the transition. This often takes several hours to implement and is the event that signals the ending of the ‘carrying out the work' phase and the transition to the project phase, ‘closing the project.' There is much to accomplish in a global release as it never performs 100% as planned. Issues arise and need to be addressed quickly to minimize the impact on the users. When issues are not happening, the tension levels tend to be higher as testers and engineers are waiting for potential additional problems.

Warranty

For a pre-defined time, typically a few weeks, the newly released software is in a warranty period. This means that even as the testers and engineers are shifting their attention to other projects, it is still necessary for them to address any problems that emerge that were not discovered in earlier testing. Issues that arise during this time are given a higher level of attention, and the response is fast-tracked. By contrast, issues that arise after the warranty period are handled as a normal part of the sustaining process. If and when priority issues arise during the warranty period, the engineers and testers are mobilized to investigate and fix the emerging issues. The warranty period is a safety net in case problems arise, but this time is largely seen as part of the ‘closing the project' phase.

Handoff to Sustaining

Once the warranty period has passed, a formal meeting is held to handoff the project to the sustaining teams. Often, the development of new software and the continued support of current software are handled by separate teams referred to as the development and sustaining teams, respectively. Sustaining teams have their workflows and processes for supporting users who are having problems with their software. This handoff meeting is a review of the project history and an advanced warning about known unresolved issues. This meeting is the official handoff and transition from software being in new development to being part of the suite of tools to be supported on an ongoing basis. The project manager leads this meeting, and it is seen by many to be the official closing of the project.

This review of project management, both at a general level and the more detailed view of software development, is intended to provide more context and framing for the narratives that are

featured in this work as well as the analysis of those narratives. The actual execution of this flow is not always as linear as this presentation implies. As complications and misunderstandings occur, this can become a more iterative and a disorganized process. This will likely become clearer in the presentation of the data but is presented in this linear flow to aid the contextual understanding of the reader. This information helps determine for the following sections that describe the methodology and the research plan to be used.

CHAPTER 4: NARRATIVE METHODOLOGY

Narrative analysis in its varied forms, has become more common and accepted in academic circles. Spector-Mersel (2010) notes that,

> in the course of the 1980s groundbreaking studies published, that depicted narrative as a major cognitive scheme, a root metaphor for psychology, a central channel by which we impart meaning to ourselves and to the world and shape our identity, and a base for social interaction (p. 204).

Spector-Mersel cites these works and others as the trend that brought about a 'narrative turn,' "in which narrative thinking penetrated most social science disciplines...resulting in a narrative boom" (p. 204). This study will take a qualitative approach that specifically uses narrative inquiry to organize and understand the data. Polkinghorne (1988) explains that research that uses a narrative methodology can be divided into two categories. The first describes narratives of others that already exist. The second constructs a narrative to explain the why of a phenomenon or set of circumstances. This dissertation collects narratives of the first type, the stories told by individuals reflecting on past experiences working in the context of completing a formal project.

These collected stories, or narratives, gathered from individuals who shared their experiences, as part of a project post-mortem conversation at a large tech company, will be the primary data set for this study. Storytellers were also given the option to share reflections on past projects that occurred outside of this company. Some chose this option while others chose to tell the narratives take place in alternate settings.

In broad and simple terms, qualitative research is used to answer questions of the why and the how. This is usually accomplished through the analysis of unstructured information, in this case, the stories or narratives of individuals. Qualitative research is often used as an approach for gaining insight into and an understanding of things like the attitudes, behaviors, value systems, concerns, motivations, aspirations, culture and the lifestyle of the individual (Lindlof and Taylor, 2002). Lindlof and Taylor explain that a qualitative approach, “crosscuts disciplines, [and] contains...phenomena that bridge theory and method” (p. 19). They also note that qualitative research is considered to be an area that includes, “interpretive, ethnographic, and naturalistic inquiry (that is) typically used to preserve and analyze the situated form, content and experience of social action, rather than subject it to mathematical or other formal transformations" (p. 18). Thus, a narrative inquiry has been selected as a data collection method for this study to collect the narratives of individuals who will serve as the primary data set.

Bleakley (2005) explains the link between qualitative research and narrative inquiry. He notes that "Narrative inquiry is a form of qualitative research that takes story as either its raw data or its product. Science and narrative can be seen as two kinds of knowing" (p. 534). Bleakley goes further, noting that, "analytical methods tend to lose the concrete story and its emotional impact to abstract categorizations, which may claim explanatory value but often remain descriptive" (p. 534). Jerome Bruner (1986) expands on this point, arguing that "scientific and narrative ways of knowing are fundamentally different. Where science concerns itself with the establishment of truth, narrative's concern is to endow experience with meaning" (p.18). It is in a search for understanding as described by Bleakley and for the linking of experience with meaning as described by Bruner that narratives are intended to be used in this study.

To clarify the epistemological underpinnings of this study, this researcher plans to approach this work from a primarily a social constructivist (a.k.a. social constructionism) perspective will be used. which is rootedThis is in the concept that people construct their reality themselves and that reality is constructed by people's perceptions. Research from a constructionist perspective is typically much more focused on looking at systems and wholes;, and the data that are examined come from the perceptions of the members of the whole. This is in line with this study's examination of stories of personal experience told by individuals who are working in all four stages of a project cycle, and across all four of the activitiesy, cycles described earlier. The goals of this methodology section, at a high level, are to provide the introduction to narrative methodology above, define and describe narrative, and conclude with an examination of narrative analysis.

Defining and Describing Narrative

Defining the term “narrative” is not as easy as it may seem at first glance. Riessman (2008) explains that the term “narrative” carries many meanings and is used in a variety of ways by different disciplines. While the term is often used synonymously with story, she also notes that the concept of narrative continues to be “elusive, contested and indeterminate. . . variously used as an epistemology, a methodological perspective, an antidote to positivist research, a communication mode, a supra-genre, a text type” (p. 183).

Polkinghorne (1988) is a good place to start when defining narratives as narrative classification systems. Polkinghorne explains that the term, “narrative can refer to the process of making a story, to the cognitive scheme of the story, or to the result of the process” (p. 13). He

continues, noting that, “Our encounter with reality produces a meaningful and understandable flow of experience. What we experience is a consequence of the actions of our organizing schemes on the components of our involvement with the world. …Narrative is the fundamental scheme for linking individual human actions and events into interrelated aspects of an understandable composite. Narrative displays the significance that events have for one another.” Polkinghorne is stressing that as humans experience events over time, we construct meaning and understanding from those events by conceptualizing them as being in a narrative structure. Stories are both how we find meaning in events and how we convey that meaning to others. Greene, Strange & Brock (2013) define a story as a "structured, coherent retelling of an experience or a fictional account of an experience" (p. 288). Further, they explain that "a satisfying story will include the following elements: themes, goals, plans, expectations, expectation failures (or obstacles), and perhaps, explanations or solutions."

Riessman (2008) cites the origin of defining "narrative," noting that, "…articulating what the narrative form is, and what it does, began with Aristotle's examination of the Greek tragedy." She breaks this down further, noting that, "Action is imitated (mimesis): the dramatist creates a representation of events, experiences, and emotions. …There is a classic structure with a beginning, middle, and an end. …There is a plot, ‘the ordering of incidents,’ which constitutes the life-blood of a narrative, and plot is enacted by characters, who take a second place. It is the plot that awakes emotions, such as fear and dread, when ‘things happen unexpectedly.’ Something goes awry; there is a breach in the expected state of things …that awakens response in the audience.”

Another approach to describing narratives or stories by calling out their fundamental elements is provided by Polkinghorne (1988) in his explanation of the six aspects of narrative (p. 28-29). The first aspect is that narratives are temporal and sequential. The second is that they have an ending and are shared after the ending has occurred. The third is that narratives are told from a first-hand perspective, “or at least from someone who has a perspective on and understanding of the events” (p. 29). The fourth aspect is that narratives are human-centric and describe human action. The fifth is that there is an element of surprise, of counter-intuitiveness. The sixth aspect is that events are ordered (temporally) around a plot.

Regarding this sixth aspect, Polkinghorne elaborates on the definition of plot that he is using for this context. He explains that "The organizing theme that identifies the significance and the role of the individual events is normally called the ‘plot' of the narrative" (p. 18). Furthermore, he explains that "the plot functions to transform a chronicle or listing of events into a schematic whole by highlighting and recognizing the contribution that certain events make to the development and outcome of the story" (p. 18-19). He also explains that one collection of events can be portrayed through multiple different plots and that the meaning of a story is derived from how the plot and the events in the story interact (p. 19). Another point he makes that resonates with the narratives collected for this dissertation is that "a plot is the tool/method used to explain the actions of oneself and others" (p. 21). It is this explanation of self and others that is used to help inform the activity cycle quadrant in which the participant/narrator place themselves and others.

In an approach similar to Polkinghorne, Greene, Strange & Brock (2013) describe a set of four distinct aspects of a narrative. The first aspect is the event structure. They define this as the

events of the story that is in the story world and are a creation of the author (p. 45). The second aspect is the discourse structure. Greene, Strange & Brock (2013) describe this as, “the text as written by the author, or the drama as performed. Much of this structure is in the form of instructions to the reader or audience as to how to construct the story" (p. 45). The third aspect is realization, which is, "the enactment in the mind of the reader or watcher, which results from the constructive process and suggestion structure being applied to the discourse structure" (p. 45). The fourth aspect is the suggestion structure, which consists of the "non-literal aspects, suggested by the text, based on the reader's or watcher's share of knowledge, experience, emotions and ideas, but often having a general quality" (p. 45). Together, Greene, Strange & Brock's four aspects describe both the role of the narrator and the receiver. In constructing the narratives in this study, the researcher works to faithfully capture the tone, delivery, and sequence of events as delivered by the narrator. That said, it must also be noted that these narratives cannot help but be influenced by how the researcher receives and then portrays the narratives to the readers of this dissertation. Hopefully, the researcher's familiarity with both the context of the projects and the participants themselves will help to reduce variations as the story passes from the participant to the researcher to the reader, but this is a reality to be called out explicitly.

A definition of narrative comes from the work of Labov (1972) … "We define narrative as one method of recapitulating past experience by matching a verbal sequence of clauses to the sequence of events which (it is inferred) actually occurred" (pp. 359-60). Labov's definition of narrative suggests that a narrative could consist of a minimum of two clauses and be non-fictional. There are other scholars, Gerrig (1993) for example, that dispute that a story must be non-fiction to be a narrative, and question the idea that the line between fiction and non-fiction is

a clear one. That said, the narratives collected for this research are non-fiction in that they are the true telling of events as perceived and understood by the participants, so this methodology section will not explore this distinction further in the context of this dissertation. Labov does identify six recurring narrative features in face-to-face storytelling (p. 370), which are as follows. The first is the abstract, which answers the question, "How does it begin?" The second is the orientation, which answers the questions, "Who/what does it involve, and when/where?" The third is the complicating action, which answers the questions, "Then what happened?" The fourth feature is the resolution, answering the question, "What finally happened?" The fifth feature is the evaluation, or the question, “So what?” The sixth feature is the coda, which speaks to the question of, “What does it all mean?” In the narratives that follow this section, the primary responsibility of answering the first five aspects fall onto the participant while the researcher faithfully captures their story. Part of the sixth aspect, the coda, is addressed in a joint effort between the participant and the researcher as they collaborate to identify the activity cycle quadrant of the participant as well as those with whom they interacted. Each participant’s story has a coda, but the classification conversation that follows could also be considered part of the coda as well in the context of the full narrative as written for this dissertation.

Greene, Strange & Brock (2013) also provide ten different structural features of narration (p. 214), which are as follows. The first is the plot, which is the sequence of events that make of a story. The second feature is the characters. They explain that these are, "The different people in a story, and their relationship to one another; usually arranged in terms of a contrast or tension" (p. 214). The third is the genre. They explain that the genre is, "the ‘type' of story that is being told" and they note that, "by recognizing the genre that the story falls into, the reader is able to

generate expectations about how it will end" (p. 214). The fourth feature is the evaluative system, which is, "that part of the narrative that assigns significance to some events in the story, while signaling that other events are less important" (p. 214). The fifth feature is the cardinal function. These are the key actions or events in the story where the narrative takes a pivotal turn. The sixth feature is the catalyzer. Catalyzers are the "actions or events that simply fill in the details, taking up space until the next significant event or turning point in the story" (p. 214). This is a feature common in the narratives within this dissertation. They are often told as asides, that is, observations or funny side stories that do not advance the overall story arc, but add flavor and context to the characters, tone, and other aspects of the narrative. The seventh feature is the inferential system. Greene, Strange & Brock explain this as a "strategy of narration whereby different parts of the story encourage the reader to let her mind wander about, and to draw comparisons between the story and one's own life" (p. 214). The eighth feature is the trope, which the authors define as a "form of representation that suggests a way of thinking about two separate things" (p. 214). The ninth feature is silence, which is, "those voices or events that are excluded from the explicit narration, and that are noticeable for their absence" (p. 214). The silence in the narratives included in this work includes the perspective and the point-of-view as the counterpoint of the others described by the participants as they tell a story of their interactions and the actions of others. This is a necessary limitation given the nature of the research. It is also arguable that these silences are acceptable given that these are the stories formed from the meaning made by the participation based on their perceptions and memories. The tenth feature is the level of narration, which is, "the social conditions and the set of protocols through which a story is transmitted, displayed, and received" (p. 214).

The classifications and lists above break down the elements and aspects of narratives and stories. Another level of analysis becomes available by taking a step back and looking at stories as a whole. Brown, Denning, Groh, & Prusak (2005) describe four fundamental attributes of a story. These attributes consider features of stories as a whole and are as follows.

The first attribute is endurance. The authors explain by noting that, "stories endure. …Some stories in organizations endure a long time… (and) there are very durable stories" (42). The narratives featured in this dissertation are fresh experiences from the participants, so are not themselves long-lasting stories that have endured. That said, the participants are influenced and shaped by such stories in their organization. The second attribute is salience. The authors note that, in the context of storytelling, the aspects of storytelling that contribute to the salience of the story are the wit, succinctness, and emotional power (p. 43) of the narrator. The third attribute is sense-making. That is, a story can explain as well as having a sense of being true to the context of the experience of the narrator. The shared context between the participant and the researcher of working on, and understanding the nature of, completing technology-focused projects is hoped to contribute to a shared sense-making in the telling and capturing of the story. This was part of the intent in choosing these participants and this shared context. This also plays into the fourth aspect, which is comfort level. The authors note that a good story depends on the teller being comfortable with the story. They explain that the story has to ring true to the narrator's experience and feel right (p. 44).

In the spirit of classifying narratives as a whole, as well as their parts, Polkinghorne (1988) describes seven types of narratives that commonly occur across a wide-range of applications within organizations. One of Polkinghorne's larger points is that stories commonly

told in organizations are rooted in motivations that are often unstated and possibly not consciously recognized. Polkinghorne's list operates as a set of examples that illustrate this point. His list is as follows. The first is, "a story about a rule breaking in which a high-status manager breaks a rule which a low-ranking employee must then enforce" (p. 122). The second is, "a story concerning the amount of humanity and respect the boss displays in relationships with lower-status employees" (p. 122). The third is, "a story about the possibility of a deserving employee being rewarded by promotion within the company" (p. 122). The fourth is, "stories about how an organization responds when faced with the possibility of firing or laying off employees. The fifth example is, "stories dealing with the question of how much help an organization will provide for its employees when they have to move often" (p. 122). The sixth example is, "stories about how the boss reacts to mistakes" (p. 122). Moreover, the seventh example is, "stories about how the organization deals with obstacles" (p. 122). Polkinghorne's larger point about the variety and common types of narratives within organizations is a reminder that the narratives collected in this dissertation are influenced by other stories within the organization, as well as the motive of the storyteller both within the organization and in how they appear to the audience of their story. (In this case, the researcher and the subsequent readers.) Polkinghorne's point is a reminder of a phrase that this researcher introduced to his professional colleagues and has become common usage. The phrase is, "Happy hour rules are in effect. Never let the details get in the way of a good story." Often said early in a post-workday happy hour setting, the phrase has become a cue to others that if the topic of conversation is going to be about work, then make the stories entertaining, and that it is okay to embellish the details for the sake of a better story. This has been thoroughly considered and adopted by the group of happy hour regulars as an acceptable

ground rule while at the bar. This anecdote also serves as another example and reminder that the motivation and structure chosen for narratives are nuanced by multiple considerations and not always explicitly voiced.

Having explored different classification of the elements that make up a narrative and the aspects that stories have as a whole, this methodology section will explore different characteristics stories have that can help contribute to an understanding of narrative. To this end, this next section describes seven characteristics that are common to narratives and then acknowledges a narrative form called antenarrative.

The first characteristic of narratives is that they are pervasive. Polkinghorne (1988) explains that narratives, "are ubiquitous in our lives (and) fill our cultural and social environment… The stories we encounter carry the values of our culture, by providing positive models to emulate and negative models to avoid" (p. 14). Polkinghorne notes that narratives describe and shape our cultures. Participants likely found it relatively easy and straightforward to relate their events, in part, because narratives are a part of understanding daily existence. This is explored more in depth in a later section that examines narratives and sense-making.

The second characteristic is that narratives persuade. Riessman (2008) notes that "narrative scholars would generally agree that a narrative is not simply a factual report of events, but instead one articulation told from a point of view that seeks to persuade others to see the events in a similar way" (p. 187). It is worth acknowledging that the narratives collected for this dissertation likely have this characteristic and one can expect that participants are sharing stories told from their point of view in a way that comes across as reasonable and reflective.

The third characteristic is that narratives engage the recipient. It is intuitive that a good story is one that engages its audience. Greene, Strange & Brock (2013) argue that narratives are engaging, in part, because one's safety is not threatened when experiencing narratives that include danger and risk. They note that "the delight of narrative is its safety: the story-world, unlike dream worlds and the real world, is above all safe and nonthreatening" (p. 17). In a classroom lecture on narratives, a professor of mine pointed out that something happens when a person tells a story as opposed to other forms of verbal communication. When it becomes clear that the information that follows will be in the form of a story, people tend to stop doing other things and become engaged in the mode of listening to a story.

The fourth characteristic is that the purpose of narratives differs between groups and individuals. Riessman (2008) notes that "Narratives often serve different purposes for individuals than they do for groups" (p. 8) She elaborates that, "individuals use the narrative form to remember, argue, justify, persuade, engage, entertain, and even mislead an audience. Groups use stories to mobilize others and to foster a sense of belonging" (p. 8). The narratives collected in this dissertation are stories told by individuals. As such, this echoes the earlier point that their narratives may be influenced by different motivators, but that this may also a part of constructed sense-making.

The fifth characteristic is described well by Riessman (2008), who writes, “narratives are event-centered—depicting human action—and narratives are experience-centered at several levels” (p. 22). An intention of the researcher when framing the narratives requested in the context of a project and a professional setting is that this has the potential to help provide an

event-centered focus that depicts the actions of the storyteller and those with whom they interacted. Doing so helps provide a structure around this characteristic of narratives.

The sixth characteristic is that narratives serve as transportation and performance metaphors. Gerrig (1993) presents these two metaphors arguing that "readers are often described as *being transported* by a narrative by virtue of *performing* that narrative" (p. 2). Gerrig explains that the being transported metaphor, "suggests that the traveler assumes certain new characteristics (as called for by the narrative)" (p. 11). He also references the second metaphor noting that "this emphasizes the way the reader constructs the narrative world rather than the way the narrative world reconstructs the reader" (p. 12). Gerrig's explanation recalls the sensation of being transported and participating in the meaning-making while listening to the stories, transcribing the discussions and constructing each into a written narrative. As such, this researcher plays a role in the shaping of the narrative. Gerrig's arguments suggest that this experience will also occur for the reader and that the reader will be transported and participate in the constructing of the meaning that they obtain from each narrative. Gerrig tasks the reader with a responsibility in forming the narrative. He writes, "In many respects, the task of the reader is much like the task of the actor… Readers are called upon to exercise exactly this same range of skills. They must use their own experiences of the world to bridge gaps in texts. They must bring both facts and emotions to bear on the construction of the world of the text. Moreover, just like actors performing roles, they must give substance to the psychological lives of characters" (p. 17). Gerrig's position supports the argument that the transportation and performance metaphors underscore that the participation of multiple people is a central part of constructing the meaning that comes from consuming a narrative.

The seventh characteristic is that narratives have temporal aspects. Polkinghorne (1988) makes this point succinctly when he writes, “Narrative meaning is a cognitive process that organizes human experiences into temporally meaningful episodes” (p. 1). Bal (1997) touches on temporality and narratives in his discussion about variations on the order of the sequence of events in narratives. He notes that "the best-known principle of ordering, and perhaps the easiest to grasp, is the presentation of events in an order different from their chronological order" (p. 75). Bal defines temporality as a factor that influences a story. He shares four examples of different time frames that can be employed in storytelling. He explains that "the many ways in which narratives complicate… temporality… helps us analyze the story" (p. 77). These, for example, are day-to-day time, monumental time, historical time and micro time. Of these examples, the one most commonly seen in the narratives included in this dissertation is day-to-day time. While other time frames may be implied or inferred, the day-to-day time frame is the most dominant, regardless of the activity cycle with which participants most identified. This is likely due to the framing put around the narratives requested and may have limited other temporal forms of story-telling as a result. This narrower range may be a contributor to a more homogenous set of narratives. Bal also notes three aspects of chronological deviation in narratives. These are direction, distance and span. When explaining direction, Bal describes and defines the terms retroversion and anticipation. As a part of his explanation, he notes that he avoids the, “more common terms ‘flashback' and ‘flash-forward' because of their vagueness and psychological connotations" (p. 83). These terms help provide a context in understanding Bal's terms for describing temporal deviation in storytelling. "The second aspect, distance, is defined by Bal as “an event that is separated by an interval, large or small, from the ‘present'" (p. 88).

Bal's third aspect is span, which refers to the span of time covered by a narrative element. Bal shares an example writing, "if a letter states, ‘Last year, I went to Indonesia for a month,' the span of the retroversion is a month, while the distance is a year" (p. 91). In his consideration of temporality and narratives, Bal notes that the temporality is sometimes only so clear noting that, “…although we may see clearly that we are dealing with a (chronological) deviation, either the information cannot be sorted out, or there is too little of it to define the deviation further” (p. 96). Bal’s notes on temporality can be seen in the narratives as the participants engage in retroversion and anticipation in their storytelling. These aspects are captured in the written narrative. Bal's examination helps confirm that these aspects are legitimate storytelling techniques and fit in the narrative form.

Data Analysis

Defining the term narrative is not as easy as it may seem at first glance. Riessman (2008) explains that the term narrative carries many meanings and is used in a variety of ways by different disciplines. While the term is often used synonymously with story, she also notes that the concept of narrative continues to be “elusive, contested and indeterminate…variously used as an epistemology, a methodological perspective, an antidote to positivist research, a communication mode, a supra-genre, a text type” (p. 183).

Polkinghorne (1988) defines narratives as narrative classification systems. Polkinghorne explains that the term “narrative can refer to the process of making a story, to the cognitive scheme of the story, or to the result of the process” (p. 13). He continues, “Our encounter with reality produces a meaningful and understandable flow of experience. What we experience is a consequence of the actions of our organizing schemes on the components of our involvement

with the world. …Narrative is the fundamental scheme for linking individual human actions and events into interrelated aspects of an understandable composite. Narrative displays the significance that events have for one another.” Polkinghorne is stressing that as humans experience events over time, meaning is constructed and understood from those events by conceptualizing them as being in a narrative structure. Stories are both how meaning is found in events and how it is conveyed to others. Greene, Strange & Brock (2013) define a story as a "structured, coherent retelling of an experience or a fictional account of an experience" (p. 288). Further, they explain that "a satisfying story will include the following elements: themes, goals, plans, expectations, expectation failures (or obstacles) and perhaps, explanations or solutions."

Riessman (2008) cites the origin of defining narrative noting that, "…articulating what the narrative form is, and what it does, began with Aristotle's examination of the Greek tragedy." She further elucidates

> Action is imitated (mimesis): the dramatist creates a representation of events, experiences, and emotions. …There is a classic structure with a beginning, middle, and an end. …There is a plot, ‘the ordering of incidents,’ which constitutes the life-blood of a narrative, and plot is enacted by characters, who take a second place. It is the plot that awakes emotions, such as fear and dread, when ‘things happen unexpectedly.’ Something goes awry; there is a breach in the expected state of things …that awakens response in the audience.

Another approach to describing narratives or stories by defining their fundamental elements is provided by Polkinghorne (1988) in his explanation of the six aspects of narratives (p. 28-29). The first aspect is that narratives are temporal and sequential. The second is that they

have an ending and are shared after the ending has occurred. The third is that narratives are told from a first-hand perspective, “or at least from someone who has a perspective on and understanding of the events” (p. 29). The fourth aspect is that narratives are human-centric and describe human action. The fifth is that there is an element of surprise, of counter-intuitiveness. The sixth aspect is that events are ordered (temporally) around a plot.

Regarding this sixth aspect, Polkinghorne elaborates on the definition of plot that he is using for this context. He explains that "The organizing theme that identifies the significance and the role of the individual events is normally called the ‘plot' of the narrative" (p. 18). Furthermore, he explains that "the plot functions to transform a chronicle or listing of events into a schematic whole by highlighting and recognizing the contribution that certain events make to the development and outcome of the story" (p. 18-19). He also explains that one collection of events can be portrayed through multiple different plots and that the meaning of a story is derived from how the plot and the events in the story interact (p. 19). Another point he makes that resonates with the narratives collected for this dissertation is that "a plot is the tool/method used to explain the actions of oneself and others" (p. 21). It is this explanation of self and others that is used to help inform the activity cycle quadrant in which the participant/narrator place themselves and others.

In an approach similar to Polkinghorne, Greene, Strange & Brock (2013) describe a set of four distinct aspects of a narrative. The first aspect is the event structure. They define this as the events of the story that is in the story world and are a creation of the author (p. 45). The second aspect is the discourse structure. Greene, Strange & Brock (2013) describe this as, “the text as written by the author, or the drama as performed. Much of this structure is in the form of

instructions to the reader or audience as to how to construct the story" (p. 45). The third aspect is realization, which is, "the enactment in the mind of the reader or watcher, which results from the constructive process and suggestion structure being applied to the discourse structure" (p. 45). The fourth aspect is the suggestion structure, which consists of the "non-literal aspects, suggested by the text, based on the reader's or watcher's share of knowledge, experience, emotions and ideas, but often having a general quality" (p. 45). Together, Greene, Strange & Brock's four aspects describe both the role of the narrator and the receiver. In constructing the narratives in this study, the researcher works to faithfully capture the tone, delivery, and sequence of events as delivered by the narrator. It must also be noted that these narratives cannot help but be influenced by how the researcher receives and then portrays the narratives to the readers of this dissertation. Hopefully, the researcher's familiarity with both the context of the projects and the participants themselves will help to reduce variations as the story passes from the participant to the researcher to the reader, but this is a reality to be called out explicitly.

A definition of narrative comes from the work of Labov (1972) … "We define narrative as one method of recapitulating past experience by matching a verbal sequence of clauses to the sequence of events which (it is inferred) actually occurred" (pp. 359-60). Labov's definition of narrative suggests that a narrative could consist of a minimum of two clauses and be non-fictional. Gerrig (1993) disputes that a story must be non-fiction to be a narrative. He questions the idea that the line between fiction and non-fiction is a clear one. The narratives collected for this research are non-fiction in that they are the true telling of events as perceived and understood by the participants, so this methodology section will not explore this distinction further in the context of this dissertation.

Labov identifies six recurring narrative features in face-to-face storytelling (p. 370), which are as follows. The first is the abstract, which answers the question, "How does it begin?" The second is the orientation, which answers the questions, "Who/what does it involve, and when/where?" The third is the complicating action, which answers the questions, "Then what happened?" The fourth feature is the resolution, answering the question, "What finally happened?" The fifth feature is the evaluation, or the question, “So what?” The sixth feature is the coda, which speaks to the question of, “What does it all mean?” In the narratives that follow this section, the primary responsibility of answering the first five aspects is that of the participant while the researcher faithfully captures their story. Part of the sixth aspect, the coda, is addressed in a joint effort between the participant and the researcher as they collaborate to identify the activity cycle quadrant of the participant as well as those with whom they interacted. Each participant’s story has a coda, but the classification conversation that follows could also be considered part of the coda as well in the context of the full narrative as written for this dissertation.

Greene, Strange & Brock (2013) also provide ten different structural features of narration (p. 214), which are as follows. The first is the plot, which is the sequence of events that make of a story. The second feature is the characters. They explain that these are, "The different people in a story, and their relationship to one another; usually arranged in terms of a contrast or tension" (p. 214). The third is the genre. They explain that the genre is, "the ‘type' of story that is being told" and they note that, "by recognizing the genre that the story falls into, the reader is able to generate expectations about how it will end" (p. 214). The fourth feature is the evaluative system, which is, "that part of the narrative that assigns significance to some events in the story,

while signaling that other events are less important" (p. 214). The fifth feature is the cardinal function. These are the key actions or events in the story where the narrative takes a pivotal turn. The sixth feature is the catalyzer. Catalyzers are the "actions or events that simply fill in the details, taking up space until the next significant event or turning point in the story" (p. 214). This is a feature common in the narratives within this dissertation. They are often told as asides, that is, observations or funny side stories that do not advance the overall story arc, but add flavor and context to the characters, tone and other aspects of the narrative. The seventh feature is the inferential system. Greene, Strange & Brock (2013) explain this as a "strategy of narration whereby different parts of the story encourage the reader to let her mind wander about, and to draw comparisons between the story and one's own life" (p. 214). The eighth feature is the trope, which the authors define as a "form of representation that suggests a way of thinking about two separate things" (p. 214). The ninth feature is silence, which is, "those voices or events that are excluded from the explicit narration, and that are noticeable for their absence" (p. 214). The silence in the narratives included in this work includes the perspective and the point-of-view as the counterpoint of the others described by the participants as they tell a story of their interactions and the actions of others. This is a necessary limitation given the nature of the research. It is also arguable that these silences are acceptable given that these are the stories formed from the meaning made by the participant based on their perceptions and memories. The tenth feature is the level of narration, which is, "the social conditions and the set of protocols through which a story is transmitted, displayed, and received" (p. 214).

The classifications and lists above illuminate the elements and aspects of narratives and stories. Another level of analysis becomes available by looking at stories holistically. Brown,

Denning, Groh and Prusak (2005) describe four fundamental attributes of a story. These attributes consider features of stories as a whole and are as follows.

The first attribute is endurance. The authors explain by noting that, "stories endure. …Some stories in organizations endure a long time… (and) there are very durable stories" (p. 42). The narratives featured in this dissertation are fresh experiences from the participants, so are not long-lasting stories that have endured. The participants are influenced and shaped by such stories in their organization. The second attribute is salience. The authors note that, in the context of storytelling, the aspects of storytelling that contribute to the salience of the story are the wit, succinctness and emotional power (p. 43) of the narrator. The third attribute is sense-making. A story can explain as well as having a sense of being true to the context of the experience of the narrator. The shared context between the participant and the researcher of working on, and understanding the nature of, completing technology-focused projects is hoped to contribute to a shared sense-making in the telling and capturing of the story. This was part of the intent in choosing these participants and this shared context. This also adds to the fourth aspect, which is comfort level. The authors note that a good story depends on the teller being comfortable with the story. They explain that the story has to be believable to the narrator's experience and feel right (p. 44).

In the spirit of classifying narratives as a whole, as well as their parts, Polkinghorne (1988) describes seven types of narratives that commonly occur across a wide-range of applications within organizations. One of Polkinghorne's larger points is that stories commonly told in organizations are rooted in motivations that are often unstated and possibly not consciously recognized. Polkinghorne's list operates as a set of examples that illustrate this point.

His list is as follows. The first is, "a story about a rule breaking in which a high-status manager breaks a rule which a low-ranking employee must then enforce" (p. 122). The second is, "a story concerning the amount of humanity and respect the boss displays in relationships with lower-status employees" (p. 122). The third is, "a story about the possibility of a deserving employee being rewarded by promotion within the company" (p. 122). The fourth is, "stories about how an organization responds when faced with the possibility of firing or laying off employees. The fifth example is, "stories dealing with the question of how much help an organization will provide for its employees when they have to move often" (p. 122). The sixth example is, "stories about how the boss reacts to mistakes" (p. 122). Moreover, the seventh example is, "stories about how the organization deals with obstacles" (p. 122).

Polkinghorne's larger point about the variety and common types of narratives within organizations is a reminder that the narratives collected in this dissertation are influenced by other stories within the organization, as well as the motive of the storyteller both within the organization and in how they appear to the audience of their story. Polkinghorne's point is a reminder of a phrase that this researcher introduced to his professional colleagues and has become common usage. The phrase is, "Happy hour rules are in effect. Never let the details get in the way of a good story." Often said early in a post-workday happy hour setting, the phrase has become a cue to others that if the topic of conversation is going to be about work, then make the stories entertaining, and that it is okay to embellish the details for the sake of a better story. This has been thoroughly considered and adopted by the group of happy hour regulars as an acceptable ground rule while at the bar. This anecdote also serves as another example and

reminder that the motivation and structure chosen for narratives are nuanced by multiple considerations and not always explicitly voiced.

Having explored different classifications of the elements that make up a narrative and the aspects that stories have as a whole, this methodology section will explore different characteristics stories have that can help contribute to an understanding of narrative. This next section describes seven characteristics that are common to narratives. A narrative form called antenarrative is acknowledged.

As a close to this section on the characteristics of narratives, it is worth acknowledging the antenarrative form developed by Boje (2011), antenarrative is a form of narrative that is constructed before or as events unfold. This differs from definitions provided earlier describing narratives as having a clear beginning, middle and end that are told after all events in the narrative have been resolved. Boje defines antenarrative as being, "a before narrative that serves as a hypothesis of the trajectory of unfolding events that avoids the pitfalls of premature narrative closure" (p. 2). While the narratives captured in this particular take a more traditional approach to the temporal point-of-view of the storytellers, antenarrative suggests that there is a space for capturing narratives that are still in progress and/or speculative.

Having explored seven characteristics that are common to narratives and taking a brief look at antenarratives, this next section examines the literature on narratives and sensemaking; how people construct meaning from a sequence of events by framing those events in a narrative form. This section also explores how people construct meaning from narratives that they receive as a reader, listener, audience member and similar means.

Polkinghorne (1988) argues that narrative structures are key to sensemaking. He explains that the meaning made from narratives comes from, "its power to configure a sequence of events into a unified happening. Narrative ordering makes individual events comprehensible by identifying the whole to which they contribute," (p. 18). He expands on this point noting that,

> "narrative is a meaning structure that organizes events and human actions into a whole, thereby attributing significance to individual actions as events according to their effect on the whole. Thus, narratives are to be differentiated from chronicles, which simply list events according to their place on a timeline. Narrative provides a symbolized account of actions that includes a temporal dimension" (p. 18).

Polkinghorne also notes that narrative is the means by which humans construct meaning from their experiences (p. 159). He makes the argument that the use of a narrative in constructing meaning is dependent not only on the experiences on which they are based but also on the meaning that people place on those events. (p. 160). The idea that narratives are how individuals construct meaning from defined temporal events lend credence to using a narrative methodology to understand the perspectives of individuals working on projects that are already temporally framed with a beginning, middle and end.

The overall design of this study places particular emphasis on the holistic arguments levied by Connelly and Clandinin (1990) who posit that since individuals understand the world narratively, it makes sense to study the world from a narrative perspective. “Life is filled with narrative fragments, enacted in storied moments of time and space, and reflected upon and understood in terms of narrative unities and discontinuities” (p. 17). Narratives hold a privileged place in human interaction. Anecdotally, one can observe how the body language and attention in

a group shifts and becomes more alert when a speaker changes from simply giving information to telling a story. Stories organize information in a way that facilitates understanding and makes sense of experience at a deep level. “As human beings, [we] make sense of random experience by the imposition of story structures” (Bell, p. 207) and narrative inquiry is rooted in this epistemological assumption (Bell, 2002). Mitchel and Egudo (2003) define the essence of narrative inquiry and its link to understanding participant experiences stating that "using the story metaphor, people create order and construct texts within particular contexts. Narrative analysis then takes the story itself as the object of study. Thus, the focus is on how individuals or groups make sense of events and actions in their lives through examining the story, and the linguistic and structural properties" (p.2). The linking of the narrative form to understanding experiences also resonates deeply with the foundation of the work in narrative inquiry done by Clandinin and Connelly who credit the early work of John Dewey in the area of understanding experience as a strong foundational element of their thinking.

Dewey identifies continuity and interaction as two criteria that makeup experience (Dewey, 1938). Regarding the continuity criteria, Clandinin and Connelly note Dewey, "held that...*continuity*...is the notion that experiences grow out of other experiences, and [those] experiences [in turn] lead to further experiences" (p. 21). A multitude of experiences then make up the human experience. One of the chief tools for sense-making that humans have for understanding this is through the use of stories. Narrative inquiry is a method for collecting and analyzing those stories around a particular topic to better understand the perspectives and experiences of individuals. Bruner (1986) states that "'Narrative' (L. *narrare*) means ‘to know’ and storytelling involves knowledge production and (the) shaping of *experience* (emphasis

added), not simply a transparent recounting of events." He goes on to argue that, "Experience happens narratively (and) narrative inquiry is a form of experience. Therefore...experience should be studied narratively" (p. 18). He summarizes the link between experience and narrative inquiry by stating, "

> Experience is a key term. Experience is what we study, and why we study it narratively because narrative thinking is a key form of experience and a key way of writing and thinking about it...Narrative thinking is part of the phenomenon of narrative (p. 18).

Clandinin adds a cautionary note that the connecting of a narrative inquiry approach to the examination of experiences is not a monolithic one in scholarly study stating that

> ...many ways of conceptualizing narrative inquiry suggest that while all narrative inquirers agree that narrative inquiry is the study of experience, there are differences in what narrative inquirers see themselves as studying. Some, particularly those with a more post-structuralist set of assumptions, argue that narrative inquirers do not 'study lived experience, (but) rather we examine lived textuality (p. xiv).

This note is taken to heart and, to state it explicitly given the constructivist perspective of this researcher; this researcher will regard the collected narratives as stories that do give insight into lived experiences and the sense made from them by the participants.

Narratives are how individuals, groups and communities internalize and understand their progress through time and express who they are to others (Greene, Strange, & Brock, 2002). Greene, Strange and Brock, note that, "by arranging characters and events into stories, people are able to develop an understanding of how they should act (and) …individuals depend on the existence of shared stories—or collective narratives—in order to express their sense of self" (p.

206). Schank (1982) expands on this noting that individuals store experiences as stories and then group similar stories in a process called *indexing*. Schank explains that

> the core of the theory of story-based memory…is anchored in the notion that the experiences we have in life and those we hear from others as stories…each constitutes a 'case' of encountering that particular experience…we are able to organize our story repositories by cleverly and complexly labeling and filing our memories for efficient future retrieval. This process is known as indexing" (p. 288).

Greene, Strange and Brock (2013) contextualize Schank's work explaining that people use stories to assist their understanding. They explain that people convert experiences into stories and then group similar stories into indexes. An unusual story that doesn't fit an index gets is placed separately until enough similar experiences come along and a new index can be formed (p. 292). Understanding Schank's construct and Greene, Strange and Brock's explanation of indexing provides a background for better understanding the constructs that help frame the sensemaking of the storytellers as they share the narratives they have constructed from their experiences and may help explain some of the commonalities across the stories. Common experiences of project managers working in the technology sector may lead to similar indexes.

Greene, Strange and Brock (2013) capture the value of narratives, why they are central to the human experience and our understanding of ourselves in a broad cultural and historical context. They summarize this by observing,

> …narrative has a privileged status among the various types of discourse. The situations and episodes in narrative have a close correspondence to everyday experiences, so the comprehension mechanisms are much more natural than those recruited during the

> comprehension of other discourse (analytic methods). …Narrative is the primary genre of oral discourse and …not surprisingly, therefore the wisdom of cultures was passed from generation to generation through stories for several millennia. The plots and themes in these stories reflect the conflicts, solutions to problems, humor, and values of the culture. Perhaps the easiest way to understand the mind of a culture is to understand its stories (p. 229).

This is one of the more striking quotations that this researcher came across while writing the literature review. It captures the importance and value in studying narratives. It also helps explain not only the value people find in narratives, but also the sense of gravity that seems to be exhibited by some participants when asked to share their stories.

Riessman (2008) adds to the discussion about narratives and sensemaking, arguing that a narrative imposes and/or creates an ordered structure to a string of events. She references a quotation that underscores this point when she writes, "Phil Salmon put it wisely, ‘A fundamental criterion of narrative is surely contingency. Whatever the content, stories demand the consequential linking of events or ideas. Narrative shaping entails imposing a meaningful pattern on what would otherwise be random and disconnected'" (p. 5). Gerrig (1993) makes a similar point, positing that people's narrative worlds enrich the narrative they are experiencing and inform the inferences they draw (p. 3). A similar point is made by Polkinghorne (1988) in his explanation of narrative meaning. He first frames the explanation of narrative meaning by explaining that, "narrative is a scheme using which human beings give meaning to their experience of temporality and personal actions" (p. 14). He builds on this point, explaining that,

narrative meaning (emphasis added) functions to give form to the understanding of a purpose to life and to join everyday actions and events into episodic units. It provides a framework for understanding the past events of one's life and for planning future actions. It is the primary scheme by means of which human existence is rendered meaningful. Thus, the study of human beings by the human sciences needs to focus on the realm of meaning in general, and on narrative meaning in particular" (p. 14).

He also makes a distinction between narrative meaning and paradigmatic meaning. He clarifies the difference being that paradigmatic meaning is rooted in logical processes and analysis, whereas narrative meaning comes from forming parts into a cohesive whole, a story (p. 35). Riessman and Polkinghorne both contribute to an understanding of the value of analyzing participant perceptions and sensemaking through the narratives that they share. Narrative analysis provides a method for understanding the meaning that participants ascribe to events in a comparable context and the meaning they derive from those events.

Human experience is also hermeneutically meaningful, and narratives are used to achieve hermeneutically meaningfulness. Polkinghorne (1988) argues that by first pointing to the work by Heidegger (1962) in the area of hermeneutics and his argument that human experience in its original form is hermeneutically meaningful. Polkinghorne builds on this, noting that, "narrative is a primary scheme by means of which hermeneutical meaningfulness is manifested. A theory of human existence that can inform the practice of the human sciences will need to make explicit the centrality of narrative in human experience and existence" (p. 125). He builds on this, explaining, "Narrative is able to structure and organize time according to hermeneutic principles and to present time through multiple levels" (p. 127). Brown, Denning, Groh and Prusak (2005)

add further that narratives provide a hermeneutical framework that allows for human interpretation and sensemaking arguing that, "Stories about organizations also serve as signals. Many stories told about organizations can be classified as signal interpretation. Call it hermeneutics if you like fancy language. Reading the signs. Interpreting what they mean" (p. 26). Narratives provide a form that is complementary to an application of hermeneutic interpretation of its elements. As such, the narratives collected in this dissertation provide an opportunity for participants to organize the meaning they found in the events they are sharing and in a way that enables the recipients to find and form meaning as well.

The links between temporality, narratives and sensemaking have been illuminated throughout this section. Polkinghorne (1988) adds to this discussion, explaining that a person's experiences are divided into time spans that are bounded by the narrative or meaning we apply to those segments. He notes that "narrative is one of the forms of expressiveness through which life events are conjoined into coherent, meaningful, unified themes" (p. 126). He builds on this explaining,

> From one perspective human existence manifests itself as simply an ongoing sequence of activities linked together into a single life. These activities are marked according to different segments of time. Short-time-span activities, which are identified as separate events, are understood to be the result of conscious or unconscious purposes (p. 126).

Earlier in this section, the fact was noted that narratives are a sequence of events that occur over time and have a distinct beginning, middle and end. Polkinghorne acknowledges this and adds that each of those narratives become a framing event, a sequence of which become a way that people define a larger stretch of time and, even, a life in total.

To this point, much attention has been paid to the meaning and sensemaking that individuals form when crafting and consuming narratives. This also occurs among groups. Stories are a key part of the fabric of the forming and knitting together of groups within organizations. Brown, Denning, Groh and Prusak (2005) note that "tacit components of knowledge don't just live *within* the individual. They also live *between* people in communities of practice" (p. 61). They elaborate on this, pointing out that a member of a group gets, "a deeper understanding of the goals [of an organization], not by creating mission statements, but (by) creating stories" (p. 91). One of their central theses is that storytelling between groups within an organization is one of the primary sources of sensemaking in a modern organization. This point resonates with this dissertation, in part, because all of the participants are sharing stories that involve their work and interaction with others on project teams. Participants' stories are rooted in group sensemaking and the tensions that occur when the narratives groups are not in alignment.

This section has addressed, in different ways, the different motivations and applications of creating and consuming narratives in organizations. Greene, Strange and Brock (2013) also identify three general things that are done with stories and purposes for telling stories (p. 290). The first is that people tell stories to themselves and others and that there are three general purposes for the stories we tell, which are as follows: "First, we tell stories to convey something that satisfies our own goals. We may also tell stories to have an effect on our listener(s). Finally, we tell stories to satisfy the goals of the overall conversation" (p. 290). They point out that, "the second thing we do with stories is listen to the stories of others [and] the third thing we do…is turn our own experiences into stories and then file them into our memories" (p. 291). This last piece is similar to the description of indexing cited above from Schank (1982). The three reasons

and three purposes above provide a high-level description that can serve as a framework that summarizes and encapsulates much of the more detailed information provided in this section. It also serves as a summarizing outline or structure for the narrative scholarship explored in this section. Finally, it serves as a reminder to this researcher of the importance of being sensitive to the motivations behind the stories being told by the participants. In brief, the previous segment of this methodology section is an attempt to define and describe narrative, and the following segment concludes this section with an examination of narrative analysis.

Narrative Analysis

A definition is a traditional starting place when explaining a concept. With that in mind, Riessman (2008) defines narrative analysis as, "a family of methods for interpreting texts that have a common storied form. …Analysis of data is only one component of the broader field of narrative inquiry" (p. 11). Riessman goes on to note that as a general field, narrative inquiry, "is grounded in the study of the particular" (p. 11). Narrative study analyzes narratives as a whole unit, rather than breaking a narrative into components, parts, coded segments, etc. Reissman continues, "Narrative study relies on (and sometimes has to excavate) extended accounts that are preserved and treated analytically as units, rather than fragmented into thematic categories as is customary in other forms of qualitative analysis" (p. 12). While narrative analysis can be applied to different mediums, Brown, Denning, Groh and Prusak (2005) call attention to the importance and value of collecting oral narratives, in particular, from others. They note, "in the written word, there is often a disconnect between the speaker and the spoke…it was oral storytelling that in fact had the large impact… We discovered that it wasn't *story* that was having the impact, but

storytelling" (p. 118-119). This passage was particularly salient given that the narratives collected for this research began as oral storytelling. It also serves as a cautionary note that the original experience of the researcher receiving the narrative may be a richer experience than the written documentation of the story.

Although Reissman (2008) prioritizes oral storytelling, there is a broader perspective that becomes clearer when narrative analysis is put into the larger context of narratology. Bal (1997) defines narratology as, "the ensemble of theories of narratives, narrative texts, images, spectacles, events; cultural artifacts that 'tell a story.' Such a theory helps to understand, analyze and evaluate narratives" (p. 3). Bal further defines the scope of the theories gathered under the heading of narratology by explaining

> a theory is a systematic set of generalized statements about a particular segment of reality. That segment of reality, the corpus, about which narratology attempts to make its pronouncements consists of 'narrative texts' of all kinds, made for a variety of purposes and serving many different functions (p. 3).

Bal continues to further define narratology by defining three terms that, together, constitute the theory that is narratology. These three terms are narrative text, story, and fabula. Bal's definitions are as follows.

> A *narrative text* is a text in which an agent or subject conveys to an addressee ('tells' the reader) a story in a particular medium… A *story* is the content of that text, and produces a particular manifestation, inflection, and 'colouring' of a fabula… A *fabula* is a series of logically and chronologically related events that are caused or experienced by actors" (p. 5).

The narratives collected and presented in this dissertation each contain the three elements of a narrative as defined by Bal and fit Bal's criteria for narratives that can be analyzed in a way that falls within the family of methods that is narratology. Having provided a general description of narrative analysis, the next part of this section is a review of the processes of narrative analysis and an explanation of how those processes are applied to the narrative collection and analysis provided in this dissertation.

Riessman (2008) sets the stage by noting, "most narrative projects in the human sciences today are based on interviews of some kind" (p. 23). Riessman notes that narrative analysis requires a different approach than other methods in the human sciences when explaining, "generating oral narrative requires substantial change in customary practices" (p. 23). One of the things that Riessman points to is that the researcher is an active participant in the creation of narratives in research interviews and that transcription and interpretation are happening simultaneously. Regarding, "…the production of texts for inquiry, a task all investigators face even before formal analysis begins," she explains that "the researcher does not *find* narratives, but instead participates in their creation" (p. 21). This informed the collection of narratives for this dissertation. This researcher recognizes that the collected narratives came from a somewhat open-ended post-mortem conversation and, therefore, a participatory event.

Riessman also points out that after the conversation is complete and the researcher is documenting the narrative, the "transcription and interpretation are often mistakenly viewed as two distinct stages of a project" (p. 21). This, too, resonates with this researcher who found the process of listening to and transcribing the recordings of the discussions to be happening simultaneously with the forming of the narrative structure and the understanding of the substance

and meaning of the story being told. This researcher found that both were intertwined experiences and not readily separable into different events. This approach by the facilitator of working collaboratively with the storyteller to construct the narrative is supported, in part, by Riessman when she notes that collecting narratives, “requires investigators to give up control (as)…narrative interviewing necessitates following participants down *their* trails" (p. 24). This researcher found that the facilitator framed the conversation, called out the major points he would like to discuss, and then let the storyteller determine the path for getting to those points. This was emphasized by the facilitator's approach of letting the storyteller choose the project that they wanted to discuss. Perhaps this contributes also to distinguishing and representing the unique voice of each storyteller in the narratives presented in this study.

Noting the difference between casual conversation and conversations intended to elicit narratives is another point of which this investigator was mindful. Riessman (2008) states that while the

> rules of everyday conversation will apply; turn-taking, relevance, and entrance and exit talk…generating narrative requires longer turns at talk than are customary in ordinary conversations, …narrator and questioner/listener negotiate openings for extended turns and associative shifts in topic…[and the] details count (p. 24).

This researcher found that participants took the longest turns, often speaking for five to ten minutes while sharing the majority of their narrative with minimal interjections by the facilitator. These longer turns tended to occur later in the conversation after a series of shorter exchanges, which served to build momentum towards the longer monologues. This type of collaborative conversation follows a unique flow in every interview and means that the process

was not rigidly scripted. Riessman explains that this is an acceptable form when collecting narratives, noting that, "the specific wording of a question is less important than the interviewer's emotional attentiveness and engagement and the degree of reciprocity in the conversation" (p. 24). In essence, Riessman makes the point that capturing the gist is more important than following a rigid script and goes on to note that playing with the style of the presentation of the narrative is acceptable. Riessman provides a personal example of this in which she had previously give herself permission to play with and vary the formats of the transcriptions in service of capturing the narrative. She recounts, "as a kind of textual experimentation; I constructed poetic stanzas (groups of lines about a single topic) that makes my reading of the organization of the stories clear for the reader" (p. 46). The narratives that follow this section are presented in a fairly similar structure, the aspects of which are later reviewed in greater detail. This researcher allowed for variances in length and detail across the narratives to provide context and better express the essence and vibe of each participant's narrative. These variations were also made to better connect the narratives to each other and to help represent the set of narratives more holistically. Polkinghorne (1988) touches on this, noting, "a full description of a story should include both the elements that are unique to that particular story and those that can be found; at least in essence, in other stories" (p. 167). Specifics were also emphasized in terms of providing more detailed background and context with the intention that readers familiar with working on projects in the technology sector could find parallels to their experiences in these narratives, and those unfamiliar with this environment could find enough context to make the narratives accessible and meaningful. Polkinghorne also addresses this idea of variability in ways of capturing and representing narrative plots. He explains that

> the researcher who aims at describing the stories held by people or organizations brings to the interview and written documents experience with a wide variety of narrative plots and an understanding of the various types of plots by means of which events are organized into followable stories. There is no single typology or system of categories to describe plots (p. 167).

This researcher felt empowered to allow for variability in the organizing and representing of the narratives, often deferring to the storyteller's style and approach to storytelling. This next section builds on the narrative framework that is described in this section and provides a more detailed look at the specifics of the research plan and the logistics of collecting the data found in this dissertation.

CHAPTER 5: RESEARCH PLAN AND LOGISTICS

This section provides a description of how the necessary data was collected and the logistics and considerations involved. this information is organized into six parts. first, the desired characteristics of the narratives that were sought, the selection methods used, and the profile of the storytellers whose narratives were selected for this effort are reviewed. A description of the storytellers and this researcher's background is also interwoven into this segment. Second, the data collection methods used are discussed. Third, the process and nature of data analysis are reviewed. Fourth, a discussion about validity and how it was sought as a part of this research is included. Fifth, a discussion is provided about how the narratives and the analysis were written and prepared. Finally, this chapter concludes with a review of the research questions that guided and framed this researcher's investigation.

A goal of this dissertation is to collect narratives from secondary sources where employees participated in an open-ended post-mortem conversation one-on-one where they reflected on a project of their choice that they were previously engaged on in a professional setting whose work supports projects. This researcher was provided access to recordings and notes of the conversations with individuals. This researcher had access to the individuals who shared their stories due to his professional position. This made it possible for the researcher to inform them that their stories were being used as a secondary source by this researcher. This made it possible for this researcher to explain the context of the research and invite them to provide feedback on the completed narratives. This interaction provided a key feedback loop as seen in the discussion on validity later in this chapter.

The roles of the individual storytellers vary considerably from those who are in leadership positions guiding the entire scope of a project to those who perform more specific functions that serve to further the goals of a project. While ethnography is often bottom-up in its approach, this range of backgrounds was sought in the selected narratives, in part, to help ensure a suitable number of characters were rooted in each of the four activity cycles. The roles of the primary characters in these narratives are classified into one of the four quadrants of the activity cycles matrix discussed earlier. This researcher recognized that individuals operate in nested time frames and that any one individual can be cast in multiple activity cycles depending on context. Ballard (2009) uses the example of a college professor to explain this. She notes, "in the case of a college professor, a given pane might reveal the activity of grading papers. In contrast, broadening the view upward several levels to the time window might reveal a nine-month journal submission process, an annual internal evaluation cycle, a two-year data collection project and preparations for a triennial hosted conference" (p. 216). When a character in this collection of narratives is identified as being in a particular activity cycle, the intent of this researcher is to identify the dominant activity cycle within the context of the story and of the project in which the characters were engaged.

Each storyteller shared a story about his or her experiences on a particular project. This dissertation includes a collection of twenty narratives that, in terms of the perspective of the narrator, collectively representative each of the four quadrants and largely focuses on their handoffs and interactions with others from different quadrants and perspectives. This researcher intends to collect a set of narratives that, when taken together, depict patterns of experience and raise questions about cross-quadrant interactions. Most participant narratives describe and focus

on their interactions and work handoffs with others who were also working on the same project but who are operating in a different activity cycle, while others are transformative stories in which the participant transitions from one activity cycle to another over the course of the story.

This researcher is also employed by the same company as the storytellers who contributed to this post-mortem effort. Many of the storytellers were also a part of this researcher's professional and social networks. This researcher worked professionally as a project and program manager on a specialized team in the technology (tech) sector. The people who shared their stories are largely people who work in similar contexts as this researcher. Thus, the collective narratives were set in the tech sector, and many are about software development projects. This lends a commonality to the stories being told, and aspects of one narrative often helped add nuance and understanding to others. Collectively the narratives had settings that, while different, shared similar aspects that contributed to the whole. There is one narrative that was included in this collection that featured a story about a project that was set outside of the tech sector and involved the production of picture frames. It was a story told about a project that the storyteller worked on before she took a job in the tech sector later in her career. This researcher pondered whether a non-tech story should be included, given the technology-centered context of the other 19 narratives. In the end, it was decided there was value in including this narrative and a more detailed argument for why this story still fits into and contributes to this work is made as a part of the opening of that narrative. This example also served to highlight that these discussions were unlike traditional sets of post-mortem conversations that were focused on a single recently completed project. These post-mortem conversations were an exploration by the company to see what learning emerges when individuals were given the opportunity to reflect on

a past project of their choice where things may have been difficult and to share how things went and what was learned from the experience.

This researcher's familiarity with many of the storytellers combined with familiarity and expertise in project management and the context of their work is a valuable asset for this research. This access and understanding put this researcher in an excellent position to identify and correctly interpret key data, understand the context of software development, and, in most cases, easily follow-up with clarifying questions. It was hoped that this context would help enhance this researcher's understanding and appreciation of the topics being discussed and, in turn, the ability to convey them to others. Gerrig (1993) notes two general principles derived from research to support this reasoning. The first is that the more a researcher knows about the general subject and area of research, the more interviewees will remember a specific narrative (p. 41). The second is that the more one already knows about the general topic, the more one will invest himself or herself in a narrative (p. 46). Greene, Strange and Brock (2013) explain that already having the context of the story makes it easier to understand the story or even to know that a story happened. They note that "If we know nothing about the story's domain, if we have no similar stories in our memories, this means we have no frame of reference. We simply will not understand the theme or any point of the story. We may not even know that we heard it" (p. 305). This researcher, having a background that is similar to the storytellers and the context of their stories, also strengthened validity. Validity is covered in more detail later in this section, and this point is being made more generally in this overview of the researcher's background. Riessman (2008) reinforces this noting that, "the validity of a project should be assessed from within the situated perspective and traditions that frame it (which, ideally, an investigator makes

clear up front)" (p. 185). A personal understanding of these perspectives and traditions that is rooted in either shared or similar perspectives had the potential to enhance the validity of the collected narratives.

After emphasizing the related experiences of the researcher and many of the storytellers, it must be stressed that the details of many of the projects that are described in the following narratives may be privileged and proprietary information. This is why the details of the projects themselves are kept intentionally vague and described in broad, general terms. The names of individuals, project code names and other identifying proper nouns have been changed, even when quoting participants directly. Fortunately, these project details were not central to the focus of the data collection and intentional effort was made to construct meaningful and engaging narratives that skirt these details. The identifiable specifics and technical details of these projects were not critical to or included in the narratives in this study and cannot be shared or discussed by this researcher.

The previous segment provided a general overview of the participants and researcher to help provide a context for the collected narratives. This next segment provides more detail about the data collection methods that were used. The stories that are featured in this collection of narratives were selected from stories elicited through an open-ended post-mortem conversation that was guided by a facilitator who asked individuals to share the lessons learned from a past project with which they were involved. This correlates to the goals of the study in that these conversations followed a general outline that was not overly prescriptive or constrained. The storytellers were given the latitude to tell their story in their way.

All of the conversations were audio recorded by the facilitator, and detailed notes were taken as well. This researcher was provided access to these secondary sources, which were used to inform this research. The facilitator was prepared for a situation in which an individual preferred not to have the conversation recorded, but this scenario did not occur. The researcher was able to circle back to individuals with follow-up questions, seeking clarification as needed. These individuals were already aware of the researcher's work due to the permission given by the individuals to have their information shared with the researcher and, in many cases, because the researcher and the storyteller were already familiar with each other in a professional context. The reason for seeking clarification was often due to a key phrase or longer explanation being inaudible due to back ground noise, but also to get clarification on points that were unclear.

Each completed narrative was then shared with the individual who told the story on which it was based. Individuals were asked to review the story and, as needed or desired, provide clarifications, corrections and additional insights. The researcher intended that the construction of each narrative be as collaborative as possible within the constraints of the research timelines, accessibility to and availability of participants. At the time of this writing, 15 of the 20 narratives have been returned with feedback. Most comments were minor. For example, Barry emailed on February 10, 2018, with the comment, "My manager at the time was female, which is not important to the narrative, but I'm a little worried about giving a sense that all software engineers are male." The narrative inaccurately depicted his manager as male, and so pronouns were changed to correct this. Other feedback added nuance and additional details. For example, Sebastian's examples of self-identifying as a Texan to clients from the northeast and of his adding Texas football as an agenda item to his meetings with a fellow Longhorn fan came from

additional conversations following the post-mortem conversation and the member check of sending him a draft narrative to review. Of those who have not yet responded to member check requests, the researcher is continuing to pursue this feedback. It is anticipated that a 100% response rate will be unlikely, as, for example, one participant has since retired and moved to Alaska after providing their story.

While analysis of the narratives was covered in more detail in a later section, the analysis occurred on an ongoing basis throughout data collection. The researcher worked to understand the narratives as the stories were being told. Some insight came from casual follow-up chats as described above. Further efforts at understanding the nuances of each narrative came as the conversations were being transcribed, the narratives were being written and the coding and analysis that followed. Each step added a deeper understanding. Once the collective narratives were assembled, the researcher systematically recorded the activity cycle of the narrators and the primary characters with whom they interacted. From there, descriptions and patterns of those interactions were identified and classified. From this, observations were made with the intent of identifying patterns that could be grouped into larger categories and themes. The researcher then summarized them by providing an account of the stories that served to address the topic and target questions of this study. This analysis is provided in the section that follows the collected narratives.

A general outline was constructed that captured the consistent flow of the post-mortem conversations. The outline had three primary points. The first was that the facilitator provided an overview of the conversation to come. The goal of this was to frame the interaction, review the details and logistics of the post-mortem conversation and prime the individual for sharing their

story. This also served to give the individual time to relax, think about and decide on the specific story that they wanted to tell. Finally, the facilitator spent time talking conversationally with the individual. The facilitator took a longer time frame to share his story about his goals for this effort. The facilitator, in a sense, told his story of this effort in a way that signaled to the participant that taking a longer stretch to tell an extended story was acceptable and desired.

The second part of the outline was when the facilitator asked the individual to select a particular project. The facilitator guided the participant first to provide a general description of the context of the project, the project's goals, the individual's role and the roles of others with whom they worked. This provided a general background and helped ensure that the individual and the facilitator had a shared context for the story that was emerging.

The third section was the story itself. The facilitator guided the participant to start at the beginning and to let the story flow. The storytelling happened organically, for the most part. By this point in the conversation, the storytellers seemed relaxed and confident in having a solid framework for their stories. The facilitator tended to minimize interjections, which served to let the story flow naturally. Brown, Denning, Groh and Prusak (2005) emphasize the importance of letting the storyteller take the lead in guiding how their story is told, noting that, "…every person has a different way they hear a story—a different way to be engaged, to experience, and…*none of them are wrong*" (p. 145). This facilitator extended this emphasis to include the idea that each person also had their way of telling a story. Brown, et al. (2005) emphasize this line of thought as they add, "The best stories didn't come from asking people questions... Instead, we found that it worked better if we told our own stories, and then they would tell their own stories" (p. 149). When the facilitator did interject during the participant's storytelling, it was often to ask

clarifying questions and to steer the conversation towards more personal details, specific experiences, and interactions with others. That said, there were times when the facilitator felt the need to jump in and share observations and similar stories at the moment. Support for this approach is discussed in more detail later in this section.

This next segment helped set the stage for this work and introduced the narrative analysis methods that were used. One of the key aspects of the analysis was that each narrative was examined as a whole when interpreting the data, rather than fracturing the narrative into thematic categories (Riessman, p. 57). Thematic analysis is the method that was applied and was a type of narrative analysis that was exclusively focused on the content of a narrative. Riessman (2008) notes that "all narrative inquiry is, of course, concerned with content. …but in thematic analysis, content is the exclusive focus" (p. 53). One of the implications of this approach was that the narratives were written as polished stories. The quotations have been edited so that verbal noise, repetition, false starts and similar elements had been removed.

Similarly, the researcher took the liberty to edit the story to provide a clearer telling of the narrative. For example, if a participant told three different aspects of the same idea at different times in the conversation, the researcher may have deleted those elements together and present a story where those elements were told together as one cohesive idea. Riessman speaks to this approach noting, "Investigators in the thematic narrative tradition typically pay little attention to how a story unfolds in a conversational exchange or the questioner's role in constituting it. …Consequently, in the written report, it appears that a biographical account emerges ‘full-blown' from the ‘self' of the narrative, rather than in conversation between a teller and a particular listener/questioner" (p. 58). The researcher included the facilitator in the

narrative in that it is transparent that the narrator was sharing the story retrospectively and telling it to the facilitator. The conversation itself was written into the narrative. This is common in thematic analysis (Riessman, p. 58).

Riessman further supports the organization of details to construct a whole narrative that is the unit of analysis, rather than preserving and parsing details exactly as uttered by the participant, noting that, "In thematic narrative analysis, …language is viewed as a resource, rather than a topic of inquiry. …thematic analysts generally do not attend to language, form, or interaction" (p. 59). Riessman expands on her point by providing an example of thematic analysis. Referring to this example, she explains that "narrative…is inclusive, referring to all speech that relates to the (topic) and (is) typical of one strand of work in the thematic narrative tradition. The investigator conducts a single interview at a time, isolating and ordering relevant episodes into a chronological biographical account" (p. 57). This is a fair description of the approach taken in constructing narratives for this research. Riessman then speaks to the work that is done once the body of narratives is completed. "The researcher zooms in, identifying the underlying assumptions in each account and naming (coding) them. Particular cases are then selected to illustrate general patterns—range and variation—and the underlying assumptions of different cases are compared" (p. 57). This aligns with the analysis provided later in this dissertation following each narrative and in the final chapter. Patterns and assumptions regarding interactions with others in different activity cycles, and in three instances with one's transition from one quadrant to another, are documented and examined.

Having discussed the thematic analysis that was used to organize and later examined the narratives included in this work, the groundwork was established for a consideration of how to

help ensure the validity of the narratives that were presented. This was both challenging and critical. Riessman (2008) notes that "…there is no canon, that is formal rules or standardized technical procedure for validation… Narrative truths are always partial—committed and incomplete" (p. 186). She also quotes Hayden White, who stresses the point, "narratives do not establish the truth of… events, nor does narrative reflect the truth of experience. Narratives create the very events they reflect upon. In this sense, narratives are reflections *on*—not *of*—the world as it is known" (p. 188). This emphasizes the point made earlier that narratives are a tool that humans use to construct meaning and understanding from past events. Validation of the narratives provided need to focus on confirming that the narratives were true to the memories and perceptions of the narrator as they remembered and understood the past events they were describing. Riessman drives home this point saying, "first person narratives… (are) reports of past events that undoubtedly happened, but all we have is the reflection. …Going back to verify the precise and accurate "truth" of the events …may be impossible and not necessarily important. It is the analyst's interpretive work with the document and others like it can be interrogated" (p. 188).

It is the written narrative itself that became the subject of scrutiny when validating the story. The researcher was a part of the creation process, deciding which elements would be included and in what order is in the researcher's purview. There were elements that fell to the metaphorical cutting room floor, and these decisions of exclusion are as important as ones of inclusion and structure. For example, an anecdote Sebastian shared that was not included in the final narrative was about being snowed in while trying to meet in person with his client in Boston. Sebastian decided to cancel some of the meetings due to weather; this did not sit well

with the client who demanded concessions for the lost time. Tensions were already rough between the two. This further exacerbated issues. In the end, the decision was made not to include this aspect in service of brevity and because no new points were made by keeping it in the written story. This was a decision by the researcher that influenced the final product and the shape of the story. It would have been reinserted if Sebastian had mentioned it as a key part of the story during the member check, but he felt that the narrative rang true, even without it being included.

As much as the researcher influenced the story based on his interpretation, the same was true for each reader who uniquely experienced the narrative from his or her viewpoint. Because audience members are part of the meaning-making of a narrative, each narrative experience was unique for each recipient. To be valid, an audience member's interpretation must be based on and linked to features in the text (Riessman, p. 111). The researcher was correct in decreasing elements of the conversation to create a clear story but tried not to include any observations or elements that did not come from the conversation. Assurance that these attempts were successful came from responses to member checks with participants. Bauman (1986) offers a quotation that speaks to his view on this topic, writing, "Robert Georges, in turn, sees the truth-fiction question as so empirically clouded in actual cases that 'the only *meaningful* answer would have to be an ambivalent one' (1971:17, emphasis in the original)" (p. 11). Baumann offers another citation on this subject as well, writing, "Linda Degh and Andrew Vazonyi take a preliminary step toward formulating an empirical basis for investigating the problematics of the truth value and believability factors, at least about legends. 'Objective truth and the presence, quality, and quantity of subjective belief are irrelevant,' they maintain (1976:119)" (p. 11). Validity needs to

have a focus other than strictly evaluating the factual accuracy of the details as if the narrative were a news account but focus on the truth of the piece as it represents the narrator and the written expression of that truth.

When considering the validity of narratives, Riessman (2008) suggests that "two levels of validity are important—the story told by a research participant and the validity of the analysis, or the story told by the researcher" (p. 184). A challenge was that the narratives were representing other people's experiences to which no one had direct access other than the participants themselves. Polkinghorne (1988) speaks to this challenge as he points out five problem areas that arise in investigations of aspects of human consciousness. The first problem area is that "…the realm of meaning exists in a different form than natural objects do. It is an activity, not a thing" (p. 7). The experiences of the storyteller and even the telling of the story about those experiences are past activities that can be described but not clinically analyzed as objects. The second problem area is that, "each of us has direct access to only one realm of meaning: our own" (p. 7). This ties into the third problem area, which is, "Study of the realm of meaning requires the use of linguistic data. The problems of direct access to the realm of meaning can be partially overcome by the study of its linguistic expressions" (p. 7). The second and third problem areas point out that while our experiences are uniquely our own, linguistic expressions, like cooperatively constructed and validated narratives, can help documentation and describe these processes in a meaningful structure. The fourth problem area is, "the analysis of linguistic data makes use of hermeneutic reasoning. Hermeneutic understanding uses processes such as analogy and pattern recognition to draw conclusions about the meaning content of linguistic messages" (p. 7). This ties into the fifth problem area, "the realm of meaning is an integrated ensemble of connections

among images and ideas that appear in various modes of presentation, such as perception, remembrance, and imagination" (p. 8). The last two problem statements reinforce the idea that a thematic narrative analysis can be a valid approach of discerning meaning from the hermeneutic reasoning that can come from sharing stories and drawing broader conclusions from those stories, confirming those understandings through discussion about those stories and from capturing the stories in a written form that are reviewed and confirmed by both the participants and the researcher.

This section has described scenarios where the participant is telling a story that represents their genuine understanding of past events and implying that they are sharing their stories without added bias or manipulation of the details. The stories all felt genuine to the researcher, and the settings and situations did not appear to lend themselves to motivating the providing of intentionally skewed details about past events. One does need to take human nature into account. Riessman (2008) reminds that, "people construct stories that serve the goal of saving ‘face'" (p. 108). She also notes that "Although it may be ‘natural,' telling and writing stories is invariably situated and strategic, (and are) …always crafted with audience in mind" (p. 183). Brown, Denning, Groh and Prusak (2005) make a similar observation, "…stories evolve over time. The stories become socially constructed to reflect additional viewpoints or changes in viewpoint. It is what Karl Weick called ‘retrospective sense making.' You change an opinion, and suddenly the story itself changes" (pp. 28-29). Both point to the reality that stories change over time and as the circumstances surrounding the telling of the narratives change. Gerrig, 1993 (as cited by Bartlet, 1932) found that when participants recalled what they read, the readers tended to blend the facts of the story with their general knowledge. The reader was not typically aware of this

modification (pp. 18-19). This served as a reminder of the possibility that the stories being told may have had more recent experiences blended into the story, and that the storyteller may not have been aware of this blending.

Greene, Strange and Brock (2013) make a similar point noting that "often we think about our …experiences and construct story-like memories out of them. We do this by reconstructing what happened in the experience so that it sounds good as a story to tell someone, or to tell ourselves.…When we prepare the story version of the experience, …we include some details, embellish some with potentially fictional details, and leave much of the experience out of the story altogether" (p. 294). As a researcher, it is important to keep this in mind and to ask clarifying questions to try and ensure a consistent representation of events, particularly around those elements that will inform the classification of the participant and other characters in activity cycles. Beyond that, it will have to be sufficient to recognize the limitations that came from not having direct access to another's experiences as an object available for clinical study, as pointed out above by Polkinghorne.

The narrative intended to capture the narrator's truth of the moment and that they may not have been a consistent truth that perseveres over time. Bauman (1986) captures this by referencing the art of the creation of the story noting that, "story…constitutes a form of verbal art. That is, it is characteristically *performed*, subject to evaluation, both as truth and as art for the skill and effectiveness with which it is told (Bauman 1976b:11). The aesthetic consideration of artistic performance may demand the embellishment or manipulation—if not the sacrifice—of the literal truth in the interests of greater dynamic tension, formal elegance, surprise value, contrast, or other elements that contribute to excellence in performance" (p. 21). Bauman's point,

which contains a reference to an earlier work within the quotation, reminds the researcher that there is an artistic element to the telling and capturing of narratives. There is room for taking some license when constructing a cohesive narrative as long as enough attention is paid to staying true to the participant's story and validating this with the participants. In discussing how one works to assure validity with this form of narrative collection and creation, the centerpiece is the importance of member checks. Bal (1997) stresses that member checks are, "especially important since the role of the narrator is critical and is a shared role between researcher and participant" (p. 18). A critical part of this research was involving both the individual and the researcher in confirming that each narrative was accurate and was a fair representation of the story that both parties had part in constructing. There were risks and limitations of which one should be mindful. Salmon (2010) warns,

> Stories have become so pervasive, critics fear they have become a dangerous replacement for facts and reasoned argument. Persuasive stories can be spun out of false memories or into propaganda. People deceive themselves with their own stories. A story provides a reassuring explanation of events can also mislead by leaving out contradictions and complexities (p. 5-6).

For this research, it is worth noting these other aspects that influenced the constructing of stories that were shared with others, the additional step of constructing a written narrative based on that verbal exchange was used. Efforts were made to be sensitive to these to help ensure the validity of the data. This research was a continuation of a conversation about activity cycles that helped increase understanding and helped continue an exploration that went beyond this work so that validity continued to be addressed in a broader sense.

The final section of this chapter considers how the narratives and the analysis in this study were written and prepared. One of the goals of this research effort was to create a set of narrative texts that captured individuals' stories. Bal (1997) describes narrative text as, "a text in which a (narrative) agent or subject conveys to an addressee ('tells' the reader) a story in a particular medium" (p. 5). He also notes that, for his definition, "a narrative, or narrator, means …a function and not a person, which expresses itself in the language that constitutes the text" (p. 15). The narrative text is the written accounting of the story that was told, not the act of the participant first sharing the story verbally. Bal further identifies three characteristics of narrative text that should, ideally, be present (pp. 9-10). The first characteristic is that there are two types of speakers in a narrative text. The first (the researcher in this case) does not play a role in the fabula, which is, "a series of logically and chronologically related events that are caused or experienced by actors" (p. 5), whereas the other speaker (the storyteller) does. Bal notes that this difference exists even when the narrator and the actor are the same. The second characteristic is that three layers can be distinguished: the text, the story and the fabula. The third characteristic is that "the 'contents' (the narrative text) conveys to its readers, is a series of connected events caused or experienced by actors in a specific manner" (p. 15). Intention was taken to confirm that the narratives that follow this section conform to this general description.

Bal does go on to point out that, "not every sentence in a narrative text can be called 'narrative.' …Sometimes it is worthwhile analyzing the alternation between narration and non-narrative comments.…The commentary of the external narrator may far exceed the function of narrating." The narratives in this study contain observations and commentary by the researcher, particularly as they pertained to pointing out aspects of the story that helped identify the activity

cycles of different characters and to support those arguments. She identifies these aspects as not being a part of the narrative, but that they still have a place in the written description. He goes on to explain that the "parts of the text referring to something general are best called argumentative. Argumentative textual passages do not refer to an element (process or object) of the fabula, but to an external topic," (p. 31) and that, "…the argumentative parts of a text often give explicit information about the ideology of a text" (p. 33). The effort was made to include observations and notes that served the goals of the research, and also represented these points as being the voice of the researcher. Additionally, for the most part, these observations occurred towards the beginning and end of the written piece to be less disruptive to those aspects that constituted the written narrative. Bal was correct in that these elements represented persuasive arguments and ideology necessary for the research topic, so the decision was made to make these aspects as transparent as possible. This was part of what informed the decision to set the narratives in the conversation where the story was told, rather than representing them solely as the story of the participant with the researcher's role more obscured.

Greene, Strange and Brock (2013) also make an extended argument that "story-telling may in many cases prove a more effective way to influence attitudes and behaviors than conventional persuasive efforts" (p. 157) and that storytelling and narratives are a particularly potent and effective form of persuasion. This reinforces the thinking that the researcher needs to be attentive to and transparent about the persuasive aspects of the written narratives. Polkinghorne reinforces the inclusion of arguments that advance the research goals of the work noting that "the research report itself is not simply the presentation of the story of some person or organization. It is an argued essay that conforms to the rules of a scholarly presentation" (p. 169).

Some license was taken in the writing of these narratives in the name of creating a coherent narrative and readability. Riessman (2008) shares a positive example of a written narrative and points out that, "speech quoted from interviews is 'cleaned up' to some degree (and) his texts erase dysfluencies, break offs, interviewer utterances, and other common features of interview conversations" (pp. 57-58). As mentioned earlier, similar liberties were taken with modifying quoted speech to provide a smoother and clearer narrative. Given that a degree of liberty was taken in constructing these narratives, it is important to mention the general structure that each narrative followed. This sentiment is echoed by Bauman (1986) who notes, "…it is incumbent upon anyone who publishes oral texts to be explicit about the presentational format employed. …the goal is to render the printed texts in such a way as to reveal the essential formal features of the texts presented, a kind of geographical laying bare of the device" (p. ix).

Each narrative describes the project and the context of the post-mortem conversation at the time of the story. This led into an explanation of the role(s) played by the individual. With this context in place, the analysis turned to the story that is the main part of that piece. As the story concludes, the voice of the researcher became more prominent. It described the exploration of identifying the activity cycles that best identified each of the major characters in the story. Arguments and conclusions were added drawn from the narrative in the context of the research goals surrounding activity cycles and interactions between individuals in the context of a project. An attempt was made to limit these observations to the context of the individual narrative, leaving broader comparisons and conclusions drawn from multiple narratives for the discussion and analysis sections that follow each narrative, the conclusion sections at the end of each narrative chapter and in the final chapter of the dissertation.

This final section of this chapter provides a review of the three research questions that helped guide and frame the discussion and analysis that occurred throughout the subsequent chapters. The three research questions were as follows:

RQ1. What is the dominant activity cycle of each of the major characters in each narrative in the context of the narrative and the project that is central to the story?

RQ2. What are the outstanding characteristics of the interactions between characters identified as operating in different activity cycles within the context of the narrative and the project?

RQ3. What are the outstanding perceptions of the storyteller about the interactions and work handoffs between characters identified as operating in different activity cycles within the context of the narrative and the project?

The main question that these research questions built to is as follows:

MQ1. Which of the outstanding characteristics and perceptions that are identified contradict and/or validate Ballard's (2009) explanation of activity cycles and which might further expand our understanding of these activity cycles?

The research and analysis sections at the end of each narrative then inform the conclusion at the end of each of the following four chapters. This is the section that synthesizes the preceding discussion and analysis sections. The four conclusion sections, in turn, inform the more holistic summary of the findings and conclusions that are offered in the final chapter.

CHAPTER 6: INTRODUCTION TO THE ACTIVITY CYCLE NARRATIVES

The narratives in the following section are the result of an examination of secondary data sources from a company that regularly completes formal projects, many of which are in the area of software development. A common stage in the project management cycle is the post-mortem. This is a time for reflection and learning that is set-aside at the completion of a project. Thoughts are captured about what went well and should be replicated in future projects, as well as the points where things went "off the rails" and should be avoided, if possible, in the future. People who worked on projects also shared reflections on interactions and work handoffs with others. Some of this documentation was gathered in a more formal setting while others in more casual conversations. As a part of this post-mortem, participants shared reflections on previous projects, sometimes to draw a comparison or distinction between that project and others. The previous projects discussed sometimes took place in other companies and institutions. This data was highlighted and somewhat prioritized by this researcher as it offered an opportunity to gather data about a broader range of settings. Access to secondary source material was provided, which included conversation transcripts and written summaries. The researcher was provided access to these materials and, from this data, constructed a set of narratives told from the perspective of the person sharing their experiences in the post-mortem process.

As a part of the narratives, the roles of the central characters were considered in the context of the 2x2 matrix of activity cycles. Attention was given to the interactions and work handoffs between characters operating primarily in different activity cycles. Observations were made about these interactions and the meanings drawn from them. The narratives identify each character with a dominant activity cycle. No character cleanly fits wholly into one activity cycle,

which was to be expected. Ballard notes that work, “inherently exists in more than one of these quadrants,” (p. 215) and uses the example of a university professor to demonstrate how one can be seen as working in multiple quadrants depending on the time frame of the observation, whether it is grading papers, managing a semester-long course or participating in multi-year and ongoing institutional processes. Thus, the narratives identify the dominant activity cycle that this is framed, in part, by the time frame in which the work was viewed. The time frame of the work was shaped by the context in which the information was gathered. For this data, that was largely the context of a singular project.

The following chapters contain 20 narratives that each tell an individual's story about working on a project and their key interactions with others. Examples of interactions with others operating in the same activity cycle are included when these interactions are central to the story being told and when they provide a meaningful contrast to interactions with people in other quadrants within the same story. Some of the narratives focus less on interactions with others and are stories about transitions that the participant went through that resulted in a shift from one activity cycle to another within the time span of the project. Some of the narratives offer a blend of these perspectives. Narratives that refer to a transition are referring to more than operating in different activity cycles depending on how the work is framed. Rather, the transitions that are highlighted refer to a notable shift in responsibilities and/or work environments within the arc of the story being told. Stories of transition were not a part of the original research plan and emerged organically from an examination of the data. Once this aspect of some of the stories took shape, it provided meaning to the larger objectives of this research. The experience of making the transitions, how the change affected their perceptions of their projects and the way

that others changed how they interacted with them, all contributed to the sense that these stories should be included and highlighted as a part of this collection.

The following four chapters organize the 20 narratives by activity cycle. First narratives were shared from the concentration perspective, then narratives from the cultivation perspective, and so on. There was another ordering of the narratives that was considered. A reader who is focused on reading the 20 narratives as a standalone contiguous set of stories with less emphasis on the analysis and discussion that follows each narrative, may want to consider reading these stories in a different order. This idea comes from interactions with non-academic practitioners working in the field of project management. As they expressed an interest in and followed through on reading drafts of the narratives, they provided consistent feedback on the order that made sense to them and the value they found in reading the narratives as practitioners. The narratives needed to be organized into the chapters as they are presented to better serve a discrete discussion of each of the activity cycles and to serve academic needs. The table below offers the reader another suggested order based on practitioner feedback. The reasoning was that certain stories, which occurred earlier in this list, featured storytellers who were new to the field of project management and they spent more time describing their learning process and understanding of projects in a way that established a baseline understanding that carried over into the narratives. This process of thinking about which narratives naturally set the stage for later stories was the underpinning for the recommended story order if one were primarily interested in reading the narratives and less focused on the surrounding analysis. The order presented in the left-most column with the title suggested practitioner order number. The table below also serves as a quick reference guide for the 20 narratives contained in this collection. The table identifies

the chapter in which that narrative is contained. Some narratives appear in chapters that are different from the primary character's quadrant. An example of this occurs in a narrative where the primary character operates in the cultivation cycle, but the story revolved around that person's interactions with a character identified in the creation cycle. Much of this narrative focuses on the primary character's interactions with, understanding of and response to this supporting character. A decision was made to place this narrative in the creation cycle chapter. The table below identifies the primary character in the story and that character's dominant activity cycle and does the same for the primary character's interactants.

Table 1 *Narratives, Participants, and Interactants*

Suggested Order Number	**Chapter**	**Primary Character Name & Quadrant**	**Key Interactant(s) Name(s) & Quadrant**
1	Cultivation	Margaret Cultivation	SoftwareTesters Concentration Paul (co-lead) Cultivation
2	Creation	Nancy Cultivation	Bobby (Designer) Creation
3	Concentration	Janet Concentration	Retailers Commotion Sales Team Members Commotion
4	Commotion	Arthur Commotion	Managers Cultivation Design Team Members Concentration
5	Commotion	Barry Commotion	Managers Cultivation

Table 1, cont.

6	Concentration	Carol Cultivation	Training Team Members Concentration
7	Concentration	Dinah Concentration	Software Engineers Cultivation
8	Cultivation	Edgar 1 Cultivation	Academic Council Members Creation
9	Concentration	Edgar 2 Concentration and Cultivation	Manager Cultivation Self — Transition from Concentration to Cultivation
10	Cultivation	Olivia Cultivation	Turner (Manager) Cultivation Sasha — Concentration Frieda — Cultivation Hank — Cultivation
11	Concentration	Ivy Concentration	Data Scientist Cultivation Colleagues Concentration
12	Commotion	Karen Commotion	Software Engineers Concentration
13	Commotion	Helen Commotion	Project Manager Creation David Cultivation
14	Creation	Lucy Creation and Cultivation	Self Transitions from Creation to Cultivation

Table 1, cont.

15	Commotion	Robert Commotion and Cultivation	Project Team Members Cultivation Self Transitions from Commotion to Cultivation
16	Creation	Penny Creation	Managers Commotion
17	Creation	Quentin Creation	Managers Cultivation Kevin Cultivation
18	Cultivation	Fred Cultivation	Charlotte Creation
19	Creation	Grant Creation	Managers Cultivation
20	Cultivation	Sebastian Cultivation	Senior Manager Creation CCO (Chief Client Officer) Creation

CHAPTER 7: CONCENTRATION CYCLE NARRATIVES AND ANALYSIS

This chapter focuses on narratives with a concentration cycle perspective. These are the narratives from Janet, Dinah, Ivy, Carol and Edgar listed in the same order in which they appear in this chapter. Edgar's narrative is more personally reflective as it described his transition from a concentration to a cultivation activity cycle over the course of a single project, being cast in the role of having to balance taking on new work from a cultivation cycle while still identifying with a concentration cycle perspective and having a preference for his work to remain in the concentration cycle. Edgar's tale is one of a few narratives in the larger collection that highlight a transition from one dominant activity cycle to another within the context of a story and illustrates the fluidity that can exist over the course of one's work.

The coding of the narratives in this segment focuses on descriptions of the time windows and the task variability of the storyteller, as well as their interactants, to support the identification of their placement in this particular activity cycle. The common aspects of the concentration cycle noted in the coding include highly routinized tasks, work that is tied to modest changes in day-to-day operations and a quality of sameness in work functions. The coding also identifies descriptions of the storyteller's interactions with others and particularly noting the descriptors of those interactions that are more than an incidental part of the narrative. The end of this chapter summarizes the characteristics that are found in these narratives and compares these characteristics to Ballard's 2009 work that introduces activity cycles. This comparison was made to identify those observations that further validate this model and those areas that might suggest an expanded understanding of this activity cycle. The collective observations from all four quadrants are then reviewed at the close of the analysis and findings section.

Janet's Narrative

Janet's narrative comes from a more spontaneous place than most in this collection. This is an example of Janet reflecting on an earlier experience at a different company and at the start of her career. Janet's post-mortem conversation about different projects that she had been involved in turned to projects that had been memorably difficult. Janet commented to the facilitator, "I remember a time when I cried while working on a project. I was much younger and it was one of the first projects that I ever worked on." The facilitator was quick say yes to her offer to tell her story and she did so over the next half hour or so.

"It was much earlier in my career," Janet began. "I was an Associate Product Manager. I had been in this role for six months and I was responsible for the production and shipping of picture frames." Janet explained that she helped her company sell picture frames to large big-name retailers. One of her projects was to figure out, for one extremely large and well-known U.S. retailer, how many frames they were going to order. From there she would arrange for that many frames to be prepared and shipped. "We had picture frames made in China, Mexico, and some were made in Arkansas," Janet explained. Given the volume of the order, Janet was ordering the frames from their vendor in China. Janet would arrange for the frames to be shipped to the U.S. where they would then be delivered to the retailer. The retailer would then distribute the picture frames to their individual stores. "This was an $80,000 to $90,000 account," Janet explained. "They were one of our larger accounts, and," she said with emphasis, "their business had a real impact on the health of our business." Janet explained that one project cycle would start with the receiving of the order and end with the delivery to the distribution center of the retailer.

"So, there's this thing in picture frames called face paper," Janet explained, "and it's the paper with an image that makes it look like there is a picture in the frame when it's on display in the store." Janet paused for emphasis and went on to stress the point that, "face paper is the most controversial piece of paper in the world of picture frame manufacturing." She laughed and said, "I mean face paper is the source of serious drama." Janet explained that every time a season changed or someone at the company felt it was time to update the style or change the look of the image, an event would occur that is called the face paper re-work. "If you are shipping from China, it's ideal if a face paper re-work happens there, because the Chinese labor is cheaper," Janet explained. She then talked through the face paper re-work explaining, "you open up the picture frame, you take the old image out and put a different piece of paper in its place." Janet continued, "Now imagine if we shipped 100,000 units in a container overseas to our warehouse. Now imagine it costs 20 cents in China to touch a frame and three dollars to touch a frame in the U.S.," Janet went on using gestures and tone to make it clear that these numbers were not specifically accurate, but somewhat arbitrarily generated in order to make a more general comparative point.

"In the middle of one of these projects," Janet said, "a bankruptcy happens, my boss quits, we announce that we cannot ship the frames, a new company acquires us, and then we announce that we can ship the frames as originally promised after all." Janet went on to describe the scene saying, "all of this stuff was in chaos around me and I didn't realize that I didn't catch the face paper re-work that had been needed when the frames were still in China. And now all of the shipping containers were in our U.S. warehouse and I was freaking out." Janet did not know what to do. She explained that the retailer, "hated us and they wanted to drop us as a vendor."

Janet remembers being in a panic, “and I just had this naiveté,” she said, laughing to herself, “and, I think in may naïveté, I was believing the product manager and the sales people were telling me that I had to make the face paper re-work change happen or I would be done.” Janet pushed the re-work through, even though the frames were now in the U.S. and instead of costing the usual amount, which had been budgeted, “it was some huge amount and that was just insane,” Janet recalled. It was not long before Janet was called into a meeting that was being led by a vice president of the company, and was called to the carpet for the decision. “I was new, in my first job, I was being told about how this whole thing was terrible, and I cried.” In the end Janet got in trouble, but kept her job. Janet was happy that at least the vice president was based in a different location and was not in Janet’s office on a daily basis. “I was also comforted by people on my team,” Jane explained, “who told me repeatedly that the situation wasn’t really my fault.” In the end, Janet stayed at the company for another five years, which was when the company was sold yet again to another buyer. Janet reflected that the face paper re-work experience, “probably slowed my confidence and my career at the company. It did hurt the business, but we survived in the end.”

Janet’s description of her work is best identified as being within the concentration cycle. Her tasks were relatively routine, and her focus was on completing activities with narrow time windows as reflected in her workflow pattern of getting the order, confirming the number of picture frames, ordering the frames, and arranging for them to be shipped. Janet explained that the bankruptcy followed by the acquisition by a new company was a bad transition. When things got difficult, she turned to people on the sales team and the retailers for direction. Both groups with whom she worked operated within time windows that were equally brief in the context of

this project, but their tasks were much more varied, which is indicative of a commotion cycle. Janet reflected, “My problems came when I was just listening to people without questioning anything. Now I understand the danger and I would never do that again, and it never did happen again. But, at the time, I didn’t understand that I needed to question the cost.” Janet explained that she was simply reacting to the needs and priorities voiced by the sales people and the representatives of the retailers. “My focus at the time was on trying to make them happy,” Janet explained. Her decision to take their direction was driven by her junior position in the company, a panicked desire to find a solution, and misunderstanding the different perspectives of the sales and retail representatives. Another aspect was the authority that Janet placed in them to make the right decision in a tough situation on the project.

Janet: Discussion and Analysis

Janet's tasks in her story were quite linear. When all went well, they were highly routinized, and the status quo of daily operations were maintained with a consistent rhythm. The tasks that were highlighted in Janet's narrative center on being responsible for the production and shipping of picture frames. Janet regularly ordered picture frames from China and arranged for them to be shipped to the United States. The narrative continues, "One project cycle would start with the receiving of the order and end with the delivery to the distribution center of the retailer." The narrative supports placing her in the concentration activity cycle in saying, "Her tasks were relatively routine, and her focus was on completing activities with narrow time windows. Janet was focused on getting the order, confirming the number of picture frames, ordering the frames and arranging for them to be shipped." Janet's briefer time windows frame her desire to find

solutions to issues quickly, and the reduced task variability that she was accustomed to may help explain her feelings of being overwhelmed when problems arose. This may also help explain why she turned to others, who are identified as being in a commotion cycle, for advice on the right thing to do. The characteristics of the work of those in a commotion cycle include working with emerging issues and forming ad hoc groups to solve them. She noted in the narrative that, "I just had this naiveté…moreover, I think in my naïveté. I was believing the product manager and the sales people were telling me that I had to make the face paper re-work change happen or I would be done." Coming from a more routinized black-and-white concentration cycle, Janet was quick to take their direction at face value and act on it because of her lack of familiarity with the context of non-routine events. This led to some of the complications and challenges in her story.

Viewing Janet's role and the challenges that she faced from the perspective of a concentration cycle is evident that in a pivotal part of the narrative as she described her interactions and conflict throughout the story. Janet had tasks that needed to do to be done and move on to other tasks. Janet prioritized completing the task at the expense of other considerations. Janet described extenuating circumstances like a bankruptcy, reacquisition, the job being closed and opened again, as a part of the story background, but did not seem to factor that in or acknowledge it in her decision-making and problem-solving processes. Her story remains one of being assigned the task of getting the face paper updated and needing to do that without regard to its complexity. In the end, Janet acknowledged the difficulties that came with taking direction from those within a different quadrant driving her decisions about the best next steps. She acknowledged this, saying, "My problems came when I was just listening to people without questioning anything." This was reinforced when she was reprimanded in a public way

by the new vice president. Janet's narrative reinforced the idea that operating from a concentration cycle perspective can be limiting when one does not recognize or adapt to the perspectives and motivations of those operating from different frameworks. She reflected this understanding as she described that she would not take these interactions at face value in the future without considering other perspectives. The dangers of looking at things only from within a concentration cycle perspective, where tasks are more black and white, decisions more binary and not considering the larger and more nuanced context is the lesson Janet mentioned when she explains, "[I] was simply reacting to the needs and priorities voiced by the sales people and the representatives of the retailers, and was in a panic to find a solution."

Janet's experience is a solid fit into the smaller time window and low task variability points on each axis that placed her in the concentration cycle. Her work was usually highly routinized with little disruption to day-to-day operations. Her work had a quality of sameness. Her challenge came when outside circumstances and complexity disrupted her workflow. She interacted with others who were operating from within different activity cycles and provided her with recommendations that met their commotion cycle need for an immediate solution to an emerging problem. Janet's narrative may serve as a caution for those in a concentration cycle about considering the perspectives of other quadrants during interactions and in finding a solution when things go awry.

Dinah's Narrative

Dinah's narrative describes her experience working as a tester of software that was under development. This narrative works well as a companion piece with Carol's narrative, which is

featured later in this chapter. Both Carol and Dinah work in the area of software testing and each serves to shed more insight onto the other. This narrative features a post-mortem conversation about Dinah's involvement in a recent project. Dinah was quick to point out that this was an interesting time to discuss recent projects because her role and the role of her team had recently changed, and they had just finished a wave of projects in their new roles. As a prelude to telling the story of a recently completed project, Dinah was asked to first describe these new roles in some detail so that the facilitator could better understand the tasks, timelines, and partners with whom she and her team were working.

Dinah explained that her team performs business testing on the software updates and new releases that come from the software engineers. Dinah is a testing lead, which means that she is aware of new functionality that has been designed and coded by the engineers, as well as which software and, more specifically, which upcoming release of that software will contain the new code. "We are all about trust but verify," Dinah commented, "The engineers have the requirements from the business. They build it. They test it. Then they give it to us and we test it again." Dinah explained that, in reality, there are always still bugs and problems when engineering hands over a new release for testing, and the engineers are often still working out issues in the code when the testers start diving in, "which you can imagine makes things interesting for us," Dinah chuckled.

As a test lead, Dinah coordinates and leads the business testing for each project. She prepares by making sure she understands the project details and goals. Then she develops testing scripts. These are the documents that detail the exact steps that a tester will follow for each test. A test script is a very specific, linear sequence that the tester follows. The tester then reports on

the outcome of each step and, ultimately, whether the overall test was successful. Dinah makes sure her team understands and is executing the scripts on schedule. Dinah then follows up and closes the loop on everything. Dinah clarified that at the same time, she is also the lead tester. "Even if we have a lot of testers testing a build, it's my job to make sure they know how to test it right, so I have to keep my skills sharp and contribute to the testing data myself, too," Dinah explained. Finally, as problems and bugs are found, Dinah helps set the priority of the bug fixes.

While Dinah is not doing the bulk of the actual testing, she is staying up to speed on every little detail. Dinah is constantly bouncing back and forth between the engineers, the business team, the project manager, and her boss to keep everyone informed of any risks to the project. "Is it red? Is it green? Is it somewhere in-between?," Dinah quipped. And here is where the big recent change in Dinah's role begins to manifest.

"Before, we were also decision makers and we would approve whether something could go live. You had to convince us that we should move forward," Dinah remembered. The removal of that responsibility is a substantial recent change; now Dinah's job is only to provide an informed accounting of the known issues. "Instead of giving a red light or green light, now we just tell you what we know about the stability of the release and the known risks. Whether to go live with the launch of the software is not our decision," Dinah explained. "It's less of a, 'Yes. You are allowed to go forward,' and is more of a, 'Here's what we think will happen if you go forward. You can do what you want, but here is the risk.'" Dinah explained that this was a rough transition both for herself and for the people she had to work with.

"I was used to being a decision maker about whether to go forward with something and why," Dinah commented, "and doing this meant that we should have a seat at the table in all of

the project meetings from the beginning." Dinah conceded that, even before their role change, she wasn't always included in those meetings. She also reflected that attending the meetings that she was included in was spreading her too thin; it was taking her away from the work that she felt that she was supposed to be doing—the testing. "We are now here to say, 'Red. Yellow. Green. Besides, getting too involved too early can be a real time suck," she concluded.

With this contextual understanding established, the post-mortem facilitator asked Dinah to zero in and tell a story of a recent project she completed that was also after she had transitioned into her new role. Dinah pondered for a bit, and said, "Yeah. I got one for you. Is it ok if it's a story about a project that didn't go well?" The facilitator laughed and replied, "Absolutely. The information I'm collecting would be very boring if they were about a time when everything went perfectly, everyone did their jobs well, and all of the communication on the project was crisp and eloquent." She laughed and said, "Well, this one fits what you are looking for, then."

Dinah settled in and told her story about a project where the business was building a new search engine into one of their tools. Dinah and the testers on her team had known for a while that the search engine was being designed and built, but that was mostly due to hallway conversations and catching up with the project manager on mornings when they chatted while in line for coffee at the work cafeteria. "We didn't start to get official specifics until around the time when the engineers kicked off their testing." Typically whenever the engineers' testing gets close to being finalized, Dinah is usually provided with the complete engineering test plan. This tells Dinah which test scripts the engineers used and the results of their testing. Dinah uses these scripts as a starting point from which to create her team's testing scripts. On average, Dinah

creates 10 to 30 scripts for a project. The new search engine they were testing for this project was closer to the higher end of this range. Dinah also explained that a tester can sometimes get through 3 to 4 scripts in a day, but that there are others where a tester takes an action and then has to wait for a week or two to see if a change takes effect as intended. In short, building the testing scripts for the new search functionality was one of Dinah's larger efforts, as was allocating the time her testers would need to complete their part.

When the time arrived for the engineers to hand over their testing scripts and results, Dinah started to get worried. "I needed their test plan in advance so that we could roll right from one stage into another," Dinah commented. This time, there were delays. Dinah would ask for the test scripts but only receive a few scripts at a time covering only some sections of functionality. Dinah suspected and later confirmed that this was because the engineers were having to go back and re-do portions of the development. Dinah explained that this can be a red flag because those re-dos can carry over into testing. "Sometimes there is a project," she explained, "where they don't get all of the development done before they hand off to testing. So, there are blind spots that they don't know much about yet, and that is what happened with this project." Because of this, critical issues and questions came up in Dinah's testing. Some of these became questions back to the project manager asking if the behavior Dinah was seeing was really what the business wanted. When the project manager confirmed that it wasn't, then it was pushed back to the engineers. "When the code is not all done or you introduce changes, you have to restart validation testing." Dinah explained that validation testing is when testers run end-to-end tests and confirm that the complete functionality works as expected from start to finish. If one piece of code is changed, ideally Dinah and her teammates would re-run those entire flows

to make sure that a code change in one place doesn't have an unexpected effect somewhere else. Similarly, new development also affects regression testing, which is to make sure already existing functionality isn't affected by the introduction of new code.

"I could tell that this project was going to give us trouble," Dinah noted. The next red flag Dinah saw was after her team completed their scripts and discovered a resurgence of erroneous behavior that had already been fixed a couple releases ago. For example, Dinah saw strings of text that were supposed to display as Chinese characters, but instead special characters like ampersands and percent signs appear. "That means this was something that had been fixed before and they didn't mean to undo it, but they did. It makes you wonder if they really understand this new development or if they were poking around trying to get something to work, and they did, but they un-did something else in the process," Dinah mused. "We saw problems like this with field labels and other text crop up over and over and over. We would file a ticket with engineering, it would get fixed, and then we would see the problem come back over and over again," Dinah said while frustratedly gesturing.

Another problem she described involved different interpretations of the requirements. "We would see [what the engineers coded] and we are like, 'this is not going to work for the business at all.' So, we go to the PM [project manager] and say, 'Was this what you were thinking?' Of course the PM says no, so now we need to stop the whole process and get everything sorted out." Dinah explained that, with this project more than most, her team got into a string of back-and-forth exchanges with the engineering team. The testers would file a ticket saying that a particular behavior was not what the requirements asked for, and the engineers would push back with the argument that what was built matches the written requirement. Most of

Dinah's examples are technical and do not lend themselves to a story, but one example does jump out. There is an existing drop-down menu in one area that, when clicked, displays an alphabetical list of around 150 choices. The project requirement asks for a drop-down menu in another area to pull the same information from the same source. However, the new drop-down menu displays the list in what appears to be a random order, certainly not alphabetized. Dinah filed tickets and called for a series of meetings to sort this out. The engineering argument was that this meets the requirement because it is indeed the same data pulled from the same source; a different part of the code alphabetizes the list before it is displayed, and applying that alphabetization code to the new drop-down was not specified in the requirement. Dinah countered in a series of escalating meetings that, regardless, it should have been obvious that the complete functionality of the drop-down list they were asked to replicate ought to have been applied. Recalling her frustration, Dinah sighed and said, "Why was it so hard to understand a 'make this look exactly like that' request? Who wants to scour through 150 non-alphabetized items to find the one item they need?" In the end, the problem was fixed, but it was treated as a change request rather than an error. This may not mean much to the lay reader, but, in Dinah's world, this translates to saying that the engineering team did meet their obligations and instead the project manager and business leadership are requesting a new change to the requirement. This in turn has implications for funding and, potentially, the placing of blame.

Dinah emphasized that, in the newly defined role of her team, it was the project manager and others who organized and led the meeting. Even though she felt passionately about "doing what was right," she attended as a participant and had to keep reminding herself that her job was to report out the risk of leaving the code as it was, which was not being able to easily find

information in a long random list. Dinah also circled back to her earlier point and cited this as an example of a change that would require re-doing a series of validation and regression testing. It was up to a group of others to make the decision of whether or not to make the change, adjust deadlines, and sort out who was paying for it.

Dinah acknowledged that this was not a unique situation. Tension is regularly high between the testers and the engineers, and frustrations can become quite pointed. Dinah reflected that the change in the testers' role reduced some of that tension as people grew to understand the shift in who was accountable for the final decision and who was not.

"It changed the dynamic a bit and it took [the engineers] a while to understand what we were not going to do anymore and why. Once they realized that we were giving our prediction of what we think is going to happen and why, but not the decision on whether to go live, it made it much simpler. They could then exit with that information and make the decision themselves. Because they're now the ones who have to speak to the business and the executives at the end of the day. We don't."

The project Dinah described was one of the more tense projects in her recent memory. She noted that around 25% of all bug tickets filed for the overall release came from just this project, and that this is an unusually high number. The project did release on time, but Dinah points out that there were a lot of shortcuts taken and functionality was reduced in order to meet their deadlines. Time will tell how the new functionality is received and whether a follow-up project will be needed to get the new features to fully perform as originally intended.

Dinah's shift in roles leading up to this project made the examination of her task variability and time windows interesting. Dinah's answers initially put her in the commotion

cycle with more duties in a short time window. But, with the new role that she was in for this project, Dinah aligns more with the concentration cycle. She and her team have a series of testing scripts that they complete followed by results that they record and submit. Although Dinah is a team lead, the testers do not report to her in a managerial sense. Dinah coordinates their actions and sees herself as a lead tester among testers. By contrast, the engineers align more to the cultivation cycle. That is, they have a longer timeframe of learning about the project and planning their strategy, but ultimately their variability is on the lower end of the spectrum because, in the end, it all comes down to spending long hours generating code.

In her previous role, Dinah reported feeling an increased tension that sometimes bordered on animosity. A sense of urgency was ever-present in those meetings, fueled by a sense of impending deadlines at odds with having an eye towards quality and 'doing the right thing', which she described as "feeling the churn." She attributes the reduction in tension between the testers and engineers to adjusting the role of the testers and relieving them of the final decision-making responsibility.

Dinah: Discussion and Analysis

The narrative about Dinah and her work as a software testing lead describes her role as one that best fits into the concentration activity cycle. Her role is to coordinate and lead software testing. She describes her tasks in a linear sequence. She understands the project details, develops step-by-step testing scripts, and uses the scripts to test the software. Then, when bugs are found and fixed by the engineers, Dinah tests the flow again. Dinah is also able to easily quantify her tasks. This is seen when she points out that she, "typically creates 10 to 30 scripts

for a project" and that, "a tester can sometimes get through 3 to 4 scripts in a day." Dinah emphasizes the need to be very aware of and in tune with the details and logistics of the project throughout the narrative.

Dinah's narrative offers an insight into the recent transition that she and her team went through as their role in the testing process was redefined. Previously, they had a broader role with more authority. She emphasizes this in the narrative, "before, we were…decision makers and we would approve whether something could go live. You had to convince us that we should move forward." Her role changed to that of providing status updates, rather than being a go /no go decider. This is called out in the narrative, "Dinah's job is only to provide an informed accounting of the known issues," and when she says, "Instead of giving a red light or green light, now we just tell you what we know about the stability of the release and the known risks." Dinah is working through this change from what might be cultivation cycle perspective to that of a concentration cycle in the narrative. She feels constrained by this change, in some way, but also calls out the benefits as well. This is highlight when she says, "We are now here to say, 'Red. Yellow. Green. Besides, getting too involved too early can be a real time suck." A consistent theme in Dinah's narrative is that this transition put her in a position of having substantially less authority.

Dinah responds to her reduced authority by relying more on her ability to influence. A pivotal point in the narrative comes when Dinah sees the impact of others' decisions and actions, but is not in a position to change the larger system or the process around them. In response, Dinah engages others to make this change and does have some ability to effect change by being a part of the process. This is demonstrated when she informs the project manager of functionality

that is concerning. He then gets involved in a conversation with the engineers that Dinah helped to orchestrate. Beyond that, Dinah's actions were limited to accepting the final decision of others as to what the path forward would be. The narrative notes that, "even though she felt passionately about 'doing what was right,' she attended as a participant and had to keep reminding herself that her job was to report out the risk." Her shift to a concentration role goes hand-in-hand with a reduction in authority and a more limited role in contributing to decision-making around those things being resolved in the context of the overall project and, thus, a broader time frame.

In addition to reduced authority, Dinah's narrative emphasizes a reduction in ambiguities as she adapted to her role change. One example is the realization that whether and to what degree she was responsible for emerging issues became less ambiguous. This is supported in the narrative noting that, "Dinah reflected that the change in the testers' role reduced some of that tension as people grew to understand they were no longer accountable for the final decision." Dinah adds, "Once they realized that we were giving our prediction of what we think is going to happen and why, but not the decision on whether to go live, it made it much simpler." Dinah also describes her previous role, which provides a contrast to her experiences of reduced tension and less ambiguity in her role. The narrative notes that, "in her previous role, Dinah reported feeling a greater tension that sometimes bordered on animosity. A sense of urgency was ever-present in those meetings, fueled by a sense of impending deadlines at odds with having an eye towards quality and 'doing the right thing.'" A reduction in tension and frustration is shown in these examples that goes with an "it is what it is" and "I've said my peace" perspective that came as a part of transitioning into a less ambiguous and more defined role.

A comparison can be made between Janet and Dinah's narratives. Dinah acknowledges the nature of her role and scope of responsibilities. She voices her opinion and helps to frame and drive the discussions that lead to needed decisions based on what she knows. She also recognizes that there are others operating in a broader time window who are responsible for make the decisions. She does this in a way that is transparent and that affirms their role and scope of responsibility. This method for handling issues is the type of thing that Janet recognizes that she needs to work towards in her narrative. The two narratives might show different places on a learning continuum about how to be more effective in a concentration cycle role.

Ivy's Narrative

Ivy works in an area of her company that releases and sells a variety of different software titles. In addition to producing new software, Ivy's company also releases new versions of existing software titles each year. Ivy expressed enthusiasm about participating in the post-mortem conversations with her company, eager to share details about one of her more recent projects.

Ivy was part of a team working on an upcoming release for one of their standard software titles. Ivy's focus was to help set up a system for internal business reporting about how a particular function of the software was being used by customers. This information would then give the people on Ivy's team the ability to verify and validate customers' reports of technical issues with the software. Ivy emphasized that, "My only role in this was supposed to be pulling the data from the main servers so that we can use it in the specific cases that I'm working on for

the business." Ivy soon became concerned about the accuracy and quality of the data that she was pulling.

"We have a whole data library that is new and it is the buzz. Everybody is talking about this new system, and we have a data scientist working on it," Ivy explained. "She is super-smart and has a doctorate and stuff, and she is working on how the data is calculated." Ivy explained that her concerns began during her first meeting with the data scientist. The data scientist showed Ivy where in the system the data was being stored, and Ivy asked how she had validated the accuracy of the data the software team was sending into the databases, upon which she was basing her calculations. "In the first meeting I had with her, she kinda backed out of the question," Ivy explained. "She was like, 'Oh, it's technical. We don't need to go there. Don't worry about it.'" Ivy continued, explaining that, "She had this whole 'I'm smarter than you' thing going on. I think she thought she was helping me, but it is a red flag when somebody can't explain the methodology and the analysis that they did." Ivy explained that she let it be, given that ultimately her role was to limited to receiving and passing along the data.

But then, a couple weeks later, Ivy was on a phone meeting with the analysts responsible for the data that the data scientist was receiving and using as the basis for her analysis. "We were talking about this same data set and I was like, 'OK guys, the data scientist thinks that this data is really valuable and that we can go use it in our machine learning algorithms and our automation. It will be great,'" Ivy recounted. Ivy did not get the response she was hoping for. "And he was like, 'Wroooong,'" Ivy said while stretching out the long "o" sound for emphasis. The analysts explained that, of the data that his team was sending, some data was omitted because the receiving server was not verifying the connection between the servers. The implication of this

was that approximately 20 to 30 percent of the data was being lost, and that there were a variety of potential inaccuracies in the data that did get through. Ivy stressed that, "I'm not an analyst, but it is my job to understand the source of these use cases so that I can make sure the data is useable when I hand it over to the people who are going to use it when building our systems." Ivy felt that she needed to do or say something, so she began asking challenging questions and voicing her concerns to others on her team.

At first, she had difficulties getting traction and a standard response she got was that she should just trust the analyst. Ivy explained that she was determined to push back against this with her team members saying, "I was like, 'Dude. I'm not saying the data scientist isn't smart or that she doesn't know statistics, or how to pull the data out and do amazing things with it that I don't know how to do. But, I can walk through the logic and I want to understand it. It's like peer checking. She should be cool with being transparent and maybe we can help catch something that isn't right." Ivy persisted with her message and continued reaching out to others on her team and to her manager.

It turned out that Ivy's concerns were justified. Ivy explained that the issue had escalated and came to a head a few days before the post-mortem. She indicated her boss and other leaders had been presenting to executives a new feature that relies on this data feed and the data scientist's application of the data. Members of the senior leadership team had been excited. Ivy's boss shared with her that the executives were upset upon learning that the new system was based on bad and incomplete data, and were unhappy with the whole analytics team about not catching this and doing something to fix it sooner. In the end, the software engineers are still moving forward with building the new tools in preparation for receiving valid data, and they are putting

the task of providing reliable data back on to the original analytics team. Ivy summed up her reflections saying, “My boss and his counterpart who runs the analytics team are going to have to figure out a way to diplomatically say exactly who is responsible for making sure that the data being passed is valid and that the calculations and algorithms that are based on that data are reliable as well, and who knows where that will escalate.” Ivy’s closing comment was succinctly put when she said, “Again, my part is just to pull the data back. This isn’t my project to manage, but I’m still questioning the data.” Ivy will continue to do her part and will wait and see how the next chapter of this project unfolds.

In the context of this project and Ivy’s story, her role largely falls into the concentration cycle. Ivy’s task variability was low and her time windows were brief, as her function was to help pass data as it became available across a metaphorical bridge to the parts of new systems when they were ready to receive that data on the other side of the bridge. She reiterated this point several times saying, “My part is just to pull the data from one system and make it available to the new tools being built.” Ivy description supports placing the data scientist in the cultivation cycle. She has a more extended time window that runs the duration of the project, but with less task variability than others who have a larger responsibility for driving the overall project of developing software. The data scientist’s role is limited to the processing and passing of information based on the data received. Ivy’s description also supports placing the colleagues she reached out to with her concerns in the cultivation cycle. Ivy’ explained that they had broader time windows on this project, but that their functions were less varied than others who were driving the overall project. In both cases, Ivy did not feel like her concerns about the reliability of the source data were being heard or taken seriously. Ivy coupled this resistance with her role

throughout the conversation. She struggled to be seen as someone who had the standing to raise these concerns and to advocate for action, and perceived that she was not taken seriously because of the narrow scope of her role on the project.

Ivy: Discussion and Analysis

Ivy's story details a conflict that she had with a data scientist over the validity of data that was being used. Ivy describes her role early in the narrative as one that has a narrow range of tasks. Ivy says, "My part is just to pull the data from one system and make it available to the new tools being built." She also says, "My only role in this was supposed to be pulling the data from the main servers so that we can use it in the specific cases." This second statement, in particular, indicates her limited tasks within a singular role while also foreshadowing the escalating conflict with the data scientist. The goal of Ivy's primary task, pulling data to be displayed in downstream systems, aligns to the concentration cycle description of work that is tied to modest changes in day-to-day operations. Passing data from one system and displaying it in another fits that description. Ivy's narrative becomes more complicated when she becomes concerned about the accuracy and quality of that data, and exhibited signs of being detail-oriented and concerned about the specifics when she pushed for a deeper understanding of the validity of the data. Addressing those concerns falls out of the scope of Ivy's responsibility and role, as defined and understood by the narrow range of tasks and shorter time window of pull the data and send the data. This again places her in the concentration cycle and sets up the conflict and competing perspectives that come out of her interactions with the data scientist and others operating from a different perspective.

Ivy's narrative escalates when she asks the data scientist questions that may have also been perceived as challenges about how the data scientist had validated the accuracy of the data that the software team was sending into the databases. The narrative places the data scientist in the cultivation cycle due to her more extended time window with a task variability that is narrower than those who would be in a commotion or creation activity cycle. Ivy found the data scientist's response to be reductive and reinforcing of her role. Ivy makes this point in the narrative saying, "she was like, 'Oh, it's technical. We don't need to go there. Don't worry about it.'…She had this whole 'I'm smarter than you' thing going on." Ivy felt that she had to accept this answer and seemed to accept the limitations of her role as she perceived them. She voiced her concern in the form of questions, but did not push when she received a response. Ivy ties this decision back to her role when the narrative states that, "she let it be, given that ultimately her role was to limited to receiving and passing along the data." Like Janet and Dinah, Ivy is trapped between what she sees as recognizing a critical issue, but being limited in her capacity to effect change. Her outlet is to raise this concern in conversation with other team members and colleagues around the office, but in more in the form of venting frustration rather than trying to effect change. As Ivy is describing her frustration, she again acknowledges her role in the project, "Again, my part is just to pull the data back. This isn't my project to manage, but I'm still questioning the data." Unlike Janet and Dinah, Ivy experiences having her concerns validated, and she enjoys a sense of vindication when her concerns were found to be on target.

Ivy struggles in the narrative with advocating for action based on the issues and concerns that she wants to raise, but that are beyond her immediate scope of work. Ivy, like Dinah, emphasizes her attention to detail and the importance of using and being able to thoroughly

explain the smaller details to make an argument for a course of action. Her perception is that her concerns, and she by extension, were not taken seriously because of the narrow scope of her role on the project. Janet, Dinah, and Ivy have similar experiences in this area. They work to balance being successful in their role, which can be categorized as being in the concentration activity cycle, with contributing to a larger successful effort by addressing larger and broader issues that extend beyond their narrow range of tasks and brief time windows.

Carol's Narrative

Carol works for a software company and manages teams of software testers. As mentioned at the start of Dinah's narrative, Carol's narrative and Dinah's work well as companion pieces as they both work in the area of software testing for new development for their business area.

The post-mortem facilitator wanted to establish context before the story began to unfold, so he started by asking Carol to tell him more about her work role. Carol replied, "I play a lot of roles, but the one I am the most comfortable with is the coordinator. I am the one who imposes order and I am the one who keeps track of what other people are doing. I manage a lot of the details that others don't want to bother with and I am looking ahead to see what problems we might encounter that others haven't seen coming." Carol then zeroed in and explained that her primary function is being a people manager. She looks at all of the projects that her people are working on and makes sure that the projects have enough resources. The facilitator was confused at first, but then realized that for Carol, resources are synonymous with people. "Right," she clarified, "in my role, resources are people and people are resources." Carol explained that

allocating resources means she makes sure her teams are correctly staffed for the projects that they are testing. “Sometimes I’m given a new initiative and my job is to understand what the project managers want and then to go off to find the people who will make it happen.” Carol clarified that she is not in the habit of assigning tasks and giving direction to her team members unless they have an unusual project and it’s something new that the teams do not know how to do. “When that happens,” Carol explained, “I’m very directive. Otherwise, I ask and trust people to go do their thing.”

The people Carol manages are assigned to multiple projects simultaneously, and fall into two distinct project roles: testers and testing leads. Both the testers and the leads have a singular role that they perform, and they engage in this role across multiple projects. Some people are working simultaneously on two or three projects, while others are working on eight or nine. The total number of projects assigned at any given time depends on the complexity of each.

Carol’s team members do the business testing on new versions and releases of software by creating scripts that are followed when putting new software through its paces. The testers complete the tests, and the testing leads oversee the larger process. The roles of the testers and test leads are covered in more detail in other narratives in this dissertation, so this story is focused on a recent project in which she had to work with groups and individuals who were working in other roles. As she told her story in the post-mortem, Carol laughed and said, “You just put your finger on one of my big ongoing challenges. My main job is to get people and stuff out of the way for the test leads,” Carol explained, and went on to describe a recent project where they faced a very common struggle.

Carol is protective of her team members because a lot of people seek them out and ask them to help with different tasks that are beyond their role as testers. On a recent project, Carol's team members were testing a new web portal that had not yet been released, and Carol's team members were getting flooded with requests for screenshots, for screen recordings of functionality, to demo the new portal functionality in meetings, and other questions about functionality. "We normally get requests like this," Carol explained, "because of our expertise and our access level, and we can handle a few of these." Carol paused for an exasperated sigh before continuing, "But the requests around this web portal were getting out of hand. I had to intercede and help my team members push back on requests and either say 'no' or explain, 'We can do that, but it means *your* testing is going to have to wait and it's *your* deadlines that are at risk.'" Carol explained that there were also times when her teams could meet these requesters halfway and help them get their own access to the information they needed, rather than her team having to spend time fetching the information. She commented that, "It's sometimes a balance between doing what we can when it makes sense and, other times, pointing them in the right direction when that makes sense. And then, there are times when you have to say no."

Carol went on to share that she also had to redirect her team members when they proactively prioritized handling web portal requests, sometimes at the expense of their primary testing responsibilities. She understood that even if her testers were able to balance these requests with their primary responsibilities, it was not appropriate for them to do so. Carol explained, "There were situations when our people were going above and beyond to do things for the web portal release that they thought added value, when actually these were things that the project manager should have been doing. That division of labor exists for a good reason." Carol

understood that if the testers kept taking it upon themselves to solve the project problems that they saw through their limited view of the big picture, the people who were actually responsible for the big picture and accountable for the overall outcome of the project would miss early indicators of potentially more deviating problems down the road. This is exactly what she wanted to prevent from happening with the web portal project.

The facilitator asked Carol to share more about the people making the requests and her interactions with them. Carol explained that the web portal project had two project managers involved and leadership from two different lines of business, each having a stake in understanding its functionality intimately. In addition, the training team also wanted access to the portal while it was in testing so that they could develop the necessary training modules for its users. This led to about fifteen different people making regular requests of Carol's team as they were testing the web portal. Carol held firm and said no, and the response by those receiving the message was to escalate. In the end, Carol's manager found someone on another team who had the bandwidth to help. Carol and her manager gave this person the access he needed and he took on the job of handling these requests so that the testers could focus on their core responsibilities.

The facilitator asked Carol a series of questions that helped this researcher identify her primary quadrant in the 2x2 matrix. Carol's primary activity cycle aligns to the cultivation cycle. That is, she works in larger time frames as she thinks about the duration of projects leading up to testing, the testing phase itself, and the close out of the project as it goes live. Her task variability is low. She has a set of specific foci and she operates in that space as consistently as possible. Carol's description of the members of the training team wanting support from her team arguably places them in the concentration cycle. They were charged with developing a sequence of short

training modules that required access to the portal to give them the content they needed in order to meet their own deadlines. A differing sense of urgency was an aspect that tinged Carol's description of their interactions. She explained that, "I empathized with them, and recognize this has been a long-standing point of tension as the training team can't help but want the access they need to develop training before something goes live." Carol concluded by describing how she's become skilled at countering the urgency of requests from the training developers and others who are working within a different cycle. "When I stand my ground to protect the testers' primary mission, I explain why her priority needs to be ensuring her testers get their testing done, and it's really quite simple: a delay in testing affects an entire downstream process and puts the whole project at risk. It's simply not possible to speed up the testing or cut corners to adjust to the training team's timeline."

Carol: Discussion and Analysis

Carol's narrative is told from a Cultivation perspective, but is included in this concentration chapter because a primary focus of her narrative is about her interactions with, and management of, people who work in the concentration activity cycle. Carol's narrative provides another perspective to one of the dominant themes in the concentration cycle narratives: that of seeking to influence broader aspects of the project while also feeling constrained in doing so when working in a role designed to operate with less variable tasks and a narrower time window.

In her narrative, Carol explains that one of her primary functions is to manage people who operate in teams as software testers and whose work places them in a concentration activity cycle. Dinah's narrative, which appears earlier in this chapter, provides an examination and

explanation of why the work of software testers fall into a concentration cycle. Carol's description of their work also affirms their alignment to a concentration cycle. Even though the testers work on multiple projects simultaneously, Carol notes that they have, "a singular role that they perform." This speaks to the narrow range of tasks that they perform, and the nature of testing scripts described in both Carol and Dinah's narrative speak to the briefer time window of their focus on creating and completing testing scripts.

Carol asserts a fair amount of control over the work of the testers and test leads. In the narrative, her function is described as looking, "at all of the projects that her people are working on and mak(ing) sure that the projects have enough resources." The narrative goes on to clarify that, for Carol, resources are synonymous with people. Her use of the term, resources, adds emphasis to the level of control that she has in shaping their work and aligns to traditional corporate terminology, like human resources. She continues to reinforce this in her narrative saying, "I manage a lot of the details that others don't want to bother with and I am looking ahead to see what problems we might encounter that others haven't seen coming." In addition to describing the nature of influence she has in shaping their work, this also describes the broader time window Carol operates in, which supports her identification as a person operation in a cultivation cycle. Carol also speaks to her task variability while simultaneously reaffirming her control and influence when she says, "I play a lot of roles, but the one I am the most comfortable with is the coordinator. I am the one who imposes order and I am the one who keeps track of what other people are doing." Carol's role sets the stage for her interactions with the testers and test leads. It also highlights differences between her perceptions and that of the testers about the

work and what is a priority. This provides the opportunity for comparison that helps inform the nature of Carol's role in the cultivation cycle.

The previous narratives in this chapter describe a desire by the storytellers to affect broader aspects of the work beyond their functions within the concentration cycle. This includes those things that lead to or are influenced by the tasks that they do. Carol's narrative describes the active effort that she puts into limiting and preventing diversions from routine among the testers and test leads. Carol says, "My main job is to get people and stuff out of the way for the test leads," in the narrative. She goes on to emphasize that she actively steers the testers back into their primary function, which conforms most to the concentration activity cycle. The narrative describes Carol redirecting her team members when they proactively prioritized taking on other work requests and involving themselves in things that go beyond their primary testing responsibilities. Carol's motivation goes beyond making sure the work gets done to wanting to make sure the testers do not go beyond their role. This point emerges in the narrative when Carol explains that, "even if her testers were able to balance these requests with the testing that needed to be done, it was not appropriate for them to do so."

This highlights the crux of a narrative tension between Carol and her testers that can also be viewed through a comparison of the perspectives of individuals functioning in a concentration versus cultivation perspective. Individuals in a concentration activity cycle have narrower tasks in terms of time window and variability, but, in these narratives, they are aware of the big picture into which their work fits, and they try to push past their concentration boundaries to affect the broader setting in a way they think will both serve the overall project and serve to make sure their own work flows more smoothly with only modest changes in day-to-day operations. Carol's

perspective on all this and her three primary motivations are called out in her narrative as well. The first motivation is a desire to keep everyone true to their roles, as described above. The second is to keep the testers focused on their primary responsibilities. This first and second motivation are pointed out in the narrative when Carol is described as, "protective of her team members because a lot of people seek them out and ask them to help with different tasks that are beyond their role as testers." The third is to preserve the larger goal and stability of the project. This is addressed in the narrative as, "Carol's team members were getting flooded with requests for screenshots, for screen recordings of functionality, to demo the new portal functionality in meetings, and other questions about functionality." The narrative continues with Carol's description, "the requests…were getting out of hand. I had to intercede and help my team members push back on requests and either say 'no' or explain, 'We can do that, but it means *your* testing is going to have to wait and it's your deadlines that are at risk.'" Carol's narrative serves to affirm the sense of pushback and pressure to stay within their role as described in the concentration cycle narratives. It also provides the perspective of someone operating in a cultivation cycle explaining why that pressure is there and justifying its need.

Edgar's Narrative

NOTE: Edgar is the only person from whom two narratives are featured in this collection. Edgar's other narrative can be found in the cultivation activity cycle chapter. This narrative contains Edgar's reflections on a professional experience he had at a position outside of the company. Both narratives feature a presentation made by Edgar to the Academic Senate at

the university where he worked at the time. The presentation to the Academic Senate that is featured in this narrative precedes his presentation in the cultivation chapter.

As a prologue, Edgar explained that the university where he worked at the time moved their Learning Management System (LMS) electronic data storage and the responsibility of managing the hardware servers that the data lives on to a managed hosting system that is both off-site and out of state. Edgar explained that he was the driver in charge of making this transition happen. "Moving to an off-site data center is a big project, but," he laughs, "I was not trying not to tell too many people about that one. I just wanted that one to be seamless." Edgar simply wanted everything to go smoothly.

Edgar explained that, when a project like this goes well, the changes experienced by the users at the university is minimal. “There will be a few things, technically, that we have to adjust. We will have to set up classes on the new system at the beginning of the semester, but most of everything remains the same,” Edgar explained. The biggest challenge for Edgar was less technical and more about communicating the change and gaining agreement on key decisions. Following the decentralization of Edgar’s larger area, the responsibility of change management didn’t fall clearly into the realm of a specific person or group. Edgar explained that he asked around about this, but, “other groups didn’t want to send out the nasty-gram or communication that we’re moving, so, it fell on me to pick up the pieces.” Edgar said, “I had to do the campus announcement. I had to do the communication plan. I had to figure out how to target the right groups.” The facilitator asked Edgar why he thought the other groups were resistant and why the other groups were reluctant. He replied, “Because it’s change. If there was any fallout, they don’t want to take the bullet.” Edgar got a sense of the change management

strategy that other groups were describing when he would bring the topic up more generally, and he was concerned. He explained that people in these other groups described what sounded to Edgar like a traditional approach to a small change where a change is tested to make sure that it makes sense and that it works the way it's supposed to. "Then they communicate with the few faculty members that use [the software] and say, 'It's a change. It's going to go here. It's going to go there. They've added this new functionality. Have a nice day,'" Edgar explained this in a way that emphasized that he did not think that this approach was a good idea for this project. It was not long before Edgar felt like he had to be the one to commit to taking on the communications and change management aspects of the project.

One of the first and biggest challenges that Edgar needed to resolve once he committed to this broader role was to sort out who he needed to communicate with, what approvals were needed, and to fold this into his central effort, which was the technical transition of the LMS. "It was a blend of knowing who I needed to talk to and a certain amount of, 'Oh this person will say yes if *this* person says yes,'" Edgar quipped. He was also aware of his role in the University structure. "So, I'm middle management, right? That means end-user experience, and management and executive user experience, both roll downhill to me," Edgar explained. He also realized that this broader perspective on the project changed his view of a linear effort that can be described with a colloquial phrase like, "Plan the Work and Work the Plan," to something more nuanced and complex. Edgar commented, "It always feels organic because, in this system, a top-down approach doesn't work. Even though you're given a mandate, a directive, or whatever, that doesn't mean that you can make this happen without end-user buy-in." Edgar found that he had to spend more time engaging and involving people in his process.

"Nobody wants to feel like they got stepped over or stepped on. And, so, I talked to a lot of different people. I got feedback. I took that feedback and I made adjustments to the plan." Edgar leaned back and started thinking through the people with whom he met and coordinated. "I went and talked to six different groups. I had to talk to middle management, the chairs, the Dean, the Academic Senate, the Provost, and the President. I had to talk to them all independently and I had to make sure I talked to them in the right order because you can't talk to the chairs before the Dean or the Provost. And my boss had to be on board so that he could cut the check. I met with the Registrar, people responsible for the technology infrastructure, and the external vendor," Edgar said as he worked through his mental list.

Edgar explained that his communication was more than sharing the details of a plan, but also about negotiating the details. "I talked constantly with my team members as different people asked us to adjust the plan," Edgar recounted. Edgar explained that he never stopped feeling like their plan of record was a draft, because he never knew when, or from whom, he was going to get more feedback and how that would further change the plan. Edgar emphasized that there was a growing sense of pressure during this time from the internal technical staff because they were running out of the hardware needed to continue operating the LMS.

Edgar explained that one of the bigger challenges was finding the best time to take the LMS down while they made the transition. Edgar explained that the main concern was scheduling the downtime when faculty and students would not be able to access the system. "I finally found a window," Edgar explained, "that people could agree to." December 22-25 was the three-day window on which Edgar had landed. “It's perfect because we are technically off at that time. The campus is closed. Faculty members are off contract," Edgar explained. He was happy

that a solution had been figured out. "We had talked about spring versus Thanksgiving versus December versus summer and the pros and cons of each," Edgar recounted. Once the decision had been made, Edgar explained that he, "went back around to talk to the Deans and everyone else again," to share the plan of record.

This was when Edgar experienced a setback with a person who manages a team that would be involved in this transition. Edgar explained, "This is when I got kick-back from a guy I had talked to originally who said, 'I wasn't consulted about this!'" At that moment, Edgar remembered that he had invited him to a meeting on the project, but he could not attend and, instead, sent somebody else. Edgar asked recounted this and asked, "Did they not tell you?" The reply Edgar got was not a direct reply to his question, but the firm statement, "Well, this is impacting my employees' vacation." Edgar wanted to say, "You know, you're right. It is. That's the way it is and we all need to suck it up." Edgar explained that, instead, he and his team adjusted the migration plan so that the staff of the person who objected would not have to be on call past a certain period.

With a somewhat firm plan, Edgar's next step was to present a summary of the upcoming transition to the Academic Senate. Edgar's description of that event underscores the shift in his role during this project from 'the tech guy' to that of being a coordinator and organizer of multiple groups and interest for the overall project. Edgar began his description of his presentation by first describing the presenter he followed. "The guy ahead of me was like, 'Hi, we're the office of whatever and we are in the worst place on campus. To get to us, you go here, then you do this, then you cut through the library, and then we're all the way in the back around this corner, but we're here for you. Come see us,'" Edgar recounted. He continued explaining,

“When it was my turn, I got up and said, ‘Hi. My name is Edgar and our office is behind that guy’s and I’m behind a locked door. But, I’ve got a’something to tell you.’” Edgar reviewed the plan and was relieved when it was accepted as is, without further changes.

As Edgar reflected on his broader role beyond being ‘the tech guy’ in the context of this project and how he would describe the experience of trying to make a firm plan in this environment, he explained, “Things are constantly changing, especially in an organic place like this. Projects may be top-down, but they need support from a lot of people to actually go. I had to play ends against the middle all of the time and I was constantly adjusting.” Edgar returned to an earlier point emphasizing that, officially, his role does not include the kind of campus-wide communication effort that he took on for this project. “I was filling in the void that was there. I had no allies. I was taking this on while saying, ‘Hi. I’m this guy from the tech shop. Nice to meet ya.’ I would literally start out some of the conversations and meetings like that,” Edgar explained.

The facilitator asked Edgar what some of the greater points of tension were when balancing the two roles. He explained that one challenge is trying to plan the logistics while also being the person associated with the technology and that he felt that his reputation was directly tied to the performance of the technology." The hardest thing about this system," he explained, "is that I can't jeopardize the integrity of it *at all*. Meaning that if somebody says, ‘The dog ate my homework,’ and I don’t prove that it didn’t, it ripples and the whole system goes ‘whoosh’ because nobody trusts it, or me, anymore.” In this case, the project went well and in December the LMS used by the University transitioned to a new site and a new team. Edgar punctuated the story by commenting, “A lot more people knew where my office was after that. They knew that I

was in a locked room over behind that other guy and, if they have issues with the LMS, they'd come over and talk about it."

Edgar's story is included, in part, because it captures a time when his role, in the context of this project, seemed to shift from the concentration cycle to the cultivation cycle. His time window extended, and he took on a much more varied array of tasks revolving around communication, negotiation, and planning. Edgar's experience with the manager of the technology team who wanted to shift the timing of the transition was frustrating for him. Edgar wanted this person to see the broader context of the issue, adapt to the plan of record because of that context, and, in Edgar's words, "suck it up." Edgar's story also focuses a lot on his need to be the person repeatedly negotiating, communicating, and confirming project details at all levels with individuals operating from different cycles. Edgar took on the responsibility of "owning" the plan of record, communicating it to others, changing it as needed and reconfirming repeatedly. It's no wonder that Edgar started the conversation saying that he felt like—even now—the plan is still a draft.

Edgar: Discussion and Analysis

Edgar's story is included in this chapter in part because it captures a time when his role, in the context of a specific project, seemed to shift from the concentration cycle to the cultivation cycle. This transition provides a comparison of the differences that come along with this shift and add to the understanding of the concentration cycle that comes from an examination of these narratives.

Edgar's narrative provides a contrast to the other narratives that precede it in this chapter. The other narratives tell the story of people working in a concentration cycle who are constrained when they try to assert an influence on other aspects of the project and are pushed to stay within their role. By contrast, Edgar's narrative tells the story of a person who is working in a concentration role, sees a need to exert an influence on other aspects of the project, and is not met with resistance as he assumes new tasks. Describing his work in terms of creating modest and smooth changes in day-to-day operations is emphasized multiple times in Edgar's narrative. For example, Edgar says, "Moving to an off-site data center is a big project, but…I'm trying not to tell too many people about that one. I just want that one to be seamless." He also notes that "when a project like this goes well, the changes experienced by the users at the university are minimal." This helps affirm Edgar's self-identity as aligning with a concentration cycle. It also begins to establish the identity and reputation that he has tied to that role. This comes out explicitly in the narrative when Edgar says, “one challenge is trying to plan the logistics while also being the person associated with the technology, and that he felt that his reputation was directly tied to the performance of the technology.” Edgar was firmly situated in his identity, which set the stage for the transition to unfold.

Edgar's time window and frame of reference extend over the course of the narrative, and the variety of tasks that he takes on also grows. This is seen as, over the course of his story, Edgar begins to assume project-related communication responsibilities. Carrying out these duties leads to a transition of his role into a cultivation cycle. Edgar understands that addressing this need is beyond his role but takes it on in the absence of anyone else doing it. He makes this point saying, "other groups didn't want to send out the nastygram or communication that we're moving,

so, it fell on me to pick up the pieces." Edgar's transition takes a pivotal turn when he considers descriptions of the broader role in terms that sound like linear and straightforward tasks and finds those descriptions to be limited. His dismissal of this point of view signals that his transition is in progress. The first part of this self-realization appears in the narrative as, "people in these other groups described what sounded to Edgar like a traditional approach to a small change where a change is tested to make sure that it makes sense and that it works the way it's supposed to." The follow up to Edgar's perception of that viewpoint is the bulk of the narrative where Edgar takes an approach that is more nuanced and aware of the ambiguities involved in creating and communicating a plan that is sensitive and adapts to the needs of a diverse group of stakeholders. This realization is evidenced when Edgar says, "It was a blend of knowing who I needed to talk to and a certain amount of, ‘Oh this person will say yes if this person says yes,'" By the end of his transition, Edgar feels that he would be more comfortable back in his previous role, but carries on, in part, because he sees the need for the work. It should be noted that as a person who identifies himself as being, "middle management," Edgar has aspects of a role in the cultivation cycle at the start of the narrative. He also fixates on the aspects of his role that are a smaller set of short-term tasks that align more with a concentration cycle perspective. That is, there are a series of routinized tasks that need to be carried out. Edgar describes success as completing these tasks in a way that they creating only minor changes in the day-to-day operations of themselves or others.

The central theme of the narrative is Edgar's transition. Edgar emphasizes his concentration cycle identity as he takes on his broader tasks. This is highlighted in the narrative when Edgar introduces himself at the academic council as, "My name is Edgar and our office is

behind that guy's and I'm behind a locked door. But, I've got a'something to tell you.'" Edgar portrays himself with an image of concentration even while explaining his cultivation duties. This is also seen in the narrative when he emphasizes that, officially, his role does not include the kind of campus-wide communication effort that he took on for this project. This is further supported when he explains that he started many of his conversations on the broader topic saying, "Hi. I'm this guy from the tech shop. Nice to meet ya." Edgar holds on to this self-perception of being the tech guy who is now in a different position. That new position involves having a broader time window and more varied tasks. The broader range of tasks is called out when the narrative states that, "one of the first and biggest challenges that Edgar needed to resolve once he committed to this broader role was to sort out who he needed to communicate with, what approvals were needed, and folding this into his central effort." Even so, Edgar is determined to hold on to his concentration-cycle based identity. He emphasizes that, "officially, his role does not include the kind of…effort that he took on for this project." He clarifies that he only took on these broader duties to fill a void and that he had no allies, pointing to this sense of insecurity and lack of support as part of the reason why he held on to his core identity as he did so. Edgar felt that taking on broader tasks put his identity and reputation at risk but was worth the risk regarding ensuring success in his role. He notes that he felt that he could not jeopardize the integrity of the core system he supports and that any lack of faith in that capacity would lead to a sequence that ended in lost trust in him and the system he supports. Edgar struggles with the broader role that he took on, describing his challenges as, "Things (were) constantly changing, especially in an organic place like this. …and I was constantly adjusting." This speaks to the

greater ambiguity that comes with a broader time frame and of living a concentration life in a cultivation world.

The narrative calls out the added dynamic of politics and relationships that adds to the complexity of Edgar's expanded role. This begins to occur as Edgar realizes, "that this broader perspective on the project changed his view of a linear effort…to something more nuanced and complex." It continues to develop as Edgar finds that he spent more time engaging and involving people in his process. Edgar reflects, "Nobody wants to feel like they got stepped over or stepped on…I talked to a lot of different people. I got feedback. I took that feedback and I made adjustments to the plan." The ambiguity Edgar felt was a constant as he shifted into a cultivation cycle perspective. It is noted in the narrative that, "he never stopped feeling like their plan of record was a draft because he never knew when, or from whom, he was going to get more feedback and how that would further change the plan." These aspects emphasize the lack of comfort Edgar felt as he moved into a role with more ambiguous steps and a murkier path forward.

Edgar's narrative provides an understanding of a person whose daily work is more aligned to a concentration activity cycle but is not constrained when he sees a need to expand beyond his role in service of the goals of a broader project. Edgar never reaches a point of comfort with this broader role and seeks a return to his previous role as soon as he has done the needful. He feels a drive that is similar to others sharing stories from a concentration cycle, and when unrestrained he does the best he can. He treats the shift as a temporary transition that will hopefully return him to his accustomed role at the conclusion of the project. While not constrained, Edgar also saw the risk to his reputation and identity if his leap beyond his primary

role was not successful. This aspect of pushing beyond one's role being at one's peril is consistent across the narratives in this chapter. The variance seems to be how much latitude one is given before being reined in. Edgar's narrative suggests that the greater the latitude, the greater the risk. This is reminiscent of the colloquialism of giving someone enough rope to hang themselves.

Conclusion

Several themes emerge from an examination of the five narratives included in this chapter. The four identified themes are: 1) fast and quick, 2) feeling constrained, 3) lack of authority, and 4) feeling overwhelmed. This conclusion provides a brief examination of each.

The first theme is a sense that the responsibilities of the people who are identified in the narrative as primarily working in a concentration cycle are focused on completing small and straightforward tasks quickly, and that the people are task oriented with a "get it done" focus. This theme is labeled "fast and quick" in this researcher's coding. This aligns to the descriptions provided by Ballard (2009) who describes concentration cycle activities as, "highly routinized," (214) and that the work is characterized as happening during, "periods of concentrated activity and the absence of notable deviation" (215). This is seen in Janet's narrative, which describes her work on routine tasks that she is focused on completing. Janet is quick to take direction at face value and act on it. She also prioritizes completing tasks on time, sometimes at the expense of other considerations. Dinah's narrative portrays a similar perspective. For example, Dinah's role change puts her in the position of providing red, yellow, green status updates, rather than being a go /no-go decider. Similarly, Ivy's narrative makes a note of the point that she carries out limited

tasks within a singular role. These fast and quick aspects further validate the descriptions provided by Ballard (2009).

The second theme is the expression of feeling constrained in one's concentration cycle role when one is aware of larger issues in a project. This theme is labeled "feeling constrained" in this researcher's coding. Dinah felt passionately about, "doing what was right," in her narrative. At the same time, she felt constrained and, "had to keep reminding herself that her job was (only) to report out the risk." At the same time, it is worth noting that Dinah reaches a point in her narrative where she does not feel constrained, but couches this feeling as reaching a point of acceptance when she describes her reduction in tension and frustration as the result of taking an, "it is what it is," and an, "I've said my piece" perspective. Ivy's feelings of constraint are central to her narrative. Ivy becomes increasingly concerned about the accuracy and quality of data, but also acknowledges that this is an issue that extends beyond her role. Her feelings are exacerbated when Ivy finds the data scientist's response to her concerns to be reductive and reinforcing of Ivy's more limited role. When faced with this, Ivy felt she had to accept this answer as well as the limitations of her role. Ivy feels trapped between what she sees as the issue and her limited capacity to effect change. Carol's narrative provides a perspective from one needing to effectively recognize and manage people who feel constrained. She acknowledges these feelings among her employees, who are identified as being in the concentration cycle. Carol does this while explaining that the more limited and focused role is necessary and describes the pushback and direction she applies to emphasize that her employees should stay within their roles. Finally, Edgar's narrative provides an interesting counterpoint. He saw work that needed to be done that went beyond his concentration role. Lacking resistance, Edgar

assumes project-related communication responsibilities. His time window, frame of reference, and task variation extend. Edgar develops a more nuanced approach and becomes more aware of the ambiguities involved in the work he is doing. By the end, the lack of constraint leads to Edgar transitioning to a cultivation activity cycle as his dominant quadrant in the context of his narrative. Ballard's (2009) original piece provides a description of each of the activity cycles as a starting point and a call for framing future research that involves time. Feelings of constraint are not called out in this work and, as such, might be a point to explore as an extension of our understanding of the concentration activity cycle where it is seen as the dominant activity cycle of individuals.

The third theme is the expression of feeling a lack of authority and/or influence in one's role. This theme is labeled "lack of authority" in this researcher's coding. A lack of authority might be able to be collapsed into the theme of feeling constrained as described above. These are two feelings that likely support and are aspects of each other. A lack of authority is expressly called out in the narratives in this chapter and so it was kept as a separate theme for visibility. Janet's narrative describes an acceptance of outside authority without resistance at a time when critical decisions were being made. Janet describes listening to this input and reacting to direction without questioning. Dinah describes her transition to a position that aligns with a concentration-centered role where she had substantially less authority than before. Dinah's narrative also contains reflections that the shift in her role went hand-in-hand with a reduction in authority and a more limited role in contributing to decision-making.

The fourth theme is the expression of feeling overwhelmed by complex developments that extend beyond a concentration-cycle focus. This theme is labeled "feeling overwhelmed" in

this researcher's coding. Janet describes her panicked desire to find a solution and expresses feelings of being overwhelmed when problems with the face paper situation arose. She ties this to her desire to quickly find solutions to issues and her decision to act quickly as a result. When reflecting on being faced with situations beyond the scope of her position, Dinah describes feelings of tension bordering on animosity. Edgar points to his sense of insecurity and his perceived risk to his identity and reputation that came with addressing the broader communication needs of his project and the tasks that he took on that extended beyond his role.

In conclusion, this review of the narratives included in the concentration activity cycle chapter address four main themes. These themes are coded as 1) fast and quick, 2) feeling constrained, 3) lack of authority, and 4) feeling overwhelmed. The first, fast and quick, aligns to and supports the description of this cycle provided by Ballard (2009). The next three themes are identified as part of an examination of the narratives of people whose dominant activity cycle is identified as a concentration cycle. These themes emerge as part of an examination of their interactions and work handoffs with others who are identified as operating in the context of other dominant activity cycles. As such, these might serve as areas for further examination and, if validated on a broader scale, might serve to better inform our understanding of the characteristics of this activity cycle.

CHAPTER 8: CULTIVATION CYCLE NARRATIVES AND ANALYSIS

This chapter focuses on narratives that describe a cultivation cycle perspective, featuring stories from Margaret, Olivia, Fred, Sebastian, and Edgar. This is the order in which their stories appear in this chapter. Their narratives describe interactions and work handoffs with characters operating from different activity cycles. The coding of the narratives in this chapter focuses on descriptions of the time windows and the task variability of the storyteller and their interactants. This is used to help support the identification of their placement within activity cycles. The coding also focuses on common aspects of the cultivation cycle which include work unfolding over an extended period of time, longer-term processes, and work that falls outside of one's immediate control but within established parameters of development.

The cultivation cycle perspective tends to align with the role of a project manager. The project manager has a focus that extends to cover the length of a project and is concentrated on coordinating the work of others. The project manager conceptualizes and communicates about the project in concrete terms. Ambiguity is not sought, unlike the characters operating in the creation activity cycle (this is discussed in chapter 9), and commonly used language includes terms like milestones, objectives, success criteria, requirements, go-live date, and so on. The narratives in this chapter feature interactions with characters operating in other activity cycles including those who have a different perspective on ambiguity and uncertainty. Another aspect of these stories is whether and in which ways characters from a cultivation cycle perspective adapt to these different points of view. The conclusion of this chapter identifies and examines the more prominent themes and patterns that emerged from these narratives with a focus on those aspects that tie to a cultivation cycle perspective. A discussion is also provided about how these

observations compare to the current understanding and description of the axes and activity cycles that comprise the 2x2 matrix.

Margaret's Narrative

Margaret is very new to the world of project management. She had worked in her company as a manager of teams of people, as opposed to projects, for years, and the people she managed were largely in entry-level positions and worked in the concentration cycle. That is, they had a singular task that typically takes 20 to 40 minutes to complete and, once done, they immediately started the next task. Margaret recently signed up for a program that gave her the opportunity to temporarily rotate from her permanent position to a different team in another area of her company to help that group with additional workload, which also allows her to broaden her professional experience by giving her exposure to different kinds of work. Margaret joined a team of project managers who worked with teams of software engineers to develop new software, as well as add new functionality and updates to existing software. This team worked exclusively on software that is used internally in the company and is not customer facing. Margaret was paired with Paul, one of the senior program managers on the team who served as a mentor for Margaret, teaching her the ins-and-outs of project management at the company as together they co-managed four different projects.

As Margaret settled in to share her stories and reflections as part of a post-mortem conversation, she was eager to review and share her experiences. "One of the first challenges of this role was having to work with someone else," Margaret reflected. "When I was working with Paul, co-managing these projects, I was trying to figure out where my place was while

navigating that relationship," Margaret said. She explained that she often found co-managing a project to be frustrating. "There were two cooks in the kitchen," Margaret explained, "and we wanted to be respectful of each other and work together, but we each had our own ideas on decisions and the path forward. In the world of project management," Margaret reflected, "having a lot of people who are all trying to do the same thing and work together, while one person is also in charge, takes nuance." Margaret had to figure out when it was the right time for her to be a decision-maker and when she needed to take a step back and play more of a supporting role.

Of the projects that Margaret and Paul drove, each had a code name as is typical of the industry. Margaret zeroed in on one that, for this research, was called Desperado. Of all of their projects, Desperado had the biggest source of conflict that Margaret had to deal with during her rotational assignment. To begin, Margaret and Paul went through a standard project management flow with Desperado. They worked with multiple lines of business and stakeholders to identify and prioritize the new features and functionality that the business wanted. They secured funding and identified the engineering team they would collaborate with to do the work. Margaret and Paul wrote the technical requirements and worked with the engineers for several months while they did the development. The engineers then went into their internal testing phase once the development was complete and, in short order, they turned their development over to the business testers whose job was to validate that the new code functioned and integrated with existing systems as expected.

Up to this point, Margaret and Paul were feeling positive about Desperado. "We felt like we were in a good place," Margaret remembered, "We had seen and signed off on the demos.

The engineers were pretty happy. We thought things were sailing along smoothly," Margaret explained. However, once they got to the business-testing phase, things changed. "Business testing began and, all of a sudden, it felt like the project just kind of fell apart," Margaret reflected. A large number of questions and concerns began coming into Margaret and Paul. "We started getting all of these callouts from [the testers] asking things like, ‘Why is it doing this?', ‘Why is this is doing that?', and ‘Why didn't you guys think about this?'" Margaret recounted, "We were just getting bombarded, and the testers were constantly bringing up issues that we hadn't identified, questioning the overall design and our decisions that we had made on the functionality of the new features," Margaret said. "We were getting so beat up over this that Paul and I started to feel like, ‘Well geez, what did we do wrong?'"

Margaret remembers that at first, she was quick to respond to the questions, but sending back quick responses in writing was not addressing some of the deeper issues. Margaret came to realize that sending short responses and succinct decisions back in electronic tickets led to messages being interpreted without the benefit of her tone and background context. "I think that some of that flare-up that we had with the testers probably could have been prevented if we had a little more face-to-face communication," Margaret commented, "where we could have had more of a dialogue, rather than here's an answer without any extra information or follow up questions." Margaret felt like the testers did not understand what she was trying to convey and that they were feeling tension and sensing a dismissive tone that she did not intend to insert into the conversation.

Later in the project, Margaret tried to be more proactive by initiating follow-up hallway conversations and electronic chats with the testers to give more insight into the design and

business decisions that she and Paul had made. Margaret feels that this effort helped, but she also acknowledges that a certain level of tension remained persistent between her and the testers throughout the testing phase of the project, and there was a period of escalation that followed this effort. "Even then," Margaret explained, "there were so many points where the testing team kept pushing back on decisions we had made, even after we explained the business reasoning and the larger context behind the decision."

Margaret paused for thought, then went on to describe a singular moment when things escalated. “There came a point where every question led to multiple rounds of back-and-forth that ended in the testing team escalating each answer they received to a more senior manager,” she said. Margaret explained that this wave of escalations culminated in a meeting with the senior manager where they talked through about 25 of these points. In the end, the senior manager agreed that the level of priority that Margaret and Paul had assigned to issues, and the thinking behind the decisions, all made sense. The escalations slowed down after this senior manager circled back to the testing team and confirmed these decisions. She explained that in her frustration during this persistent wave of not accepting her answers and escalating above her, a frequent thought she had but never voiced was, “Come on! Your job is to test the functionality as it exists and tell us what isn’t working. It is not to question and try to redo all of the decisions that led up to the functionality that was built!”

At this point in the project, Margaret had an expectation of the duties and the role of the testing team, which did not include redesign or decision-making authority, and she felt they were acting beyond this role in a way that was creating confusion and had the potential to put the project at risk. Reflecting on what happened, Margaret explained that, "I think there was a

communication breakdown that led to our situation with the testing team," and acknowledged there were many changes that happened after she and Paul wrote the requirements document. "We had written the requirements, but during the development, there were a lot of changes that were made to these features, and I think that was a big source of confusion," Margaret explained. She noted that when the testers are preparing to test, they were thrown by functionality that wasn't explicitly called out in the original requirements document. "I think that's where a communication breakdown happened," she explained, "because Paul and I didn't have an iterative requirements document that we were keeping current," Margaret explained that the changes that were made had been tracked in individual tickets with the engineers, but that the testers didn't have that comprehensive list of the adjustments, which Margaret and Paul did not realize that at the time.

"I think Paul and I started feeling, in that moment, like we were putting out a shitty product," Margaret said. She went on to explain that once it was done, she and Paul progressed to the next stage where the new functionality was close to going live, and Margaret was working on training modules and preparing internal communication about the new features. This was a good time to take a step back and reflect on the testing phase that had just completed. "Once we were removed from the situation and we weren't in the thick of it," she explained, "I was able to think more clearly about all of this feedback we had gotten during testing, and I started to realize that a lot of it was nitpicky and a little over-hyped." As an example, Margaret shared the details of one escalation where the test was to repeatedly click on a button that opened and closed a drop-down window in the program. The testing team had found that after 20 to 30 seconds of repeatedly clicking on the button, the button would start to become non-responsive. "The testers

were bothered that I had classified that as a P4," she said, which is the lowest priority designation that can be assigned to an issue; a P4 issue will almost certainly not be fixed before the new functionality goes live. Margaret had to reassure the testers that the overall tool still met the needs of the business groups that will use it and that there is no scenario in which the users will repeatedly click the button for 20-30 seconds. “Once we got out of the moment,” she explained, “I was able to take a step back and breathe. I realized that some of that push back had gotten us flared up, but a lot of it really wasn’t as bad as it seemed,” she reflected. When we met, the feature had been released a few weeks earlier and, while it was still in the early days of global usage, Margaret reports that the feedback has been positive and she anticipates that it will become a valued tool.

Margaret wrapped up her story with a thought about how the situation could have been avoided or minimized. "It would have been good to find a way to loop the testing team into our part of the development stage," she said. "Cluing them in a little earlier to the direction we were going in and having them involved with some of the demos and decision-making would have been ideal," she explained. She went on to predict that some of their feedback could have been acted upon if it had come during development. "But, when they were giving us this feedback in testing," she said, "it was too late for us to be able to implement any of that stuff," Margaret explained that this was an example of where she and Paul could have been better at keeping the testers informed of the bigger picture. Margaret also acknowledged that while this would be an ideal solution for her, she did not know if the testing team had the bandwidth to be that heavily engaged in a project before they took on the actual job of testing and that this change would require a reconceptualization of their role in a project. For now, it is enough to be more aware of

and sensitive to the perspectives of teams who work within a different cycle, and when it would be beneficial to take the time to help them understand the larger context, which takes time.

The cultivation cycle seems to be the dominant activity cycle for Margaret given the context of her story. Margaret's time frame is more extended in that she is consistently focused on the span of the entire project. Her task variability is lower with tasks that were specific to each phase of the project, but also because she was in a kind of apprenticeship where Paul was giving her a portion of the tasks to do so that she could learn the process a few steps at a time. The testers with whom Margaret interacted align to the concentration cycle. She explained that the testers developed or received a set of testing scripts and that they would follow each script, in turn, to determine whether a particular function worked or not, and they would document and report the results. The testers may have felt constrained by a role defined by the concentration cycle and, as the conflict rose between the testers and the project managers, the testers may have tried to shift into a cultivation cycle by expanding their time window to include more of the full development process as they debated the business rationale and design around multiple pieces of functionality. This idea is explored more fully in the concentration chapter.

Margaret explicitly expressed her frustration in the moment about the testers taking actions that extended beyond the concentration cycle and into the decision-making that she saw as her purview within a cultivation cycle. Her reflection about how to reduce conflict and make the testing phase go more smoothly included several ways to improve her overall communication, but also included redefining the role of the testers to engage them throughout the project cycle, effectively extending their time window so that they were more in alignment with hers.

Margaret: Discussion and Analysis

Margaret's narrative is an excellent story, to begin with, especially if one is primarily reading the collected narratives in this work and looking for a reading sequence that follows a nice arc. Margaret's story is a good starting point because she is both new to project management and new to working in the cultivation cycle. Her experiences of working with a co-project lead, who also serves as a mentor, gives the reader insight into her learning curve and a view of project management from the perspective of a beginner's mind. One of Margaret's key interactions in her story is with the software testers who are primarily operating in a commotion activity cycle. For added nuance, readers are encouraged to consider reading the narratives of Dinah and Carol in the commotion chapter as companion pieces to Margaret's narrative, as all three discuss similar projects from the perspective of software testers.

Margaret’s placement in the cultivation cycle is supported by her extended time frame. Margaret was consistently focused on the span of the entire project in her decision-making and thinking about the work. Margaret’s tasks were a less varied mix than seen in other narratives in this collection. Her task variability was lower, in part, because she was new to her role and taking on tasks in manageable pieces. Margaret's tasks included writing technical requirements, coordinating with software engineers, working with software testers, and managing the development of training and communications about the new development. The nature of her work is such that it unfolds over an extended period of time and involves longer-term processes. The coordination that she had to do with multiple different groups means that her work was outside of her immediate control but within established parameters of the project management

and software development processes. These are all factors that support her placement in a cultivation cycle.

The software testers in Margaret’s narrative operate in the concentration cycle. Much of their work is focused on completing a linear sequence of short-term tasks. The testers follow a sequence of testing scripts designed to confirm that the new features work and identify where there are bugs. The testers then document and report the results before moving on to the next script.

Margaret's narrative spotlights her frustration with the testers. Part of her frustration stems from a perception that they were stretching beyond their role and questioning decisions she felt had already been vetted by groups who had more context and authority. Margaret notes, "there were so many points where the testing team kept pushing back on decisions we had made, even after we explained the business reasoning and the larger context behind the decision." It is also emphasized in the description of her thinking that says, "a frequent thought she had but never voiced was, ‘Come on! Your job is to test the functionality as it exists and tell us what isn't working. It is not to question and try to redo all of the decisions that led up to the functionality that was built!'" Margaret's irritation can be considered from the cultivation cycle. Margaret felt that the larger issues being raised had been considered within a broader time frame. Margaret wanted the testers to stay more detail-oriented and to worry less about the broader context. Margaret's perspective allowed for broader changes and an adaptive context. These same elements are likely disruptive for a commotion perspective that is focused on identifying and quickly resolving emerging issues.

In her narrative, Margaret makes efforts to adapt to the perspective of the software testers. She engaged the testers in shorter real-time communication to augment the answers that she was giving in response to tickets. She also reflects towards the end of the narrative that, "it would have been good to find a way to loop the testing team into…part of the development stage… [and] cluing them in a little earlier…and having them involved with some of the demos and decision-making would have been ideal." Margaret's reflection can be examined as a strategy for bringing the commotion cycle testers more into alignment with her quadrant by meeting their desire for more knowledge about the expanded time frame and other contextual details of the project as a whole.

Margaret's narrative provides an example of a storyteller whose work cleanly fits the description of one who works in a cultivation activity cycle. The narrative features a disconnect between Margaret and others operating in a different quadrant. Margaret's strategy for improving the situation revolves around adapting to the perspective of others and providing a framework that encourages them to better adapt to her activity cycle is also considered.

Olivia's Narrative

Olivia and the facilitator discussed Olivia's experiences of people having difficulties trying to communicate and work together from different perspectives rooted in different activity cycles. Olivia told a story of her part in a recent high-priority and high-profile initiative being reviewed during a post-mortem session. She explained that the company had been looking for ways to improve the productivity and efficiency of thousands of employees around the world who perform a core customer communication function. The ultimate objective was to gain these improvements while reducing costs and without reducing customer satisfaction. Olivia was one

of several project managers who were brought in to help define and drive the necessary improvements. As each priority effort was identified, a project was developed and additional participants identified to help accomplish the work; Olivia was a part of the leadership team driving one of these projects, which will be referred to here as Project Acme.

"I was one of the PMs [Project Managers] on this project, but I was very much under the wing of Turner," Olivia commented. She explained that Turner was in a senior leadership position and one of the people overseeing the complete set of initiatives related to the overall objective. "It was really nice working with Turner. I learned a lot. He set a clear path out for me. I think the most challenging piece of Project Acme for him was being hands-off so that he could cover all of his bases," she said, "but he was able to stay focused on the big picture." One rather trying situation Olivia faced was working with a partner, Sasha, who had been brought in for the specific purpose of writing and organizing a library of content that would be used by the employees using the communication system that was the focus of Project Acme. One of Olivia's responsibilities was to ensure that Sasha completed her phase of the work in time to launch a small pilot that would rely on the content Sasha was writing.

"One of the things that was challenging about the project was this partner I had. She was great and very much a go-getter," Olivia said. In the same breath, Olivia shifted and added, "I think she didn't have a role to go back to." Olivia explained that Sasha was on a temporary assignment and her previous team had been absorbed into another part of the organization. While her employment was not at risk, she did not yet know where she would be moving to after this assignment ended. "She was eager to somehow make this job permanent, which was great," Olivia added. "She was very helpful, but the problem was that she was eager to an extreme, out

to prove herself, and not necessarily willing to take the time to learn," Olivia said. In a mix of reflection and speculation, Olivia explained that she has found that, in her experience, it can be easy to make a string of assumptions that lead to mistakes, especially when stepping into an already active project. In trying to prepare and guide Sasha as she joined the team, Olivia found that Sasha would consistently reach beyond her core responsibility of creating written content and instead kept maneuvering to weigh in and drive other decisions about the overall pilot, Project Acme itself, and the business strategy for carrying them out. One example that sticks out for Olivia is when Turner brought in an additional person, Frieda, to review and consult on the plans for both the pilot and the overall project. This included a review of the content library that Sasha was creating.

"Frieda had some feedback," Olivia explained, "well, she didn't have feedback so much as she had questions." Olivia clearly recalls Sasha's initial response as Frieda started asking questions. "I remember, very distinctly, Sasha's reaction to Frieda's very first question; she was being very defensive right out of the gate," Olivia said. She explained that Sasha responded to Frieda saying, "Why would you ask this?!?" in an incredulous tone of voice. Sasha would debrief with Olivia frequently and was aggressively free with her opinions on all subjects, including Frieda. "After the first meeting with Frieda," Olivia explained, "Sasha would chat me and say, 'I don't think Frieda gets it,' and regularly pushed back on comments and suggestions from her." Olivia tried to intercede where she could and help Sasha to narrow her focus back to the writing of the content. Olivia found this to be a challenging undertaking and, upon reflection, feels that part of what made working with Sasha challenging was that Sasha had a stronger personality than Olivia, which made it difficult to curb her misguided enthusiasm.

Olivia also saw a similar experience unfold between Sasha and Hank, who was the person responsible for the business reporting that would be collected during and beyond the upcoming pilot. Sasha began one of their chat sessions that were occurring multiple times a day with the comment, "The reporting guy doesn't get it either." Olivia explained, "for some reason, she and Hank were oil and water right from the start. It was not a good working relationship. Hank was building a reporting strategy for the pilot—that was the context of why they were working together—and Hank is a guy who calls it like he sees it, pretty unabashedly." Olivia explained that Hank voiced issues he had with the overall strategy of the pilot and he made his viewpoint clear. "Sasha was upset when Hank voiced concerns about the overall effort, which he saw as more of a band-aid than a real fix," she explained. Olivia explained that because part of the pilot included the content library, Sasha took Hank's concerns personally and responded poorly. Olivia was, once again, cast in the role of trying to intercede and to bring Sasha's focus back to creating content, even if there might eventually be a business decision to take a different direction and not use the content. Olivia tried to help Sasha see that it would not be a reflection on her work or capabilities if the content was not used or its use was modified, but that this was the nature of working in a fast-moving environment where strategy changes occur regularly, and decisions are quickly made and often just as quickly discarded.

Olivia was not overly successful in this effort and she reflected that she was able to empathize with Sasha's reaction to a certain degree, "because Sasha had spent all of this time writing this content based on what the employees said they needed and she had read and thought a lot about the kind and type of content that was needed." Olivia nodded reflectively to herself and then reiterated that Sasha did excellent work when focused on writing content but started

banging into walls when reaching beyond that role and interacting with others from that broader context. Olivia summed up the situation to this point saying, “There was a sense from Sasha of having full ownership and feeling territorial of her piece, and so there was a continual tone of uneasiness in her conversations with Frieda and Hank, which I think caused things to slow down.” Due to the poor communication between Sasha and her co-workers, Olivia explained that she and Sasha were regularly participating in two or three meetings where she thinks they should have only needed one.

There was a point at which Olivia tried to help Sasha by involving her in some problem-solving discussions about the overall project. Olivia thought that Sasha might level out if she felt empowered to work more broadly in the project. Olivia laid out the larger picture for Sasha and described some of the challenges and decisions that needed to be made. “I was trying to explain to her what we had done and where we are at, but it didn’t feel like a partnership when I tried to involve her,” she said. Olivia explained that Sasha approached the broader set of responsibilities with a helpful, but not collaborative, spirit. Instead, she jumped in with the same eagerness and single-mindedness that she had exhibited before. Olivia described Sasha’s approach as, “I’m going to fix this all for you, because this is all wrong!” Olivia’s impression of the handoff of additional responsibilities was that it could have been managed better, and she wishes that Sasha had been more open to asking questions rather than feeling like she knew everything already. Olivia explained that she tried to coach Sasha in this area but did not make much headway; it felt to her like Sasha was determined to try to use every opportunity to take the bull by the horns and assume command.

Olivia wishes she had been able to do more to give Sasha structure and help her better adapt to her expected role. At the same time, she acknowledges that Sasha was very skilled in her primary task of writing content. “She took that on and, while she was defensive about it, she did it well. She owned it. She got a lot of work done in a very short period of time. She did a really good job there,” Olivia emphasized. “Maybe her role needed to be more clearly defined by me when we started working beyond the pilot and looking at Project Acme as a whole,” Olivia reflected, “and I will take the blame on that, because I was the one who interviewed her, selected her for this project, and first explained what her role was to be. I wish I’d had more time with her to try and help her adjust her approach.” In the end, the content library that Sasha developed was not used. This is not a reflection of the quality of the material that was developed. Rather, the business decided to resolve the core issues that the content was meant to help address in a different way. Olivia now works as a permanent staff member on the team with whom she worked during Project Acme, and Sasha transferred to a position on a different team.

Following a review of Olivia’s story and the 2x2 matrix of activity cycles, this researcher identified Olivia’s dominant quadrant as the cultivation cycle. Her time focus was on the larger scope of the project, her work unfolded over an extended period of time, and her work involved longer-term processes; as phases of the project unfolded, she continuously sought to find the most optimal path for reaching the stated business goals and worked to adapt the details of the project accordingly. By contrast, Sasha’s primary role as a content writer places her in the concentration cycle. The list of content that she needed to develop was long and writing each piece of content was routinized. Sasha also had a hand in creating and deciding on the list of content to be created. That, too, fits in the concentration cycle. There is a quality of sameness to

both sets of tasks and the development of each piece of content or deciding on a particular topic to be written fit into smaller time windows.

Looking at the narrative through the lens of the activity cycles matrix does shed light on some interesting dynamics. Sasha was the only character in the story whose duties were clearly defined within a concentration cycle; the others she was working with were responsible for taking the broader and more long-term views that come with operating in a cultivation cycle. In the story above, Sasha does seem to want to push her role into the cultivation cycle, while simultaneously resisting the efforts by her co-workers in the cultivation cycle to influence her work in the concentration cycle. There is likely more at work in this narrative that can explained by activity cycles, including Sasha's seeming feelings of insecurity in the organization and a desire to prove herself to be of significant value. Questions about professional experience and maturity come to mind when considering Sasha's behavior as well as Olivia's handling of the situation as a manager. Upon final reflection, Olivia's read on the situation was that Sasha seemed to feel constrained and frustrated by being only responsible for a set of responsibilities that fit into the concentration cycle.

Olivia: Discussion and Analysis

Olivia's narrative is also one that is told from the cultivation perspective. She interacts with a few different characters—Turner, Frieda, and Hank—who are also operating from within a cultivation activity cycle. One of her key working relationships is with Sasha, who is operating from a concentration cycle perspective. Sasha struggles throughout Olivia's narrative to find her way. She feels constrained and limited by the concentration cycle role she is engaged to do, but

also bangs into walls and continues to have interpersonal difficulties when offered additional tasks with a broader perspective. Sasha seems to have issues with insecurities and has a chip on her shoulder that goes beyond differences in activity cycles. The narrative calls out that Sasha is in her new role, as her previous job has ended and her future is uncertain. There are aspects of Sasha's character in Olivia's story that can be examined from the perspective of concentration cycle, and more centrally, Olivia's responses to the circumstances from within her cultivation cycle perspective.

Olivia's role places her in the cultivation activity cycle as her time window is consistently focused on the broader scope of the duration of the project, and her work unfolds over an extended period of time and involves longer-term processes. The work she does to support the project is outside of her immediate control but within the understood framework of project management, which is also indicative of the cultivation cycle. By contrast, the role that Sasha was brought in to play aligns to the criteria of a concentration activity cycle. Sasha is provided with, and contributes to, a list of pieces of content that she is asked to write. This constitutes a relatively narrow variation of tasks, and the writing of each piece of content takes place over a relatively short time frame. A centerpiece of the narrative is that Sasha feels constrained by this role and seeks to make a broader impact. The narrative notes, "Olivia found that Sasha would consistently reach beyond her core responsibility of creating written content and instead kept maneuvering to weigh in and drive other decisions about the overall pilot." Sasha's efforts are reflected in her interactions with others. She reacts in a volatile way to Frieda from the outset at Frieda's first question. She then has a similarly volatile reaction to Hank who questions the value of the pilot.

Olivia responds to Sasha by adapting to her constraints, as Olivia understands them. Olivia explicitly tries, at one point, to reframe Sasha's understanding of her role in the project into what can be described as a concentration cycle perspective. This is evidenced in the narrative as, "Olivia tried to intercede where she could and help Sasha to narrow her focus back to the writing of the content." The narrative goes on to note that Olivia found this to be a challenging undertaking. This is highlighted again in the narrative, which states that, "Olivia was, once again, cast in the role of trying to intercede and to bring Sasha's focus back to creating content." When Olivia's attempts to redirect Sasha back to a narrower focus prove unsuccessful, she tries shifting in the other direction by giving Sasha a seat at the table with a focus more aligned with cultivation. The narrative describes this attempt as, "Olivia tried to help Sasha by involving her in some problem-solving discussions about the overall project. Olivia thought that Sasha might level out if she felt empowered to work more broadly in the project. Olivia laid out the larger picture for Sasha and described some of the challenges and decisions that needed to be made." This effort also doesn't go well, but it is possible that this is due to Sasha not having the experience, temperament, or perspective to handle her situation effectively. At the end of the narrative, after the business decision was made to not use the content library Sasha was responsible for developing, Olivia continues to reflect on how she might have handled the situation differently. Her comment, "I wish I'd had more time with her to try and help her adjust her approach," might be framed as wanting to find a way to either adapt to Sasha's perspective or help Sasha adapt to Olivia's.

Olivia and Margaret's narratives both prominently feature a character who is operating from a cultivation perspective handling difficult interactions and work handoffs with others who

are operating in concentration cycles. In both stories, the approach that they take to improve the situation is to be aware of the difference in perspectives and then adapt and/or encourage others to adapt the framing and substance of their work to another point of view. In line with the 2x2 matrix, these adaptations align to a shift in time windows and/or task variability.

Fred's Narrative

Fred is an institution where he works. He has been around for many years, most people know him by name, and he is known for his upbeat personality and the excited positive energy that exudes from him. The facilitator asked Fred about his history and he said, "I've had on pretty much every hat around here that you can think of at some point. It may have been a fledgling hat, but I've been everything from a System Administrator; to a user experience designer; to a Java, Cocoa, PHP, MySQL, and Oracle developer; to a Project Manager; and even a manager of teams of people a couple of times." In any project that Fred takes on, he is vocal about his passion for doing work that is based on a well-conceived design that serves the needs of the customer. Throughout our conversation, Fred's comments kept circling back to the importance of serving the customer well. Our 90-minute conversation was continually animated and there were several points where we jumped up to diagram out what Fred was describing on the white board in the work conference room where we were meeting.

It did not take Fred long to decide on a single project when the facilitator asked him to select one as the focus for their conversation. Fred zeroed in on a project code named Voyager. "That project was a pivotal moment in my career. That is when I decided that I never wanted to do development [pure coding] again. I really enjoyed the design of it, but at the time I was just

on the project as a developer [coder]. That project just stands up in my history as the place where I made that pivot," he explained.

At the time Fred came on to the project, his team had transitioned from the business operations part of the organization to software engineering. Fred explained that, "a change like that was unheard of." Fred describes his team at the time as, "this one little branch hanging out there." Fred was on the Legacy Tools team, which he describes as a painful place to be, "because, you're wondering, 'Where's our job going if we are responsible for everything that is going away?'" Fred explained that this was part of the motivation for jumping on the Voyager project. "It became our project. We clung to it like everything. We had developed the system before it that was being replaced. We understood it and we felt like we had to pee on it and do everything we could do to claim it."

The goal of Voyager was to replace a tool used for evaluation with a new one that was much more complex. "The scope of what was being asked for was magnificent," Fred recalled, "but it was also crazy." Fred's team was being asked to develop something in 3-1/2 months that, by the way the project was being described and emphasized, was a desperately needed high-priority project. "But, I wasn't daunted," Fred remembered. "I was like, 'Yeah, give me that. We'll figure it out.' So, at that point on that project, I took on everything. I started by doing a quick mockup of what we might do and we iterated over that many many times until we got a plan that was where we wanted to be," Fred explained.

Fred could tell right away that the scope of what was wanted was impossible. "There were three of us and there was no way we had the time to turn [the project] over in the amount of time that was asked. So, we had to find a way around that." They found a new tool to help

generate code more quickly. “We just had to learn how to use it and that learning curve was tremendous. In the end, though, it saved us so much time on the project,” Fred recounted. Even with this assistive software, the path forward was a difficult one. “At a certain point in that project, there were certain people, in particular, other people on my team, who didn’t hold up their end of the bargain,” he said. “There was a guy who was assigned to do all of the web stuff and the services and he couldn’t figure it out. He didn’t know how to do it. I was like, ‘C’mon. Go figure it out,’ but it came to a point where it just wasn’t working, Fred remembered. There came a point when Fred’s team was stalled and not making any progress. “I would do the base work and I would hand it off and say, go do the next step. And then they wouldn’t come back to me,” Fred relayed through an exasperated sigh.

Pressure was mounting as business stakeholders were checking in. “They were asking for a lot and we were delivering a lot. It hadn’t sunk in that we had given them the power, with this tool, to create their own applications. Each evaluation form they created would be its own application,” Fred said explaining that this was his perpetual soap-box during this time. “Look,” he had wanted to say, “we are trying to give you a lot more than software engineers would normally give anyone in this kind of time crunch. You guys don’t understand.” What the stakeholders had not told Fred and his team at the time was that they were building a whole new business program that was rolling out based on the tool Fred and his team were developing. Even without this specific knowledge, Fred felt the pressure, sensed the high priority, and tried to keep moving forward.

One new approach came in the form of a change in team membership. “Another guy, Roger,” Fred recounted, “came over from another project to help out, and then we took on the

bulk of it." Fred and Roger started working closely together. Roger was working out of Europe and Fred was in Texas. Between the two of them, Fred and Roger kept the work going around the clock. "I would wake up in the morning, get myself into the office or wherever I was going to be working," Fred remembered, "and then I would find out where Roger was with the work because he had already been in the office for four hours. We would sync up and figure out what we needed to do next. We would work together for a few hours de-bugging code or something like that. Then, I would go to lunch and at some point, he would go to dinner. We took turns trading out and going home to put our kids to bed." When either one returned, the two would figure out where the other had left off, and thus they kept the work going. "I'd let him go sleep for a few hours, then he would wake up around 3 a.m. and I would head home and sleep for a few hours," Fred remembered. Together, Fred and Roger kept that pace going throughout the three-month timeline.

"I remember that, during this time," Fred said leaning forward as the memories came into focus, "my parents were in town. We had gotten a nice cabin on a lake. I had to spend half of that trip sitting in the cabin and looking out the window while working on the coding." Fred also remembered taking his young child to a friend's birthday party. "It was at one of those jumpy trampoline places. They had a nice place for parents with soft couches and I was sitting in there, hunkered over, and coding furiously on a Saturday afternoon." Fred explained that he remembered these times clearly, in part, because they were also times when he and Roger were struggling to solve a variety of problems. "We were just stuck at the time. We couldn't figure out what we were doing. We were trying to reinvent things and, man… it was hard," Fred explained.

There was also a third member who was added to the team. “Roger and I, and Boris when he caught up, were the three amigos,” Fred said with a smile. “We had issues with Boris for a while,” Fred remembered. “He was struggling to get it. He was a solid coder, but he didn’t know this particular coding language. Every line of code he wrote was kicked back with issues and he struggled. I’m pretty sure we just took over at one point,” Fred said taking a long pause. “Yeah… I’m just going to leave that part of the story there. It was one of those, ‘just do it yourself and just get it done’ situations,” Fred said in a more somber tone.

During this time, Fred continued to work with different business stakeholders. One person in particular, whom he worked closely with, was Charlotte. She was responsible for designing the interactive forms that Fred, Roger, and Boris were, in turn, transforming into code. Fred explained that Charlotte had an incredibly intricate process that involved complex spreadsheets that captured the details of how the software should perform in an array of different scenarios. “All of the labels and terms she used never stuck with us,” Fred remembered. “We never learned them. We just thought of everything as questions, sub-questions, and if-then statements,” he said. Fred took a moment to reflect and shared that he has since worked with this tool years later and in a different role. “Now I can better appreciate the complexity of the wide range of question and answer types that Charlotte was working with, along with using and cross-applying that data in different ways,” Fred explained. The questions are backed by professional standards and have very specific purposes. There are many different kinds of forms that need to be designed for different groups,” he stressed. Fred explained that Charlotte had spent months researching all of this and putting that research into the design before Fred and his team could start coding it. “We had to learn from her what she wanted, Fred said. “The challenge was to

understand what Charlotte had in her spreadsheets, and the complexity of what this tool needed to be. We had to understand and retain all of that in order to apply it to our coding, which was a huge challenge," Fred explained. "It took a lot of work to translate the work that Charlotte did into code. Into something that she could drop into a form and still keep the complexity she needed," Fred emphasized.

In the end, the new tool launched. "I think we were a little late," Fred remembered, "but we got it done." The launch, however, was a rocky one. Fred hadn't been aware that, as the new software was being developed, a new department was also being created and the work of that department would also rely heavily on the new tool. "The volume went through the roof," Fred explained, "and it brought our system to a grinding halt because we hadn't anticipated that many users or that much data coming through our program." Years later, Fred's frustration still came across as he said, "they didn't tell us that what we were doing was a part of that [new department]. We had no way to ramp up at that point." Fred remembered being a part of the scramble to understand and fix the issues. "Suddenly," he recounted, "we were trying to figure out when the new people were coming online because, at certain times of day, systems would just, 'grrrrsssssshhhhh,'" he said making an explosion sound while gesturing something similar with his hands. "It was nuts and it was all just because they didn't tell us what was going on," he said, summing up.

A big challenge for Fred was trying to engage other teams and engineers in helping to solve the problems he was facing. "I think this is when I started wanting to get out of the project," Fred said. "The project became less about building an experience and more about trying to get it to work. The tool became plagued with issues that we couldn't control and we were

dependent on other teams as we tried to integrate our tool with other systems," Fred explained. "It was the right thing to do from a design and user experience perspective, but the senior engineers and business owners for the other systems struggled to see the value of what we were doing", he recounted. "I think they do today," Fred added, "but, then, there were other things that were higher priorities." Referring to a concept called, 'circles of concern,' Fred said, "Our priority 1 was their priority 3, 4, or 5." Fred explained that he could tell this wasn't a serious concern for the owners of the other systems when he would schedule and invite people to meetings and they would decline the meeting invitations or not show up for the meetings that they had accepted. "Or they decline every single meeting that you create, he said. "Or," he said with a tone of surrender, "you have a meeting where you spell out every single thing and they look at you and say, 'Yeah. We don't have time to do that.'"

Fred added a kind of epilogue to the end of his story when he explained that, "Today, they have adjusted for the volume and the scale of use. It's an amazing tool and a large portion of the business depends on it. I love the whole process around the use this tool." Fred went on to emphasize his passion, saying, "For years I've been saying this tool is amazing. It does so much. For years, that one release that Roger and I stayed up nights working on for 3 straight months was the only release on the admin side. Everything else was a release on the user side." In short, Fred is proud of the work that he did and the end product. It may be the project that convinced him that he wanted to do something other than code development, but the project still remains one of his shining stars.

As he reached the conclusion of Fred's story, he was asked a series of questions about the variability of the tasks he had while working on the project. Fred confirmed that, for the 3-1/2

months that he was working on the project, there was very little variability in his tasks. When Fred wasn't eating, sleeping, or driving, he was coding software all day and all night. He felt that there was very little variability in his tasks, only in the details of any particular block of code he was writing or de-bugging. Regarding time frame, Fred felt that he was operating within one-time frame, which was the duration of the project. Everything Fred was doing was in the service of meeting a singular goal, which was completing a huge amount of work within a tight timeline. Given this focus, we agreed that Fred's time window was briefer than extended. Together, these place Fred in the cultivation cycle.

Fred's interactions with Boris were often stressful as Boris struggled to deliver work, and the code that he did deliver was prone to error. Boris' role placed him in the concentration cycle. That is, a lack of task variability (writing and de-bugging lines of code) and a narrower time frame (writing the blocks of code that Fred and Roger needed and asked him to deliver). Not much emerged in the story about the nature of their interactions and work handoffs. This was due, in part, to Fred's reluctance to talk about the earlier phases of the project and the recurring issues with the code that Boris wrote. It is captured in the story, but worth reiterating because of the emphasis that Fred placed on the point that Boris was a capable programmer but was having to write code in a programming language with which he was unfamiliar.

In Fred's story, Charlotte was the key person responsible for the business processes that relied on both the tool that Fred was working to replace as well as the new tool that Fred was coding. Although Fred did not know it until later, Charlotte was also one of three key people planning the new business strategy that became a whole new department. Fred's description places Charlotte in the creation cycle. Charlotte had a broader time window that included and

extended beyond the project. She also had a broader variety of tasks as she was managing a program on an existing tool, preparing the transition to a new tool, and heavily involved in the preparation and launch of a new business group. Fred was clear in his admiration for Charlotte and the project, but much of that seemed to come later as Fred's role shifted to something more aligned with Charlotte's quadrant in the matrix. At the time of the launch of the new tool, the perceived source of his frustration seemed to stem from Charlotte and her team's choice to not communicate more contextual details about the project and how the tool would be applied. Fred felt that is team's lack of information played a direct part in the difficulties after the launch of the project.

Fred's pursuit of solutions that involved other teams, including the senior engineers and business owners of the various tools he wanted to engage, was another source of frustration. After being told no to what Fred saw as an urgent need, the explanations that he received revolved around his urgency not fitting into existing longer-term development road maps and budgets. He was told that the plans for the fiscal year for these tools was already complete and someone else who had already been given a go would have to be told no, and that Fred and the system owners had differing perceptions of priority. For similar reasons as Charlotte, this researcher placed these system owners in the creation cycle as well.

Fred: Discussion and Analysis

Fred shares a story about an intense project experience that was a nonstop effort of working with one to two other partners in an effort to complete development on a piece of software in time to meet challenging project deadlines. Fred was working from a cultivation

cycle perspective while Charlotte—one of the primary characters with whom he interacts—is working from a creation cycle perspective and is focused on the larger business strategy and the new business team that will be deployed in alignment with the new software.

Fred's placement in the cultivation cycle is supported in the narrative, which describes Fred's central focus as being a clear, concrete, and measurable project goal with a defined endpoint. Fred's work, in addition to being an intense nonstop effort, is one with low task variability and a longer time window. After a coordinated review and handoff at the start of every shift, Fred spent his time writing and de-bugging code. Fred's description portrays this work as a continuous effort that extended for the bulk of the three-and-a-half-month project timeline. The narrative calls out that, "Fred felt that he was operating within one-time frame, which was the duration of the project. Everything Fred was doing was in the service of meeting a singular goal, which was completing a huge amount of work within a tight timeline." Fred's work was such that it was more like it kept progressing and unfolding over time, rather than functioning as a discrete list of small and separate tasks. The work continues on in the narrative beyond the end of the project and extends into its deployment. Another aspect of work in the cultivation cycle is that the work is outside of one's immediate control but within established parameters of development. The aspect of being outside of one's immediate control is noticeably demonstrated in Fred's interactions with Charlotte.

One of Fred's primary interactions was with Charlotte, who operated primarily in the creation activity cycle in this narrative. The narrative explains that, "Charlotte was…one of three key people planning the new business strategy that became a whole new department." This supports the idea that Charlotte had a broader time window that extended beyond the project.

The narrative also states, “she was managing a program on an existing tool, preparing the transition to a new tool, and heavily involved in the preparation and launch of a new business group.” These break down into a varied set of tasks that needed to be completed in order to meet the challenging timelines of the overall effort. These are all aspects that support Charlotte’s placement in the creation cycle.

Charlotte’s model and the framework that she operated from had a broader application and complexity that went beyond what Fred and his co-worker Roger needed in order to deliver the coding they were tasked with completing. Many times, Charlotte provided detail beyond what Fred actually needed, but Fred did not retain that data in spite of multiple iterations. Fred explains in the narrative that he reduced her information down to that which was necessary and meaningful to him. Fred had a greater need for details and less room for ambiguity in his cultivation-centered role that was compounded by deadlines so tight that he had to eschew or minimize time with family, and function as part of a two-person team working around the clock. One of Fred’s central challenges was reducing the complexity of Charlotte’s communication down to something that fit the more linear task of coding software while still retaining the essence of what she needed.

Fred notes in the narrative, “the challenge was to understand what Charlotte had in her spreadsheets, and the complexity of what this tool needed to be. We had to understand and retain all of that in order to apply it to our coding, which was a huge challenge…It took a lot of work to translate the work that Charlotte did into code. Into something that she could drop into a form and still keep the complexity she needed,” Within the context of Fred’s story, Charlotte seemed to have less of a need to clarify and lock in details, and ambiguity seems to be treated as more

par for the course rather than an impediment. This is supported when the narrative states, “At the time of the launch of the new tool, the perceived source of his frustration seemed to stem from Charlotte and her team’s choice to not communicate more contextual details about the project and how the tool would be applied. Fred felt that his team’s lack of information played a direct part in the difficulties after the launch of the project.” Fred was able to glean enough information to complete the coding necessary to develop the new software but was aware of the disconnect between Charlotte and himself regarding the level of detail and context being shared.

The disconnect comes to a head when Fred realizes that some of the complexity that Charlotte and the business were dealing with were not shared and, thus, not factored into the more linear tasks underlying the coding of the tool. The central example of this is Fred’s lack of awareness that a new department was being created and that their work would rely on the software that Fred and Roger were coding. The implications are emphasized when Fred says, “it brought our system to a grinding halt because we hadn’t anticipated that many users or that much data coming through our program…It was nuts and it was all just because they didn’t tell us what was going on.” In his narrative, Fred does not adapt to Charlotte’s perspective or seek to understand the larger context of the information she was communicating. Fred’s approach was reductive, distilling the information down to what he needed. This is understandable given the time crunch he was in, but the narrative also hints at the cost of this. Fred may have found himself being blindsided at the launch of their system as a result of not seeking to better understand Charlotte’s perspective, the context of her information, or how decisions and events in her realm were shifting. The awareness that seeking to understand as well as to be understood is a tenet of good communication is hardly groundbreaking. The narratives in this chapter might

suggest that this is particularly important for those operating from within a cultivation perspective. The narratives in this collection suggest that project managers in the area of software development—the people who are coordinating and aligning the work of others—would be well served by being particularly sensitive to the different perspectives that come with people who are operating in different activity cycles.

Sebastian's Narrative

Despite being within the software industry, the project-related work that Sebastian does is notably different from the work done by other those represented in the other narratives. Sebastian works in an area of his company that provides consulting and professional services designed to leave the client with a software package tailored to the client's needs. Businesses commonly hire Sebastian's company to deliver large projects with a number of variables and business goals, including the needed software, which is usually a customized interface that provides people management and/or CRM (customer relationship management) functionality. After the project reaches an end, the relationship with the client often continues for the long-term, as Sebastian's company also offers ongoing support and additional services. Sebastian serves as the lead project manager; the client also provides a project manager to be a co-lead on the project and they work together to achieve the goals of the project. As a part of a post-mortem conversation, Sebastian told his story of a notably challenging client/consultant relationship.

Sebastian began by describing his work in more detail. "I am part of a team of consultants who come in and apply a framework. We scope the project, then the client and I agree on the deliverables." Sebastian has a general multi-phase map of a project cycle that he

uses to guide the conversation and the planning process, and he emphasized that there are a couple of things he does at the beginning of any project in order to avoid scope creep, which he describes as one of the biggest challenges. “To eliminate scope creep, there’s a statement of work along with a list of agreed upon deliverables in place,” he explained. “You have to be strict on those deliverables,” he said with emphasis. “Any deviation thereof requires a change order. If you don’t put a change order in place, whether there’s a dollar value associated to it or otherwise, then there’s scope creep,” he continued. Sebastian explained that he is a stickler on this point because a client will not recognize that they exceeded scope if he doesn’t call it out. “And they’re gonna continue to ask for the world and the project will never end,” he explained. Sebastian was asked if scope creep happened often and he replied, “Oh god, time and again.” He paused a moment to list a few of the large goals that he commonly sees at the center of his projects as examples. His list includes increasing efficiency; creating simpler, scalable, and more consistent workflows; and creating processes and their corresponding audit practices. Even though the general framework and steps taken to achieve each of those goals tends to be the same across the board, Sebastian explained, “a major part of the work is understanding the unique nuances of each situation and client. You need to understand why they’ve procured this, why they changed that, what is the backbone of their system. They need to consider a lot of variables to construct a new system with new workflows, and it’s my job to help them get to that point.”

Sebastian divided the project cycle, as he has experienced it, into three general phases of beginning, middle, and end. In the beginning phase, he finds that there is always a shared excitement. “The client has bought our services and they are enthusiastic because they would not

have done this if they were okay with everything that's going on in their company right now," he explained. Then as they get to the middle of the project, "it gets really dry," Sebastian says. "This is where the rubber hits the road and everyone is grinding out the work and dealing with the surprises. We have certain deliverables that we have to meet, and when we're hit with the things we didn't think about we have to make decisions in the moment." He reflected that, "ideally, people should have a tolerance and an appetite for dealing with this. The fact that there are surprises shouldn't be a surprise because we talked about it from the beginning." Sebastian's recognizes that in reality, it's common for fatigue to set in, for distractions to occur, and for details to get dropped. It's when the work approaches the final phases that the project teams start to get enthusiastic again. "At this point, we've been working together so closely that when you see that the end is in sight, and you're able put all of the final pieces together fairly quickly," he explained. Sebastian describes this as the time when everyone starts to understand that the hard work is almost done, what is coming to fruition, and the project becomes exciting again. "And that's when we pop the cork, sign off on the deliverables, and etcetera," Sebastian said summing up the phases of the project that he experiences.

The conversation then moved from a general description of the work to a specific example of a client with whom Sebastian recently worked. He began the project with a kickoff meeting, which was designed to align expectations, gain agreement on the deliverables, and set the stage for what follows. "The kickoff meeting is where we go over who we are," Sebastian explained. Sebastian makes it a point to let his clients know about him as a person, especially if they are from the northeast. "When I have clients from the north, I let them know right away that I'm a Texan and that my background is a part of my style of communication," he explained. "I

let them know that they will hear me use words like, y'all, fixin', and doggone it from time to time," he said emphasizing his West Texas accent. Sebastian stressed that he asks his clients to please let him know if his style becomes a problem, such as if they need him to be faster at getting straight to the point. Sebastian has found, in his experience, that clients from the northeast prefer crisp and sparse conversation. Sebastian tries to adapt to this, but also calls attention to the cultural differences between his style and theirs and tries to emphasize that this is in bounds as a topic of discussion. Another important element Sebastian discusses in the kickoff meeting is that of partnership and respect. "We emphasize that together we are a team, and we will not be successful without one another," he said. Sebastian makes it clear that the people on both the consultant and client side have work to do. "We will each be assigned deliverables and it is important that we complete those deliverables on time so that the project is done on time."

Another agenda item in the kickoff meeting is scheduling a weekly check-in meeting with a recurring static agenda so that invitees know in advance what the group is going to talk about and what is expected. Sebastian noted that these sessions help drive the work forward through discovery, design, and building. After each weekly meeting, Sebastian also made sure there was a standing follow up call between both project managers and key team members from both companies. The follow up call serves as a recap of the things that were discussed, the decisions made, and who has which action items. Sebastian noted that his current company follows a more agile style of delivery where work in all of these areas happens simultaneously. By contrast, in a previous life, Sebastian took a waterfall approach. "I looked at each of these as mini-projects and as milestones, and I would never ever enter the design phase without completing the discovery phase," he said, explaining that he would methodically and

sequentially complete the stages of design, discovery, build, test, train, and then deliver. Sebastian enjoys the change to a more organic approach of making progress in all of these areas at the same time. The added complexity of this approach makes the weekly meetings that much more important. Sebastian emphasized this with a side anecdote. “I had a client who grew up in Austin,” he said, “he moved to Alabama, but still bleeds burnt orange—even more than I do.” Sebastian needed to balance the side conversations that the client kept inserting into the meeting with keeping things on track. “So, it got to the point, in the middle of the project, where I just made it an official agenda item, and the first ten minutes of the agenda was Texas Football,” he explained. Not only was the topic an official part of the agenda, the discussion notes were captured along with everything else and became part of the documentation that was sent to people in both companies, at all levels, which contributed to positive esprit de corps.

Once the kickoff was completed, and the weekly meetings and follow up calls were scheduled and starting to occur, Sebastian then turned his attention to discovery, which is the process of learning the details, intricacies, and requirements that inform how the work will be tailored to the client. Sebastian explained that the key to good discovery is to get the client talking. “But, you have to ask the right questions,” he cautioned. “You don’t always know what questions to ask until you are in the moment.” Sebastian explained that there needs to be a cadence in the discovery sessions to get the conversation flowing and develop into true strategy sessions. “Conducting discovery should lead to an understanding of the business, an alignment between the client and the professional services teams on what we’re trying to accomplish,” Sebastian explained. He sees the job of setting the cadence as his responsibility. He does this by investing a lot into preparation for every meeting and being as transparent as possible in

everything he does. Sebastian also focuses on clearly communicating what he needs from whom, and on what he is going to provide.

In spite of these structures and agreements, this project did not get off to a good start. Sebastian recalled that two months after the project kickoff, the clients still had not completed the tasks that should have been done within the first week. “So, the project was two months in at that point and already two months behind,” he explained. Sebastian went on to share a specific example of where things were getting bogged down. There are standard documents that Sebastian’s company has prepared for clients to use when communicating information about the project to their employees. Large sections of these materials are fairly standard and can be reused time and again. These documents had already been translated into 17 different languages, and Sebastian prefers using these prepared documents because it saves time. The contract called these documents out, but the client’s project manager kept asking if there should be changes and tweaks made throughout the materials. She created multiple rounds of possible edits, circulated them for opinions, and asked Sebastian about getting the new edits translated. Sebastian took this request back to his company and asked for a level of effort report, which is an assessment of the time and cost of doing the work and was told that it would cost around $15,000 to make the changes she was requesting. Sebastian’s management was inclined to do this work at no additional cost in the name of good relations, but Sebastian was determined that this would be submitted as a change order and that the client company would have to agree to pay for the additional work. “Because, if I didn’t do that, she would never understand that rewriting our standard templates was not within the statement or scope of work. There was a real risk that she would continue to ask for additional work, and it would never end,” he explained. Sebastian’s

argument carried the day and the change order was placed. Even then, the client project manager struggled to reach a decision about exactly which changes she wanted. Referring to this example, Sebastian summarized that they were two months behind at the two-month mark because the client company struggled to make decisions and keep moving forward.

Sebastian believes that the list of deliverables were also part of the issue. He explained that the people who were on the kickoff call were not the same people who made the decision agreeing to these deliverables, and that most or all of the people in the meeting had probably not even seen the contract. Sebastian explained that this was a common occurrence and one of the reasons why he places a high level of emphasis on the deliverables from the start. In addition to the lack of knowledge amongst the attendees of the kickoff, Sebastian felt that the deliverables themselves were problematic. Some were dependent on others in a way that didn't make sense in the context of the timeline that was in the contract. He also felt that many of the deliverables were unclear and did not translate clearly into success criteria. A list of success criteria are specific agreed-upon conditions that, when met, signal that a deliverable has been completed as expected; Sebastian depends on success criteria to gain agreement with the client team. in this situation, Sebastian felt that the disorganized state of the deliverables was contributing to the status of the project.

When Sebastian has serious issues like this, he goes to the executive sponsor who negotiated and finalized the contract. Sebastian went to the executive sponsor and explained the situation saying, "You signed this contract, but there are deliverables here that I didn't agree to. We've tried working with them [the client], but we are behind and this is why." Sebastian explained that he needed to get his executive sponsor engaged on the issue, because it would not

go well if the project manager was the only voice raising concerns with the client company's executive team. "The software and vendor relationship were likely going to remain in a sustaining phase after this project ended, and we needed to do what we could to not leave them with a sour taste in their mouths," Sebastian explained. He also recognized that the situation put him in an exceptionally difficult position. His job at this point was to turn the client around and get them back on a path that would end with a successful project, but he couldn't see how to do that with the current set of deliverables and the lack of focus on the part of the client's participants. Sebastian and his executive sponsor met together with the senior manager on the client side, but the meeting did not go well. There was disagreement about the source of the delays. Sebastian and his sponsor made their argument, but Sebastian felt that the client manager would not take responsibility for the actions they were supposed to deliver or help to further define the deliverables as they were written in the contract. The senior manager then went back to the client team after the meeting, voiced his frustration, and complicated Sebastian's working relationship with them. Sebastian felt that his primary challenge remained gaining agreement with the client on the deliverables, the work that was in the scope, what "done" looked like, and being able to make key decisions that would stick. After the meeting and the subsequent fallout, Sebastian and his executive sponsor escalated their concerns to their C Level. I wasn't familiar with this term and asked Sebastian to explain. He said that, in his world, C Level means chief level. "Think of a CEO (Chief Executive Officer), a CIO (Chief Information Officer), a COO (Chief Operations Officer), and so on," he explained. The people at that level of leadership make up the C level of Sebastian's company. In Sebastian's case, they escalated to their CCO (Chief Client Officer).

The escalation turned into a couple of senior level meetings that included Sebastian. During this time, the client occasionally turned the conversation to thoughts of leaving the project. Sebastian emphasized that this was the most critical challenge of all, saying, “It is the absolute worst. When the client is thinking about leaving the project, you’re absolutely fucked.” Sebastian explained that this is because this causes the entire client team to become demoralized and less focused on successfully completing the work. “The fact that their leadership was asking questions about leaving made it back to their project team and then they also started complaining about everything,” he explained. “And then they started setting different agendas. Their working sessions started being prioritized instead of ours and we lost all control,” he continued.

Sebastian explained that this is when he started to pull in additional people to serve as Subject Matter Experts (SMEs) on the topics that were generating the most resistance. “Sometimes we pulled a C level into the conversation, so that we could assure the client that we were taking their concerns seriously and to set them at ease,” he added. The addition of SMEs in key meetings helped the relationship settle into a productive rhythm, but the overall course of the project remained bumpy throughout and extended past the original timeline. Sebastian explained that this was largely due to the client team prolonging decision-making and not meeting their deadlines. “But, at least we came to terms with what the new alignments were and on what the deliverables are,” he added. As work came up that was not a part of the scope, Sebastian was firm about putting in change orders and resolving billing questions before they proceeded. “That’s why I’m so insistent about change orders,” he confirmed, “it’s so when things goes south, we have a clear record of what happened and why.” In the end, the project did conclude successfully. The client company still does ongoing business with Sebastian’s company.

Sebastian is very happy that the project is over and that he has been able to move on to other projects with different clients. As the story concluded, he shared that he is currently managing 12 different smaller projects, and that the challenging project he just described was one of several that he was managing at the time.

In the context of Sebastian's narrative and project, the cultivation cycle best represents his role. As a project manager, his focus was consistently on the duration of the project and transitioning the client into a long-term business relationship with his company beyond the end of the project. All of the tasks and efforts that Sebastian took were with longer-term objectives and timelines in mind. His task variability was higher as he managed an array of meetings, processes, and logistics. He also participated in unscheduled meetings and negotiations as complexities arose. Even so, his role likely did not cross the threshold into the creation cycle. His work was focused on longer-term processes that were pre-determined and outside of his immediate control—despite his best efforts to assert as much control as possible—and fell within established parameters of managing a singular project. Creation activity cycles tend to be more highly extended across time and characterized by enormous task variability. The work and processes are more iterative than linear, and the nature of the timelines, milestones, and goals of the project paint a very linear picture, even with the more agile methodology that Sebastian embraces.

Both the senior manager and the CCO are best identified as being in the creation cycle. Their focus was not on singular projects, but rather on ongoing relationship management and adapting to logistical challenges with a broader palate of tools than what Sebastian had available to him. By contrast, Sebastian was focused on change orders, collecting level of effort estimates,

and confirming who was paying for specific services. A focus on reducing ambiguity and moving a timeline of deliverables forward to a desired conclusion are characteristics that one would expect from a cultivation cycle perspective. The senior manager and CCO had a different frame of reference in wanting to provide services for free in order to achieve relationship goals across a much broader time frame, the outcome of which can never really be determined complete as long as the ongoing relationship with the client continued. Sebastian's preferred approach won the day, possibly through sheer force of personality, but one can view and consider the difference in viewpoints of each party through a consideration of their different activity cycles. As the narrator, had Sebastian been overruled on this point, the differences of opinion may have taken a stronger tone and more central position in the story. Certainly, other collected narratives in this body of work where the storyteller was overruled by others within a different perspective and activity cycle, support this supposition.

Sebastian: Discussion and Analysis

Sebastian's narrative tells the story of a person who is tasked with working both as an outside consultant as well as a project manager in partnership with a team from another company. Sebastian is fixated throughout the narrative on keeping the scope of the project clearly defined and on track towards achieving clearly articulated and agreed upon goals. He rails against changes to the plan or ambiguity in the details as elements that would actively reduce his chances of success.

Sebastian's role has clearly defined processes that are beyond Sebastian's control both because he works with a larger team from his company and with a sister team from the other

company. Sebastian describes the clearly defined processes that he follows and uses as a map of the arc of his work. The narrative states, "Sebastian has a general multi-phase map of a project cycle that he uses to guide the conversation and the planning process." Although Sebastian is firm about the need for exacting clarity in the details of a project, he also allows for the nuanced differences that make each set of characteristics unique from one project to the next. Sebastian notes, "a major part of the work is understanding the unique nuances of each situation and client. You need to…consider a lot of variables to construct a new system with new workflows, and it's my job to help them get to that point." Sebastian frames the project from the start with a structured kickoff meeting that heightens details, reduces timeframes, and seeks to eliminate ambiguity. Sebastian's time frame is consistently focused on the duration of the project where the tasks that he and others are completing are seen as steps towards a larger goal, which is his central focus. The narrative briefly examines the idea that Sebastian might fit in the creation cycle, given that his project is the first major step towards an ongoing client relationship where support is provided on an ongoing basis. In the end, the conclusion that Sebastian's narrative is a better fit for cultivation since, "his work was focused on longer-term processes that were pre-determined and outside of his immediate control…and fell within established parameters of managing a singular project." Aspects of both quadrants can be seen in Sebastian's narrative, but cultivation resonates as the dominant quadrant, particularly because when projects turn into ongoing client relationships, they are taken over by another team while Sebastian moves on to the next project.

The senior manager and the CCO (Chief Client Officer) are both identified as being in the creation cycle in the narrative. Noting the characteristics described above, for both characters

their focus is not on singular projects but, rather, on ongoing relationship management. They adapt to logistical challenges with a broader palette of tools than what Sebastian had available to him as they consider other and more open-ended objectives beyond completion of a singular project. It is noted in the narrative that the, "senior manager and CCO had a different frame of reference in wanting to provide services for free in order to achieve relationship goals across a much broader time frame, the outcome of which can never really be determined complete as long as the ongoing relationship with the client continued." This aligns to the description of a creation activity cycle, and the differing perspectives set the stage for the narrative tension around how ambiguity is accepted and managed.

Sebastian works tirelessly to eliminate ambiguity. The narrative explains that Sebastian does things, "at the beginning of any project in order to avoid scope creep." Sebastian's description of his use of change orders to document any deviations in the stated project plan demonstrate the ferocity with which he strives to keep ambiguity out of his work. By contrast, the senior manager and the CCO explore ideas and possible approaches to requests from their clients as an open and fluid range of options. They consider the idea of giving the clients what they were asking for in a way that suggests that they were open to adapting to changing circumstances. Sebastian, on the other hand, saw this as a violation of a more rigid structure. In the end, Sebastian got his way and others followed his lead. This, too, might be seen as adapting to changing circumstances on the part of his leadership.

In his narrative, Sebastian does not adapt to other perspectives or consider the context of other perspectives. This makes some sense because Sebastian does have clear and measurable success criteria that he is beholden to, where his leaders are not. Sebastian seems to be

discounting the broader perspective of maintaining a good client relationship in order to be a provider of ongoing support, which would be good for the profitability of the company. Sebastian does not seem to express much concern or regard for a fear of losing this client. Rather he focuses on delivering the objectives of the project as it is defined in the contract. There is an association in Sebastian's story between the tension in the relationship with the client and Sebastian's lack of accommodation to the perspectives of his leadership who are also operating from a cultivation cycle.

Edgar's Narrative

NOTE: Edgar is the only person from whom two narratives are featured in this collection. Edgar's other narrative can be found in the concentration activity cycle chapter. Both narratives feature a presentation made by Edgar to the Academic Senate at the university where he worked at the time. The presentation to the Academic Senate that is featured in this narrative occurred after his presentation in the concentration chapter.

In this story, Edgar is a manager in charge of a team of system administrators. He explains that his team is made up of "all of the people that do the turning on and off of the toggles, the coding, and that kind of stuff." His team provides advanced tech support and is the operations center maintaining the electronic data and technology infrastructure at his university. Edgar chuckled and explained that his team "is the equivalent of Tier 3 tech support. The students get Tier 1. The faculty get Tier 2. And when they [Tier 2 providers] get stuck, we help them. Weirdly, we also seem to support anyone who figures out who we are and how to find us, which is hard to do." There are currently only three people on Edgar's team. "It used to be bigger

than that," Edgar reflected. "It used to include a lot of instructional designers, but they were split apart into a different group." Edgar went on to explain that the same thing happened with the creative media team and the web support team. "They were all moved into other groups, reporting to different people." Edgar stressed that the decentralization in his organization happened before he joined the team; it was the situation in which he found himself when he started this position about three years ago.

The primary challenge facing Edgar's team was around communicating technology infrastructure changes in a decentralized environment. They do not want to make technology changes, even if they are specifically directed to do so, without first getting buy in from all groups. "Our team could certainly flip the switch if you asked," Edgar quipped. But, there is a risk for a change to go "rippling throughout the organization where nobody in the other groups knew about the change, and then the system would crash. And then everybody would scream," Edgar relayed.

"So, what I did was slow everything way down by establishing what was originally an ad-hoc group, but then I gave it a fancy name and it kind of stuck," Edgar explained. What Edgar established was a shared governance model, in which a steering committee of members representing each of the groups comes together weekly to discuss technology changes. Edgar explained in a fast staccato-like pace, "I said, 'Here's what we're thinking about doing. Have we tested it? Have we looked at it? What's the impact? What do we need to communicate? Who do we need to communicate with?' and so on." Edgar then drove the creation of a change management process that centered around that steering committee. "Once they signed off on a change," Edgar explained in the same crisp pace, "my team would turn it on, test it, and schedule

when it would move into production." Edgar's intention was to give the steering committee members time to reach out to their constituents. "And, so, everything we do is really based on influence. I have no direct reports who are directly involved with communication. Sometimes that becomes a problem, because they [the members of the steering committee] drop the ball, or they don't communicate, or whatever," Edgar said.

Edgar reflected that he would like to be more strategic in his role. When asked whether he made one or two-year plans, or if his role is more short term, he chuckled and replied, "I would like to be like that. I'd like to look ahead. Certainly, for the system itself, we have to be strategic about when we have to put things in and when we need to build governance around how we update the system." But, Edgar never knows what the next catalyst for change is going to be, when timelines will change, or if all affected groups have planned enough time to assess downstream implications. "I never know what momentum I'm going to have at my disposal to make things happen, so I try to plan it out, but my plans change all of the time."

One of Edgar's responsibilities is to help groups examine different software packages and consider whether those software tools should be incorporated into the tools used by the university. The process of considering and eventually approving a potential new tool involves a three-term phased rollout that includes a pilot and a review by the steering committee. The process of reviewing and deciding on each piece of software is treated as its own project, although implications of whether funding is spent in one project can influence the final outcome in another project.

One of Edgar's projects was to examine, install, pilot, and help assess a new piece of software, which will be called Forecast in this story. Forecast is a learning analytics project

designed to predict, and help educators improve, student success. “The hope is to drive an early warning system,” Edgar explained. “Sometimes students get in classes that are hard and they don’t realize that they aren’t going to cross the finish line until after census ends. So, the students get a W or a U or an F.” Edgar explains that if the students were aware, the students could have, “dropped, switched sections, found a different teacher, or whatever.” Edgar’s team launched a pilot of the software. Forecast leveraged SIS (Student Information System) data and the LMS real-time quick-stream data to produce a model that predicts how a student will perform in a given class.

Edgar explained that this project felt politically challenging because the core concept of forecasting the probability of a student’s performance was a touchy subject. The software analyzes the data and, even before the first day of class, reports the probability of a student passing with a C or better. Edgar pinged off a series of questions that emphasized the delicate nature of the topic: “So, then, how do faculty perceive that? Do they take that and engage with the student to help them? Do they say that they want to really focus on the students in the middle so that they can help students go from Ds to Bs? Or, from Fs to Cs? Do they advise some students to drop? How do they engage the student?’” Edgar explained that part of the political challenge, for him, is the degree to which he is associated with the information technology at his university. “I am pretty much synonymous with our (online systems) at this point. The performance directly impacts perceptions of me and it’s hard to separate the guy who says, ‘I don’t care which way we go’ to saying, ‘I’m here to support you and this is what we are going to do.’” Edgar explained that therefore, his position requires that he play both technical and communication roles.

The project came to a head when Edgar was to deliver a quick update on the Forecast assessment to the Academic Senate. Laughing, Edgar said, “I’m the tech guy and I work behind the scenes, so I needed someone as a co-presenter to be the face.” Edgar reached out to and partnered with the Director of the Advising Office. “While I think that was a good move, she was also new and didn’t have a lot of influence or many contacts yet. So, I put together the presentation and we went and talked about it.”

Edgar hoped that the presentation would go smoothly, but he explained that, “the way it came off wasn’t as strong from her side, which opened up a lot of opportunities for questioning because the delivery wasn’t as confident.” Edgar explained that he tried to, “help pick up the pieces, but the perception is that I’m a tech guy and so that doesn’t carry as much influence.” Edgar explained that the presentation spiraled downward from there. In his rapid-fire rhythm, Edgar bulleted the rest of the presentation saying, “So, there were a lot of questions about security. There were a lot of questions about predicting fate. There were a lot of questions about cost versus impact.” At this point, Edgar’s passion for the potential of this software and his frustration with the meeting started to come through quite strongly as he explained, “The tool really has a lot of potential to standardize and automate the things people should be doing in their class, but don’t always do.”

Edgar acknowledged that full implementation of the tool would require faculty members to frequently enter a lot of data into this new system. “So, it challenges faculty’s approach out the gate on how they’ve done course design,” Edgar conceded. “So, what was supposed to be a 10-minute update turned into a 45-minute ‘hammer on us’ session,” Edgar explained. “By the end, we were getting challenged on things like the graphics and symbols on the screen and, at

one point, one person scolded us saying, 'You never want to show a student the color red,'" Edgar said while sighing. And another person actually stood up and said, 'OK. Let me understand this. I'm a student and you're going to be able to predict *MY* success level in this class before you ever meet me?' and my answer was, 'well… yes.' Forecast produces a zero-day model," Edgar relayed and followed up with the acknowledgement that his answer did not go over well.

"It was all over the board by the end. What am I supposed to do? The provost is there. The president is there. There were student representatives there. Their presence spoke to the need for this kind of tool, but it still wasn't enough to sway or slow down the momentum that was building inside that room," Edgar said. Prior to the meeting with the Academic Senate, the project had been moving forward and Edgar thought that everyone had been well informed, that the concerns brought up at the presentation had already been anticipated and discussed, and that the quick update would be just that. "We had talked to other people and it wasn't a surprise to us. The Deans had already signed off on it and had provided funding for the next phase," Edgar reported. In the end, the University did move forward with the pilot, but Edgar reports that the software was not well received. "(Forecast) had 17 people in the pilot, but it shrunk to 12. Some of the faculty in the pilot said, 'I'm out. This doesn't work,'" Edgar explained.

Edgar clearly felt constrained by his role and how he felt he is perceived as "just the tech guy". The identification of Edgar's dominant activity cycle in the context of his story and the project is informed by the trajectory the project took at those key moments when he was handing work off to, and communicating with, others. In the context of this project, Edgar aligns to the cultivation cycle. That is, the time frame is more extended but with a relatively smaller range of

task variability as he supports the installation, the piloting, and the possible expansion of the new software. Edgar's descriptions of the challenges that he faced, which are also the centerpieces of this story, revolve around his interactions with others who operate in the Creation Cycle. In the context of the project, his interactions with both the Advising Director and the members of the Academic Senate were both challenging. Edgar felt that he had more detailed information and a more nuanced understanding of the software, the project, and the context of the work being done. Edgar felt more articulate about the details but constrained in his ability to communicate them. Edgar's perception was that, on the day of the presentation, he was struggling to communicate information with and to others who were operating from a quick snapshot glance at the project and making judgments and assertions without a deeper understanding of the details or the time to focus on gaining that deeper understanding.

Edgar: Discussion and Analysis

Edgar is the one storyteller for whom two narratives are featured in this collection. Edgar's other story features efforts to deliver a learning analytics system. Edgar sees this as a large but straightforward effort until it encountered resistance from a variety of members of the academic senate. From there, Edgar had to contend with people expressing concerns that can be examined from the perspective of different activity cycles.

Edgar is identified in the narrative as being in the cultivation cycle. Edgar's tasks include examining, installing, piloting, and assessing a learning analytics software package. Edgar describes these tasks in a way that sounds straightforward. That is, complete an analysis based on a set of calculations and, based on the results of that assessment, make a recommendation on

whether or not the software should be adopted. Edgar adds another aspect to this work when he realizes that no one is taking responsibility for driving the communication around this effort. Taken together, these functions conform to a cultivation cycle perspective in that Edgar is focused on a project that unfolds over a few months and involves longer-term processes to conduct and analyze the results of an examination of this software combined with the communication aspects. The narrative calls out that Edgar manages a small team of individuals who align more to a concentration activity cycle who are focused on the smaller tasks that make up the broader effort for which Edgar is responsible. Edgar also leverages other systems that are outside of his and his team's control in order to pull the necessary data together into an algorithm his team can use.

Edgar foreshadows the difficulties he encounters with the academic senate when he explains that the, "project felt politically challenging because the core concept of forecasting the probability of a student's performance was a touchy subject." Edgar described preparing for a meeting, which he expected to be a straightforward presentation and a quick project update. He wasn't expecting the interactions that he had with the Advising Director and the members of the Academic Senate to be as challenging as they were. The narrative calls out that, "Edgar felt more articulate about the details but constrained in his ability to communicate them. Edgar's perception was that, on the day of the presentation, he was struggling to communicate information with and to others who were operating from a quick snapshot glance at the project and making judgments and assertions without a deeper understanding of the details or the time to focus on gaining that deeper understanding." The members of the academic senate can be examined from aspects of a creation cycle perspective. Their focus is on things like the ethics of

predicting a student's future performance and the philosophy behind incorporating those predictions into decisions around their future actions. These discussions do not have a discrete timeline or an outcome that can be known. These are considerations that extend into the future in an open-ended way.

One of Edgar's challenges involves issues with reputation and identity. He feels the need to assert his primary identity as a part of the tech support team. He stresses that he needs to be seen as a person who is infallibly in touch with the technical infrastructure at his university and cannot be associated with hiccups or ambiguity. Edgar resolves this by recruiting someone else to be the face of the project and the voice of the decisions to be made. Edgar summarizes this in the narrative saying, "I'm the tech guy and I work behind the scenes, so I needed someone as a co-presenter to be the face." Edgar runs into difficulties and feels constrained when she doesn't deliver the content or style of the message in the way that he would have chosen. Edgar explains that, "there were a lot of questions about security…predicting fate…(and) cost versus impact." The question about predicting fate, in particular, highlights a creation cycle perspective. Things do not go well in the story when Edgar is given a creation-centric question and responds with a more cultivation-centric answer. This is seen when Edgar says that a, "person…stood up and said, 'OK. Let me understand this. I'm a student and you're going to be able to predict MY success level in this class before you ever meet me?' and my answer was, 'well… yes.' Forecast produces a zero-day model." Throughout the narrative, both in the telling of events and in the reflection on those events, Edgar never wavers from seeing the situation from a perspective that aligns to a cultivation activity cycle. Edgar does not describe engaging in efforts to understand

the concerns raised from the academic senate members' perspective and is frustrated when they don't understand his.

Edgar, like Sebastian, does not adapt to other perspectives in his narrative or consider the context of the perspectives of the key interactants in his story. Edgar also seems to discount the broader perspective of other points of view, and those that seem to be aligned to a different activity cycle strike Edgar as particularly foreign. Edgar seems to have no desire to account for ambiguity or give it much consideration. This is something that does not serve his goal of meeting concrete and discrete goals.

Conclusion

A few themes emerge from an examination of the five narratives included in this chapter. The three identified themes are: 1) push back, 2) role sensitivity, and 3) reducing ambiguity. This conclusion provides a brief examination of each.

The first theme is a sense that the people who are identified in the narrative as primarily working in a cultivation cycle frequently receive feedback that amounts to push back on decisions that have been made and that are in progress. This theme is labeled "push back" in this researcher's coding. Margaret's narrative provides a clear example of this. Margaret notes that, "We started getting all of these callouts from [the testers] asking things like, 'Why is it doing this?', 'Why is this is doing that?', and 'Why didn't you guys think about this?'" Margaret received questions that built a sense of getting push back. She explains, "there were so many points where the testing team kept pushing back on decisions we had made, even after we explained the business reasoning and the larger context behind the decision." Margaret describes

when the push back reached a crescendo, noting that "We were just getting bombarded and the testers were constantly bringing up issues that we hadn't identified, questioning the overall design and our decisions that we had made on the functionality of the new features," Olivia's narrative has a similar sense in that she receives push back from Sasha throughout her story as well as those who have difficult interactions with Sasha. Both Sasha and characters with whom she is in conflict engage Olivia with questions about the direction of the project, Sasha's role, and the wisdom of decisions already made. Fred doesn't experience this same level of feedback. This might be attributed to how consumed he and Roger were with meeting their coding deadlines and his narrative might also call out the consequences of not being engaged when it is discovered that Charlotte was building a new line of business that would end up breaking the tool that Fred and Roger built. Edgar's narrative is rife with push back from the academic senate. Sebastian was seen as the person to speak to the project and it was his decision to bring in someone else to speak to broader aspects of the project. Sebastian initiates the difficult discussion that leads to the pushback he receives from the client-side project manager.

The second theme speaks, in part, to how the cultivation-centered characters react to the push back and tension that they experience. These characters demonstrate a sensitivity and awareness of the differences between their roles and the roles of the characters with whom they are engaged. How they respond differs: The range of responses in the narratives include trying to adapt to others and trying to constrain the roles of others. The consistency is the framing of the tension and push back in terms of roles rather than limiting it to the specific topics or issues at hand. This theme is labeled "role sensitivity" in this researcher's coding. Margaret's narrative spotlights her frustration with the testers by noting that she felt that they were stretching beyond

their role and questioning decisions she felt had already been vetted by groups who had more context and authority. In a candid moment, Margaret shares that a frequent thought she had but never voiced was, 'Come on! Your job is to test the functionality as it exists and tell us what isn't working. It is not to question and try to redo all of the decisions that led up to the functionality that was built!' The narrative notes that Margaret makes efforts to adapt to the perspective of the software testers and her reflection can be examined as a strategy for bringing the commotion cycle testers more into alignment with her quadrant. Olivia's narrative notes that, "Olivia found that Sasha would consistently reach beyond her core responsibility of creating written content and instead kept maneuvering to weigh in and drive other decisions about the overall pilot." From there, Olivia responds to Sasha by adapting to the constraints of her role as Olivia understands them. Fred reflects, towards the end of his narrative, about the fact that he did not adapt to Charlotte's role. He tuned out details that didn't apply to his immediate needs or seek to understand the larger context. He then calls this out as a moment of being short-sighted that led to serious problems and he notes that as a lesson learned and something he will do differently in the future. Sebastian explains, "a major part of (his) work is understanding the unique nuances of each situation and client. You need to…consider a lot of variables…and it's my job to help them get to that point." Sebastian is extremely role-focused throughout his narrative. He has an unapologetically specific understanding of his role and the role of others. He seeks to ensure that everyone agrees to and conforms to these roles. Edgar's perception, in his narrative, was that, "he was struggling to communicate information with and to others who were operating from a quick snapshot glance at the project and making judgments and assertions without a deeper understanding of the details or the time to focus on gaining that deeper understanding." Sebastian

frames the decision to bring in a co-presenter, his reasons why, and the reactions that he got in terms of the roles everyone plays as he sees them. This is more central than framing his story in terms of the strength of his argument, the value of the software, or as a dispassionate view of the decision-making process. Role sensitivity plays a central part in the narratives told by characters in a cultivation cycle perspective.

The third theme highlights a desire to reduce ambiguity. The characters based in a cultivation cycle in these narratives tend to avoid and shy away from ambiguity. Instead, they tend to seek clarity and definition around the details of their projects. This makes sense given the concrete and goal-oriented nature of their work as it is described in these narratives. This theme is labeled "reducing ambiguity" in this researcher's coding. Margaret is unsettled when decisions that she thought had been made were being questioned and were at risk of being undone. Olivia struggles with Sasha on multiple levels and fronts. One of these areas is about the concerns Sasha raises about her role and the direction of the project. Sebastian may be the clearest example as he, "rails against changes to the plan or ambiguity in the details." His narrative states that he, "frames the project from the start with a structured kickoff meeting that heightens details, reduces timeframes, and seeks to eliminate ambiguity." Sebastian's narrative also notes that he, "works tirelessly to eliminate ambiguity." People in this collection of narratives who are working in a cultivation activity cycle are consistently focused on the concrete deliverables and goals of specific projects. It makes sense on its face that these characters would work to reduce ambiguity in favor of a concrete and shared understanding of project details. This also sets up an interesting tension with characters in the creation cycle who are focused on a broader perspective than a single project and who embrace ambiguity as an undeniable reality of their work.

CHAPTER 9: CREATION CYCLE NARRATIVES AND ANALYSIS

This chapter focuses on narratives that describe work and experiences within the creation cycle. What follows are the narratives, in order of appearance, from Grant, Nancy, Lucy, Penny, and Quentin. Their narratives include a blend of stories told from a creation cycle perspective, as well as stories that describe interactions with other characters who are operating from within other cycles. The coding of the narratives in this segment focuses on descriptions of the time windows and the task variability of the storyteller and their interactants. This is used to help support the identification of their placement in this particular activity cycle. The coding also focuses on common aspects of the creation cycle which include a perspective and/or focus that is highly extended across time, enormous task variability, work and processes that are more iterative than linear, carrying out work that results in the creation of new things, and working with a timeline towards an outcome that neither of which can ever really be known.

The ambiguous timeline and unknown outcome aspects of the creation cycle provides an interesting way of looking at narratives that are focused on work done within the context of a project since, by definition, projects define a measurable outcome and have a target date of completion. These two points are in clear contradiction with characteristics of the creation cycle. For these project-centric narratives, consideration is given to those stories in which a person with characteristics that align to a creation activity cycle must necessarily contribute to a project as one facet of the broader scope of their work. This includes situations in which the project is meant to enhance ongoing operations that the character is designing and managing on an ongoing basis. The narratives also include examples where the project is a necessary prerequisite to initiating a larger ongoing effort. These storytellers may be very focused on completion of the

project in these narratives but are also operating from a broader perspective. The conclusion of this chapter identifies and examines the more prominent themes and patterns that emerged from these narratives with a focus on those aspects that tie to a creation cycle perspective. A discussion is also provided about how these observations compare to the current understanding and description of the axes and activity cycles that comprise the 2x2 matrix.

Grant's Narrative

This next story comes from documentation on a 90-minute post-mortem conversation with Grant, who is a user experience designer. He is part of a team that thinks about the design of a piece of software from the perspective and needs of the users. Grant and the facilitator talked a lot about the work that he does and the various projects he works on. Grant's description of his role in the context of this project supports the identification of the creation cycle quadrant of the matrix as his dominant activity cycle due to the variability of tasks he takes on as a part of his design efforts, which include activities in the areas of workflow analysis, business requirement writing and refining, workflow design, interface design, and design testing. Grant is also typically working on multiple projects simultaneously with different teams. Grant's time windows tend to be more extended as Grant's work and perspective span the planning, implementation, and ongoing use of a variety of tools.

Grant and the facilitator talked about several projects with which he has been involved. One story, in particular, that Grant shared in the post-mortem conversation seemed to most serve the aims of this research project and was something Grant shared in the last few minutes of his conversation with the facilitator. Grant's story was about his new manager and came as a bit of a

conversational after-thought as the conversation was ending. Grant seemed to share this almost by way of casual chitchat as if he was lightly filling the conversational space with a palette cleanser after having shared some other stories. "I have a new manager," Grant commented, "She called me and said that she needed me to give her a list of the projects I was working on for the rest of the [fiscal] year."

Grant explained that, at first, he was okay with the request and that it seemed like a straightforward question. "But then I thought about it and realized that I didn't know how to answer her question," Grant explained that the request was difficult because he works with several different managers and across several different teams and products. Grant explained that, "there are always a number of folks who are always trying to figure out how to get use of my time." Grant has an area of expertise that is needed at different phases of software development projects. This means that different groups are trying to secure his time to do different things at different phases of their project. Grant explained, “I wasn’t sure what I was doing for the rest of the year. There was a backlog of things that needed attention, but nothing was scheduled yet.” Grant was a little unsettled at first that he did not have an answer.

"At first, I thought that I must be doing something wrong," he explained, "so I sat down with other designers on my team, and I asked if they knew what we were supposed to be working on after this." Grant found that "they had no idea either," and Grant went on to clarify that, "these are sharp guys and they don't let things go by." Grant explained that the other people on his team reacted, "We don't know, and we don't need to care. That's not important right now." Grant's colleagues explained that, from their perspective, the projects that Grant is currently working on are what he has to do right now and that is what is important. "My rules of engagement are

different from my manager's," Grant commented. "I think she asked because she's new and hasn't sorted out that I'm not the one who can answer her question," Grant reflected. "I can't say what I'm working on next, and it won't help for her to tell me what she's working on either," he reflected. Grant felt that when people who are managing projects and are in need of his help and consultation come to his manager, she should simply direct them to him. "We have to talk through what they really need, their goals, and the human mission," Grant explained. After doing so, he will be able to assess their actual needs and timelines and thus distribute his time across different projects accordingly. Grant sees his role as balancing the work he is doing now and negotiating the work to be done next, but that this planning is dynamic and negotiated based on both his availability and the constraints and needs of the project managers.

Grant's description of his manager supports the argument that, for the moment, she is most aligned with the cultivation cycle quadrant of the matrix. Grant's description of her role supports the idea that her time frame is more extended. Grant noted that "she is thinking about staffing and resources for both this fiscal year and the next." One difference that Grant sees between him and his manager is in the area of the degree of task variability. Grant argues that she is still in a learning phase and ramping up. Her tasks largely revolve around learning the functions of their team, their current projects, and how best to distribute the time of her team members to various projects. He concedes that this will likely change in time as she matures in her new position, but for the moment, his description of their roles supports the idea that their dominant role has them operating in different quadrants in the context of their projects. Another way that this difference manifests is in Grant's descriptions of their perceptions and process for planning and assigning staffing and resources. While he saw her view as more concrete and

focused on an end product that could be captured in a simple chart or spreadsheet, he sees his perspective as one that is dynamic, nuanced, and negotiated.

Grant: Discussion and Analysis

Grant describes his role as a user experience designer. The narrative describes his focus as thinking about, “the design of a piece of software from the perspective and needs of the users.” Grant’s description of his work captures many of the aspects of the creation cycle.

As Grant described his task variability, he explains that he takes on activities such as business requirement writing and refining, workflow analysis, workflow design, interface design, and design testing. He also notes the complexity of these tasks being intertwined across multiple projects with overlapping time frames. The impression comes across that these overlap to such a degree that his time frame is actually one long-term ongoing rhythm which is made up of component parts, as the narrative states, "Grant's time windows tend to be more extended as Grant's work and perspective span the planning, implementation, and ongoing use of a variety of tools." This narrative captures a moment when Grant reflects on his response to his manager's question about his time commitments when Grant realizes, "I wasn't sure what I was doing for the rest of the year. There was a backlog of things that needed attention, but nothing was scheduled yet." Grant goes on to try and sort out the answer saying, "At first, I thought that I must be doing something wrong…so I sat down with other designers on my team, and I asked if they knew what we were supposed to be working on after this…(but,) they had no idea either.” Grant’s observations contain a thread of contemplating ambiguity when he considers his role. Grant realizes that while he has clarity around any given set of tasks that he is doing and the

context of any given project that his work supports, there is a greater level of ambiguity and more extended time frames around his work when he considers it in the context of the many different pieces of software that he supports and continues to help develop and improve simultaneously.

The questions that Grant's manager asked that led Grant to be more contemplative about his role seem to come from more of a cultivation cycle perspective in that the manager seems to be thinking in structured terms about projects and timelines with a discrete finish date. The narrative summarizes both perspectives noting that Grant, "sees her view as more concrete and focused on an end product that could be captured in a simple chart or spreadsheet (where) he sees his perspective as one that is dynamic, nuanced, and negotiated." A key point in the narrative is Grant's internal processing of her request. His world is a lot less structured and a lot more dynamic. His awareness of this difference happens in the narrative as Grant struggles to put his creation cycle perspective into cultivation cycle terms when what seems like a simple question has no immediate, simple answer, given his less structured and more dynamic patterns of work.

Grant does not seem overly stressed or concerned about these different perspectives. Rather, he is more reflective. He notes that his manager is new to her role and credits some of the disconnects to the two of them getting to understand each other's points of view better. In the narrative, Grant explicitly says, "My rules of engagement are different from my manager's…I think she asked because she's new and hasn't sorted out that I'm not the one who can answer her question…I can't say what I'm working on next." Grant's perspective is reinforced by his team members, and he explains that they told him, "We don't know (what we are working on next) and

we don't need to care. That's not important right now." Taken in isolation, that last comment might also be attributed to the perspective of a concentration cycle of simply needing to focus on the next task in a sequence of tasks. In the larger context of Grant's narrative, this seems more reflective of the substantial task variability indicative of a creation cycle perspective.

Grant's role, when viewed from a broader perspective as opposed to a singular project, fits well the creation cycle descriptors. This perspective is reasonable given that he is, "typically working on multiple projects simultaneously with different teams." Grant's narrative highlights the broader sense of ambiguity that comes with his role and that he is comfortable dealing with this ambiguity, which is evidenced by his fresh contemplation of the question his manager asks as a new topic when he is asked to describe his work in non-ambiguous terms.

Nancy's Narrative

Nancy and the facilitator met for a project post-mortem meeting while they were both in California. In addition to these two, a project manager joined the conversation, and the three discussed a project that Nancy and the project manager had worked on together. Together they chose a project where she and the project manager had worked together to add several new features to the user interface of a communication tool used by the company. This is a system that enables users to have back-and-forth conversations with people in different business teams. Often the conversation is about problem-solving different technical issues with a variety of systems, or about getting answers to both relatively simple and more complex questions. The challenge they were trying to solve was when the users who initiated the conversation became unresponsive. There were enough situations where a conversation would be in progress and the

user who started an interaction would stop responding, but without physically ending the connection on their side. The person who was trying to help them with their question was left wondering where the other person had drifted off to and why. Presumably, they got distracted by other tasks or called away by something pressing, but it left the person on the other end in something of a state of limbo.

Before starting the project, the system would automatically fire off a sequence of three messages when the person on the other end was unresponsive. The messages would ask if the person on the other end was still there and, after the third message, the system would automatically end the interaction with the expectation that the user would start a new interaction when they were ready to continue the conversation. These automatic messages appeared as if they were messages written by the person who was trying to help. Nancy and the project manager felt that this could be confusing and disrupt the flow of the conversation, so the project manager wrote a set of technical requirements asking that the three messages appear as notifications that were generated by the system as opposed to messages from a human. The project manager felt that this was a more accurate and less disingenuous message.

As the person heading up the engineering team that was developing new code to meet these requirements, Nancy asked Bobby, a user experience designer, to create a detailed depiction of what all of our requirements would look like in the tool, including these new system messages. Nancy immediately encountered resistance on this point. "He was like, 'Well, very obviously, this is coming from your system, so I'm not adding this text in the way you are asking,'" Nancy relayed. She was exasperated and explained that her initial reaction was to want to say to Bobby, "You just need to add gray text here. If you will just give me the damn sketch

file, I'll do it, slap your name on it, and say that you did it. We just need to get it done." Nancy's frustration came from having this conversation with Bobby repeatedly with the same result being that Bobby would simply refuse. Nancy explained that she wanted to deliver what she felt was a straightforward and easy to do requirement.

Nancy explained that she and Bobby were at an impasse on what she felt was an easy request. "He kept dawdling," Nancy explained, "and weeks were going by. I kept trying to get this thing done, and he just wouldn't do it. Every time I called him, I got an earful about why this is not a good design idea. And, every time, I tried to be charming." Nancy explained that she kept asking Bobby if he could do her a favor on this one. She then kept mentally finishing the sentence with, "and put it on the damn sketch file." Nancy explained that things came to a head when she looped the business into the conversation.

Nancy remembered the day when she and the project manager had a meeting in Bobby's building. "You got to come in and be the heavy," she said to the project manager. "I think you had fun. Actually, I know you did," she continued, "I remember what the project manager said about putting some bass in his voice." The project manager explained that he had cracked the joke as they were walking into the building that sometimes when he needs things to go a certain way, he will intentionally drop his voice a half-octave and put some bass in it. "You made it clear that this was going to happen. You laid out the business case for it and all of the thinking behind it." Nancy said to the project manager. The project manager picked up the conversational thread, explaining to the facilitator that he patiently listened to Bobby's part of the story as he raised point after point after point. Nancy and the project manager both remember responding with what they felt were well-reasoned and thoughtful answers. "In the end," Nancy remarked,

"we demonstrated that we had clearly thought this through and that this wasn't us saying, ‘we like gray text.'" Nancy felt that Bobby was not convinced. "I don't think he made an effort to understand the business case," Nancy reflected. "Bobby didn't know much about this tool, and I was frustrated that he was sitting there coming in with these bold opinions about what we need to do." By the end of the meeting, Bobby acquiesced and agreed to make the change. It seemed that he saw that we were set on this course of action and he perceived me as someone with authority to make the call, even if it wasn't in line with the design direction that he wanted to take.

“To be fair,” Nancy conceded, “we were check-boxing his role in the project.” Nancy acknowledged that we had a specific thing we needed and it had to be Bobby’s hands that put the work in the sketch file. “Perhaps that might be a flaw in the process,” Nancy said. “We felt like we had to engage someone from the design team, but we were specific about what we wanted,” Nancy reflected that, if it is possible in future projects, we should not even ask for sign off from the design team unless they are involved in the project from the beginning.

Given the nature of Nancy’s role and responsibilities in the project, this researcher identifies Nancy’s primary activity cycle as being in the cultivation cycle. Her narrative is included in this chapter because of her interaction with Bobby, who is operating in the creation cycle in Nancy’s story. Nancy had a broader time window as her scope was consistently focused on the full duration of the project. Nancy also noted that, if she looked beyond the project and at her role in its entirety, she may spend more of her time in a commotion cycle.“ I could have a whole day blocked off for doing something,” she explained, “but, I also have those days where I have 20 things to do, and I have quadruple-booked meeting slots all day." Nancy explained that she sometimes has days when she gets her work done at night and in moments between

meetings. Nancy circled back and reiterated that, in the context of this project, she saw herself as being in the cultivation cycle.

Nancy's description of her perception of the framing with which Bobby's approached the project fits the description of someone who regularly operates in the creation cycle. Bobby works on a design team, the members of which tend to get involved early on a project and stay engaged through the duration. Bobby and others on his team typically provide a high level of support that is focused on all aspects of the design of the user experience. Bobby's time frame was clearly extended based on Nancy's story. In her conversation, she remarked. "He was super into brainstorming and thinking about the design cycles across a variety of tools and thinking about this request in a much larger context, even though that wasn't required in the context of this project." This comment leads this researcher to consider that Nancy and the project manager were asking someone who regularly operates in a creation cycle on projects to instead perform a function that was being framed as something more suited to a concentration cycle. That is the discreet task of creating an image of three sets of gray text in the interface of a tool, saving, and sending the file. Nancy's earlier comment that she should engage the design team early and throughout future projects, or not engage them at all, can be viewed as an acknowledgment of Bobby's typical position in the creation cycle and that shifting our view to align to that would reduce future conflict and confusion.

Nancy: Discussion and Analysis

Nancy’s narrative is one that is told from a cultivation activity cycle perspective. The centerpiece of the story is Nancy’s interaction and frustration with a character, Bobby, who is

operating from the perspective of a creation cycle. Nancy is largely asking Bobby for the completion a small singular task, one that is typically framed as a concentration cycle task that could be completed within a brief span of time and is a modest change to an existing effort. The differences in Nancy's cultivation and Bobby's creation perspectives become the central point of conflict in the narrative.

Nancy's alignment to the cultivation activity cycle is shown in a few points in the narrative. Nancy has discrete goals for the project and success is clearly defined and achievable. Nancy notes in the narrative, "I wrote a set of technical requirements asking that…three messages appear as notifications…generated by the system." Nancy explicitly reflects towards the end of the narrative that she also operated within a broader time window and that her focus consistently spanned the full duration of the project.

The narrative supports the placement of Bobby in the creation cycle, it notes that "Bobby works on a design team, the members of which tend to get involved early on a project and stay engaged through the duration. Bobby and others on his team typically provide a high level of support that is focused on all aspects of the design of the user experience." The narrative goes on to point out that his time frame was clearly extended, citing Nancy's comment that, "he was super into brainstorming and thinking about the design cycles across a variety of tools and was thinking about this request in a much larger context, even though that wasn't required in the context of this project." The last part of Nancy's comment about Bobby's perspective of the larger context not being necessary is an indicator of her need for someone to complete a specific task typically suited to one accustomed to a concentration cycle environment, which conflicted with Bobby's broader creation-cycle role.

Nancy's narrative describes Bobby's reaction to and dismissal of her request when she says, "He was like, 'Well, very obviously, this is coming from your system, so I'm not adding this text in the way you are asking.'" Bobby's response makes sense from a design perspective and from one focused on creating new things that improve iteratively over time as an ongoing effort. Nancy's response was exasperation and a desire to say, "You just need to add gray text here. If you will just give me the damn sketch file, I'll do it, slap your name on it, and say that you did it. We just need to get it done." Nancy's reaction makes sense given that she is asking for a routine task that can be delivered within a brief amount of time and that is in service of a very measurable and known deadline, which is contrary to Bobby's creation cycle perspective. This conflict continues and escalates through the narrative until a new character, the project manager, is brought in to serve as a mediator and voice of authority. This conversation is what broke the impasse. The narrative describes listening to and acknowledging both the creative design perspective and the cultivation-centered need to meet the project deadline by completing a task typically performed by one in a concentration cycle. A perspective of a reasoned and inclusive view of both was offered. Also, an unwavering voice of authority from the business was displayed to underscore the need for cooperation in this instance.

To her credit, in a moment of reflection near the end of the narrative, Nancy frames the conflict regarding these different perspectives. She says, "To be fair…we were check-boxing his role in the project…Perhaps that might be a flaw in the process…We felt like we had to engage someone from the design team, but we were specific about what we wanted," Nancy goes on to acknowledge that the design team should have been involved in the project from the beginning,

which can be taken as a recognition of a function that more closely aligns to that of a creation cycle.

Bobby demonstrates confidence and assurance of his position from the perspective of his role, which can be framed through the creation activity cycle. This is a contrast to the consistent pattern seen in the concentration cycle narratives where those characters feel constrained by the limitations of their role and are pushing into areas best defined by other quadrants. Bobby asserts the creation cycle perspective, being more comfortable with an open-ended timeline and open-ended discussion of what is the best user experience. He is less concerned with meeting a specific project deadline. This is seen when Nancy explains that, from her perspective, "He kept dawdling…and weeks were going by. I kept trying to get this thing done, and he just wouldn't do it." While Nancy was coming from a more structured cultivation perspective in which a series of concentration cycle tasks needed to be completed in a time and sequence to serve the project goal, Bobby's was one where ambiguity about, and flexibility with, timelines and the path forward was acceptable and preferred.

Lucy's Narrative

Lucy is a project manager, and the project Lucy decided to focus on in the post-mortem conversation presented a couple of interesting challenges. The first was that she was temporarily assigned from her permanent team to a different team to help them with a project load that was larger than their staff could manage. Lucy explained, "I was pulled in to help because of my project management experience in my regular position, and this skill set was something the other team really needed." The second challenge was that the project Lucy was pulled in to help

deliver was already underway. The goal was to transfer user feedback from the beta version of one tool into an internal wiki page that could be accessed by all of the teams who needed to review and act on that feedback. A beta version of a tool is only used by a small group of users who are tasked with providing feedback and identifying issues to be fixed before the tool is released to the much larger global group of users.

"I approached this project," Lucy explained, "in the same way that I approach projects in my normal role." Lucy's first step is to organize information sessions with a cross-section of people in different roles who had a stake in the project. "I went out and asked questions like, 'Where are we? What are the challenges? What is the process like today?'" Lucy reflected that this part of the project was straightforward and fun. "I enjoyed going out and talking to people, asking them what they know," she explained.

"But, from there, it got complicated," she portended. "I set out to figure out who the project stakeholders were and who the people on my project support team needed to be." Lucy identified her lists of people and filtered them through her interim manager and more senior members of her new team. As a part of her exploration, Lucy met and learned about Cal, who was running another project. "I think he and I each thought that our projects were complimentary, but separate, initiatives," Lucy explained. The more that Lucy's project moved forward, however, the more she realized that was not the case. Lucy laughed as she said, "Oh no, these were not separate at all." Lucy found that the things that were necessary for her project were also necessary for Cal's project. "His project just takes what I was working on further," Lucy explained. Where Lucy was focused on getting user feedback from one specific beta tool into an internal wiki-style site, Cal's focus was to get all feedback from all of the tools their

organization supports into that same site and out of the older tool that was being decommissioned. “He was coming at it from more of an engineering perspective,” Lucy explained, “where I was more focused on providing a better user experience.” As they each started to move forward with their projects, it became more and more apparent that they had overlapping agendas.

“It didn’t feel good to me at first,” Lucy reflected. “I like to feel in control, organized, and to know what is expected of me. I’m not great with ambiguity.” Lucy confided that she sees this as one of her bigger flaws and something that she challenges herself to do better with. “So, this was like a big ol’ HERE (capitalization added for emphasis),” she said as she pounded her fist on the table for emphasis, “let’s deal with some ambiguity.” Realizing that there was another independent project with overlapping goals running simultaneously definitely made Lucy uncomfortable.

“I felt like I wasn’t doing enough. It felt like Cal was shouldering a lot of the load that maybe I should be stepping into,” Lucy explained, “but, I also didn’t want to step on his toes.” Lucy clearly wanted to be respectful of the work Cal was doing. “On the flip side, however, I didn’t want him to feel like I was trying to push everything on to his shoulders.” Cal was new and had only been in his position for a couple of months, and Lucy wonders if this contributed to the two of them realizing sooner the degree to which their projects overlapped.

“The first big indicator that this could be a problem was that, in addition to this project, I still had to travel extensively to visit a number of sites around the country as a part of my other role,” Lucy explained. Lucy had committed to plans to visit these sites before taking on this role to help out another team, and she felt that she had to honor these travel commitments. She was

ready to leave for her next trip, “And then,” she explains, “I get this invite from Cal to attend what he’s calling a workshopping day. And it’s a full day where a lot of my core team members and stakeholders, along with his contacts, were going to meet in a room and talk things through and plan the future." Despite the importance of this meeting, Lucy felt that she couldn't change her travel plans. "I had already organized everything with the site manager and they were expecting me. It was too last-minute to be able to backtrack and stay in town. So, I had to attend remotely," Lucy explained. Lucy felt that she had a lot of key information in her head that Cal did not have and that he was trying to plan the bigger picture with only some of the information. "So, I attend this workshop from Florida, or North Carolina, or wherever the hell I was," Lucy said, explaining that she was in the middle of so much travel that she could not clearly remember where she was that day. "There were a lot of people in the room," Lucy recalled, "but there were 5 of us dialed in. It was impossible to hear. I kept chatting Cal asking if there any way he could move the speaker phone closer to the people speaking?" Lucy emphasized her point by shaking her head and saying, "It was the worst. It was horrible." Lucy also noted that, in a way, she was glad that she got that perspective because she will be more mindful when she is hosting future meetings to push for everyone to be close to the microphone when speaking, and will pay closer attention to the needs of attendees who are dialed in.

Lucy explained that before this workshop, "Cal had taken a stab at writing technical requirements for his project and Lucy had the opportunity to help him, but she was caught up in trying to complete her deliverables from previous site visits and was ramping up her own project. "So, Cal tackled it whole-heartedly," Lucy said, "and I was basically just the ‘Hey, check this for me' person, which was fine, and honestly, I thought he did a good job." Lucy went on to reflect

that, "On the one hand it was great, but I also had the sense that I was asked to lead my project because my interim manager felt that the previous person running this project wasn't taking it seriously or doing a very good or organized job." Lucy felt that she was now in a similar situation as her predecessor and that it was, in part, because she had not fully negotiated the realities of the project and her responsibilities ahead of time. After the workshop, Lucy's feelings about the project reached a nadir which was about the project requirements document that Cal had written. Cal had broken his project down into sections and was using the meeting to talk through each of those sections and to make business decisions about the future of the project. "Having to take that meeting from a small room at a site with bad internet where I was barely able to hear anything was a low," Lucy reflected.

Shortly after she returned from her trip, Judy, one of the engineers for the wiki-site, approached Lucy asking for details that would help Judy estimated what the cost would be to deliver her portion of the work being asked for in Lucy's project. Judy repeatedly asked whether Lucy's requirements were the same as the requirements in Cal's project and whether these were part of the same project. "It became really frustrating at that point," Lucy reflected. "Work on the project felt very muddled. I felt like I wasn't on top of things the way I wanted to be," she said.

Judy and others on her team were chatting Lucy daily asking questions that pertained to Cal's requirements document because his project was so similar in topic to the project that they knew Lucy was working on. Lucy kept referring people over to Cal. "Cal had written it and done more of the work on it, so he was way more familiar with it," Lucy explained. Even so, they would keep asking me questions and, at the same time, they were asking Cal detailed questions about my project. This regular stream of questions confused their projects and contributed to

Lucy's feelings of befuddlement and insecurity about her piece of the work. "It felt a lot like heartburn," Lucy said laughing, "I would be like, ‘Aaaaaaahhh!! What am I doing?'" Lucy explained that she wondered if her project and function were needed at all? She wondered if Cal could run this whole thing and, if so, would that help clear up the muddy waters? Was she trying to force herself into a role?

Happily, the period of confusion and frustration passed and Lucy found the clarity she was seeking. "Something just shifted," Lucy explained, "and I think it was after I was done traveling for the year. I was suddenly able to shift my focus on to the project. I was able to fully dive in and review Cal's requirements. I could go through the steps of giving Cal structured feedback on things he had written up, and it felt much more interactive between us." That's when Lucy had and proposed a new idea: she offered to change the name of her project. Lucy had code-named her project after a favorite dessert, but Cal had given his project a very different name. It occurred to Lucy that a change in the project name could clear up much of the confusion and indicate how the two were related. Cal's project was code-named Metamorphosis, so Lucy offered to change her project name to Metamorphosis: Phase 1. Next, Lucy and Cal started sharing her timeline as a lead up to his timeline. "It made things a lot easier, and I feel like we got to a better place," Lucy explained. She felt that treating their projects as phases made sense. "Cal had so much more to consider, and I only had to focus on the beta users. It helped Cal to have support for the beta phase because I'm far more familiar with that process and that's the reason that I was initially brought on board," Lucy explained. "It made sense again for me to be there," she reflected, "and I'm just really thankful that Cal became my partner and it absolutely did turn into a partnership. It just took time to figure out that it needed to be a partnership." Lucy

and Cal grew to a point where they worked together smoothly, making sure they each knew what was going on with each other. Together they treated the two projects as one and figured out how to support each other.

Considering Lucy's story and the 2x2 matrix, this researcher went back and forth in determining whether Lucy identified more as being in the creation cycle (i.e., extended time window and high task variability) or the cultivation cycle (i.e., extended time window and lower task variability). This researcher considered the known aspects of both quadrants and then realized that Lucy transitioned from a blend of the creation and cultivation activity cycle to a role that was more solidly defined by the cultivation cycle over the course of the project. When Lucy first transitioned into the project, she began ramping up her learning curve and planning her path while also carrying out a variety of responsibilities and commitments from her earlier position. This is particularly clear in Lucy’s story when she describes her struggle with providing Cal the level of detailed attention and analysis he needed while also traveling to multiple sites. Lucy explained that her site visits included facilitating meetings, conducting focus groups, participating in long-term planning meetings, providing consultative services, and documenting the results of these efforts.

Together, these varied activities fed into longer-term planning efforts designed to help sites set and work toward measurable business goals. Lucy experienced a moment of peak frustration while sitting in a phone room and dialed into a meeting that she could not hear. For Lucy, this symbolized the challenges she had, which are in part, the challenges of operating in a creation cycle while also trying to fill the role of a project manager that required her to have the narrower focus of someone who was in the cultivation cycle. Lucy also initially had challenges

aligning with Cal. Part of this was simply because she was spread too thin, but a part of her challenge was also that she was dividing her attention across multiple activities and varied extended time frames. Much of the feedback she gave was a higher-level review and less on more detailed feedback. As Lucy completed her earlier obligations and was able to transition those responsibilities to others on her home team, Lucy was able to zero in and focus on a narrower range of tasks. Lucy could then provide Cal more detailed feedback. Her story also talks about how she and Cal came into a tighter alignment and became close partners who worked well together. Lucy stressed that both projects began to run more smoothly and their work became integrated within the same time frame that Lucy and Cal became aligned in the cultivation cycle.

Lucy: Discussion and Analysis

Lucy's story is a transitional one in that she had been operating in a role that she describes, with some merit, as being in a creation cycle. She was asked to step out of her regular role to help get a new initiative up and running. The role Lucy stepped into was more aligned with a cultivation activity cycle. There is a stretch of time when Lucy is balancing work that she is still doing in service to her creation cycle role while she takes on new duties as well. Lucy has a difficult time balancing the combination of duties and, from the narrative, it sounds like the experience was daunting and dismaying at times. It is challenging to parse how much of her difficulty comes from simply being spread too thin and having too much on her plate versus struggling to shift between two roles that are rooted in different perspectives. There are hints of both in her narrative, so perhaps both aspects are prominent factors.

Lucy's previous role included some different tasks that were centered on supporting ongoing processes that were focused on long-term improvement efforts, rather than on a final set of success criteria where the work is driving to a discrete moment of completion. Lucy worked with multiple sites around the country helping them to achieve, maintain, and if possible exceed multiple sets of performance standards. Lucy's tasks included making site visits around the country where she was, "facilitating meetings, conducting focus groups, participating in long-term planning meetings, providing consultative services, and documenting the results of these efforts." She conducted these site visits regularly and on an ongoing basis so that her work was more iterative than linear. All of these duties are embedded in Lucy's point when she says, "in addition to this [new] project, I still had to travel extensively to visit a number of sites around the country as a part of my other role." This is indicative of Lucy maintaining a set of duties that required a creation cycle perspective.

Lucy’s new role began with a series of linear steps as she oriented herself to the new project. Lucy’s first step, according to her story, was to, “organize information sessions with a cross section of people in different roles who had a stake in the project. This early phase of the work seems less ambiguous and complex than her other role. She reflects that, “this part of the project was straight-forward and fun,” and that she, “enjoyed going out and talking to people.” Lucy’s difficulties came into focus as the new project ramped up and she had to balance both sets of duties.

The tension of meeting the obligations of her new role while balancing the old is symbolized by the key meeting she could not attend in person and had to dial in remotely. This was a meeting where the linear strategy and work plans were being developed. Another area of

complexity Lucy faced was ramping up her project in coordination with Cal's project. The two started as separate projects but became intertwined. Sorting out the relationship between the two projects, and that the solution was to align them sequentially, took time. Lucy contends that this took longer than it otherwise would have because of her extended responsibilities. This is called out when Lucy had the opportunity to provide feedback on Cal's project. The narrative states, "Cal had taken a stab at writing technical requirements for his project and Lucy had the opportunity to help him, but she was caught up in trying to complete her deliverables from previous site visits and was ramping up her own project." Lucy felt the most frustrated and dejected when she was dialed into the meeting remotely and could not hear, understand, or participate in the conversation and the decisions that were being made.

Lucy noted that things improved dramatically after she was done traveling and was able to shift her focus fully on to the new project. Certainly, she was spread less thin. She also describes that moment saying, "Something just shifted." Her description carries connotations of being able to focus on the aspects of the work that aligns with a cultivation cycle perspective when she says, "I was able to fully dive in and review Cal's requirements. I could go through the steps of giving Cal structured feedback on things he had written up, and it felt much more interactive between us." She also notes that "she and Cal came into a tighter alignment and became close partners who worked well together." It was after this point when Lucy and Cal came together and started treating, "the two projects as one and figured out how to support each other." As Lucy was able to close out her duties on the creation cycle work and shift her focus from a more iterative and ongoing perspective to one that was more linear and task focus, things came into alignment for both Lucy and the new project. Other narratives in this collection feature

stories of people juggling multiple projects simultaneously, but all from within a common activity cycle and without it being the source of frustration and dilemma in the ways that Lucy describes in her story. A notable difference is her difference in activity cycle perspectives between her two projects. While far from conclusive, the comparison raises a point for consideration.

The other narratives in this chapter call out the comfort with ambiguity that is associated with people who primarily operate in the creation activity cycle. That makes it worth noting the irony of Lucy being explicitly clear that she is not comfortable with ambiguity. She also notes that comfort with ambiguity is a feature that one should have and is something that she sees as an area of needed self-improvement. The way Lucy expresses this is a bit delightful when she says, "I like to feel in control, organized, and to know what is expected of me. I'm not great with ambiguity…so, this was like a big ol' HERE (capitalization added for emphasis)…let's deal with some ambiguity." In her own way, Lucy calls out a connection between being aware that she has needed to increase her level of comfort with ambiguity, and the opportunity to reflect on this was provided when she was split between two notably different sets of work.

Penny's Narrative

Penny shared her story during a post-mortem project debrief in California. Penny works and had flown in from Europe. Both she and the facilitator, who hails from Texas, were in the same town for a work summit, so they made plans to knock out the post-mortem while they were both in town and at the same hotel. Penny selected the project that she wanted to discuss and began describing a project she had worked on in a previous role. She had been a part of an effort

where the company was experimenting with a form of VIP customer support. They divided a group of employees who were taking customer calls into three groups. The first group would provide VIP support if the customer was eligible to receive it as determined by standard procedure. The second group provided VIP support if certain other criteria were met; these criteria were more generous than the standard procedures being followed by the first group. The third group provided unconditional VIP support for all customers who called in. One of the business goals was to discern the differences between the experiences across the three groups including differences in cost to the company, employee efficiency, and customer satisfaction. The intention was for this information to help inform broader decisions about perhaps redefining the current VIP service as the new standard for all customers unconditionally, and it was recognized that each group's adherence to their specific procedures would be critical to ensuring validity of the findings.

Penny was responsible for managing a team of auditors from a third-party vendor who were engaged to listen to calls between customers and employees from all three groups. The auditors collected data from the calls and provided analysis to help inform later decisions. Determining whether and to what degree the employees followed standard procedures was one of the primary functions that the auditors performed. The plan was for the managers to use the additional data and feedback provided by the auditors to help ensure that the employees were following the changes to the standard procedures that were being asked of the different pilot groups.

Penny took over this project from a team member who left. "I had been told when I came in that it hadn't been going well," Penny reflected. "I joined my first meeting and quickly learned

why," she said with a hint at the direction the story would take. Penny explained that this was also the first time her company had solicited a third party to listen to their calls with customers to report on how employees were performing as measured against explicit standards. Penny explained that the managers of, and the employees in, the three groups knew about the auditors and the service they were providing. She noted that there was a period of adjustment as the managers and employees got used to the idea.

The feedback that the auditors were providing from their call listening was that the three pilot groups were not adhering to their procedures very accurately. “This called all of the data into question,” Penny explained. To complicate the situation further, the managers of the employee teams disputed the feedback and questioned whether the feedback and findings from the auditors about their performance was accurate.

"This is where I entered the project," Penny said with a wry smile. "The auditors were still engaged in listening to the calls and sending their feedback, but now the senior managers had started having junior managers listen to the same calls. They would evaluate the calls themselves and send their results back to us, telling us that the auditors had gotten it wrong," Penny explained, "and the project had completely lost its focus." It had become a debate about who was right, as opposed to ensuring adherence to procedures to understand what happens when you offer variances in the VIP support model, to see what the impact is on customers and the business. Penny reflected, "I thought (this debate) was gonna be a pretty straightforward fix and that what we expect from employees on the phone is pretty clear in the procedures and we just needed to calibrate the team managers." Penny explained that this did not turn out to be the case. She learned over the course of the project that the senior managers had no appetite to have

their junior managers enforce the changes that were being asked for in the feedback. "Our weekly calls became a repeating argument and that escalated into a debate about whether their teams should even continue to participate in the project if we couldn't settle on whether or not the employees were following the procedures, and the line in the sand had been drawn," Penny said with a tone of growing frustration as the memories of these events came back to her.

She explained that the most senior manager took a firm position that her managers' interpretation of how the employees should offer support was correct, regardless of what the auditors or Penny saw as they compared the employees' behaviors to those required by the procedures. "That totally took the breath out of me," Penny said, "and it took the wind out of my sails, because, now we are arguing over a concept of what I think customer support should look like at this company as compared to what this other woman thought it should look like." Penny reasoned that, on the one hand, the senior manager was right, good customer support should be about helping people. She also reasoned that, on the other hand, the job should also be to follow the direction of leadership, which was to help move the project forward. "For me," Penny explained, "the biggest fracture that we had was when I realized that we were nowhere close to being on the same page."

Penny continued her train of thought and reflected on why they were stuck in this situation. “So, you’ve got all of these people involved who each have their own very strong beliefs and, really, I think the problem with the project was that we didn’t have a referee. We didn’t have someone senior enough and courageous enough to say, ‘This is what we’re doing.’ So, instead, every week, it was the same arguments over and over again,” Penny clarified. The central debate was about whether or not the employees were proving customer support as defined

and understood by the business. “And it just went on, and on, and on,” Penny added. The situation reached a point where the auditors were listening to calls, managers were listening to calls, and Penny started listening to calls. “I had created a table and I would fill it out while I listened to the call, Penny explained. Penny recorded and color-coded the details of the call in the table based on whether she perceived something as a violation of procedure. Penny then sent her tables to the procedures team. “They would read my files and they would provide a verdict, so to speak, of whether they had provided support or not provided support,” Penny explained. Penny was trying to build a business case for whether teams were following procedure and to what degree because she felt that everything being discussed was highly anecdotal.

Penny paused at this point. She took a moment to reflect on when things took a turn for the better in the project. "I have to say my relationship with the senior managers improved drastically when I changed my terminologies," Penny reflected. She came to understand that the managers felt like their employees were under attack by outsiders, and they were defending their territory. "I stopped saying that the employees were doing something wrong and I started saying things like, ‘You know, these employees are trying to do the right thing. They're not bad employees, I think we just need to remind them of the parameters of the pilot,' and similar positive things like that," she recounted. Penny found that the tone of her interactions with managers changed dramatically and became much friendlier once she started complimenting the employees and shifting the focus of her communication from their performance to the goals of the project.

In the end, however, the project was ultimately unsuccessful. "We weren't able to gain agreement on what constituted following the procedures and what did not, so we weren't able to

get data that we could rely on," she explained. The different groups involved never did manage to reach a point where they shared the same understanding of the guidelines of the pilot. Penny explained that, towards the end, her manger and the executive-level manager representing the other senior managers no longer had the appetite to engage with each other on this topic. “We were kinda just being nice to each other at the end and not really getting a lot done,” Penny concluded.

Looking back, Penny feels that she learned a lot from the experience. "I learned about working with people who I'd never met and I had no reputation with, so they saw me as just someone coming in telling them how to do their jobs," Penny explained noting that the experience was difficult and disappointing, in some ways, because this was part of a long-term project and set the whole effort back months or more. "I got a thank you card from my senior manager thanking me for everything and complimenting how I had handled myself during the project, but I still look back at it and I just laugh at what an absolute disaster it was," Penny said.

As Penny's story concluded, this researcher began reflecting on which activity cycle best reflected her work in the context of her story and the project that she described. From her description, Penny's time window was extended. She was consistently focused on the duration of the project, which ran for about four months. Penny pointed out in her discussion that the goal of this project was to contribute information that helped with business recommendations and policy changes. Penny explained that the VIP support model that she was looking at was part of a much broader look at different levels of customer support that were being provided. She explained that this larger effort was a multi-year project and that she was involved in the efforts on the larger scale as well. Penny noted that the larger effort is something that is still ongoing today. Penny

was asked to describe the tasks that she was undertaking as a part of this larger role. She ticked off her answers as she considered the question and replied. "I was joining the meetings, leading the meetings, creating slide deck presentations, reviewing the excel file and creating pivot tables that would roll up into business reporting. I was listening to calls, providing feedback to different teams, which meant a lot of e-mail, chat, and phone calls. There was a lot of reading the procedures. I definitely had to scrub up on my own knowledge and expertise. I would say a lot of it was documentation and phone calls where I was working with the auditors to help them calibrate and I was doing the same thing with the managers," she recounted. Given her time frame and task variability, that the creation cycle best describes her role at the time.

Penny's primary interactions in her story included the senior managers with whom she was meeting and trying to resolve questions about whether the employees were delivering customer support that conformed to procedures. Penny and the facilitator discussed where they most likely fell in the activity cycles. Penny describes the senior managers in a manner that suggests that they had a high variability of tasks in their role. "They have so many things that they need to do in terms of all of their deliverables, and this project was on top of everything else that they had to do," Penny said. "As part of the pilot," she continued, "they didn't really have a lot to do. In my opinion, they should have been consuming the information that I was providing and then joining the meetings and giving their feedback." Penny explained that the tasks of attending the meeting, reacting, and providing feedback were a cycle that repeated every week. "The project was long term, but I feel like their engagement was brief because they didn't really have a long-term role," she explained. Penny added that the senior managers would completely disengage from the project in-between meetings.

Based on the high task variability and brief time window, this researcher reasoned that the senior managers with whom she interacted were in the commotion cycle. There is an argument to be made that the examples of high variability that Penny provides exist outside of the context of the project and that, within this context, their role is routinized and straightforward. That is, come to the meeting, consistently react in the same way, provide the same feedback. If this argument was accepted, the senior managers would better fit the description of the concentration cycle. Giving rote feedback was not the expectation or the responsibility they were given. In the commotion cycle, groups temporarily form long enough to discuss and decide on courses of action as different challenges and questions surface. Commotion cycles are also characterized by moment-to-moment, rapidly unfolding, and changing events that must be managed quickly. Even though consensus and a path forward were never found, this does seem to describe the situation that led to the creation of a standing meeting. To this end, this researcher is inclined to identify the senior managers in being in a commotion cycle but can see the argument that can be made for the concentration cycle.

Penny reached a point in the project where her professional disagreements and differing points of view prevented the project from moving forward, and it was ultimately unsuccessful. Penny was operating from a creation cycle where she was focused on her current multi-month project and the larger suite of projects that formed a multi-year initiative that is still ongoing today, which is about two years after the events of her story. Penny's tense exchange with the senior manager was one of the moments in Penny's story that capture the core differences between their points of view. Part of the argument was rooted in a debate about the philosophy of providing quality service on any given support call versus meeting the larger objectives of the

project and initiative. There was also an unresolved disagreement about whether this support was being delivered while complying with business procedures or not. It is possible that an unstated part of the debate may have been over the value of providing quality support as seen by the employees and managers as opposed to how it is defined in procedures.

When the arguments and tension are framed in these ways, a difference in perception emerges. That is, from a creation cycle perspective, the focus is on the larger and more-long term objectives of the project. Penny and the leadership she represented are portrayed as thinking on a much broader scale and as working to achieve broader goals by creatively adjusting existing processes and workflows. The senior managers who were operating in a commotion cycle were viewing individual work units that operated within a much smaller time cycle. That is, the duration of a single support call. The difference in perspective of time frame seems to be part of the core framing of each argument and may serve, in part, to explain why neither were able to move beyond their impasse. On a closing side note, these observations still hold if the senior managers are operating out of the concentration cycle in the context of this project as discussed above.

Penny: Discussion and Analysis

Penny tells the story of being involved in an ongoing quality improvement effort and her engagement to help drive a project that was one facet of that effort. This was a situation where the project, while large for those who were heavily involved, was, in fact, one small piece of a larger ongoing effort. This is called out in the narrative when it is noted that Penny was focused on this project as well as a larger suite of projects, "that formed a multi-year initiative that is still

ongoing today, which is about two years after the events of her story." Penny calls out a wide range of tasks that she was responsible for in her narrative. The tasks included managing the work of a team of auditors, joining and leading meetings, creating and delivering presentations, reviewing detailed information that connected to business reporting, listening to calls, providing feedback to different teams, absorbing and understanding business procedures, helping calibrate the work of auditors, and summarizing updates and details for management. Penny's time window was also extended and consistently focused on both the duration of the specific project as well as the larger time scale of the ongoing effort.

The senior managers and the internal managers, who are each part of the featured interactions in Penny's story, are both identified as being in the commotion cycle. Penny explains towards the end of the narrative that she felt that while the senior and internal managers had a high variability of tasks in their overall role, "as part of the pilot…they didn't really have a lot to do." She describes their tasks as consuming and providing feedback about information that was provided as part of a weekly meeting. Penny summarizes their role as attend the meeting, react, and provide feedback. Penny reflects that, in the context of the project, they did not have a long-term role. She also explains that the senior managers would completely disengage from the project in between meetings. One interpretation could be that this portrays the senior managers as having a narrow time window and low task variability and, thus, having roles in the concentration cycle. The managers are reacting in response to different challenges and questions as they surface. They are a part of an ad hoc group that has temporarily formed long enough to discuss and decide on courses of action during this four-month project. The nature of the issues and sources of the conflict that are featured throughout Penny's story could be described as

circumstances that unfold and evolve week-by-week. These are all characteristics that contribute to the consideration that the senior managers are more closely aligned with a commotion activity cycle.

Penny's ongoing disagreement with the senior managers revolved around a debate about, "providing quality service on any given support call versus meeting the larger objectives of the project and initiative. There was also an unresolved disagreement about whether this support was being delivered while complying with business procedures or not." This disagreement can be viewed from the perspective of different activity cycles. Penny is trying to serve larger and broader needs over an extended timeframe, while the managers prioritized process and protocol as they are accustomed to more discrete and specific standards as the measure for determining success and knowing how to implement their work. Penny's perspective supports the idea of pursuing a more iterative improvement process, while the managers are more focused on resolving what they see as the emerging issue of doing the work differently in a way that does not conform to established protocols. A differing level of acceptance of ambiguity can also be seen in these two perspectives.

This disagreement has aspects that may be characterized as being about ambiguity versus structure. The narrative notes, "it had become a debate about who was right, as opposed to ensuring adherence to procedures." Penny goes on to acknowledge that, "on the one hand, the senior manager was right, good customer support should be about helping people. She also reasoned that, on the other hand, the job should also be to follow the direction of leadership, which was to help move the project forward." Without a referee, the project stalled and was, ultimately, unsuccessful. There are many different aspects and features of the conflicts in this

narrative and considering them through the lens of activity cycles may shed some insights, but also sets other considerations aside. There are facets of the conflict that can be analyzed from this perspective. Penny is viewing the work along with a broader and more open-ended timeline with an exploratory purpose. Ambiguity and trial-and-error are fine in this context. The managers, on the other hand, have clear and measurable goals for each call and procedures in place that must be followed, and therefore had concerns about calls not conforming to those procedures. Those concerns were heightened when there wasn't a common agreement about what those procedures were. The managers argued from this perspective and pointed to the more detail-oriented argument that was based on procedures. Penny countered that a larger effort was being served, but also got mired in a debate about defining procedures. One might wonder where an authoritative voice of management was that could recognize the two different cycle perspectives in conflict, break the deadlock, and move things forward. This did not happen as Penny's comment about a lack of a referee underscores.

Quentin's Narrative

As Quentin was asked to consider a past project that he had worked on for his post-mortem reflection, he began to reminisce about his involvement in what was at the time a super-secret project for his company. These kinds of projects are referred to collectively as purple projects.

Quentin worked exclusively as a project manager who was assigned to oversee large multi-faceted efforts. Quentin and the facilitator referred to him as a "gun for hire" multiple times throughout the conversation, which was a reference to his role of coming onto a special

project, seeing it through to completion and then moving on to the next one. Quentin kicked off the conversation saying, “I think you’ll like hearing about one of the large purple projects that I ran. It was around a new software launch. We were developing a new piece of software and we were developing it in partnership with another company. This was a purple project. It needed to be kept very secret and it was a pretty big deal.” In setting the stage for the story to come, Quentin explained that, at the beginning of the project, there only were about fifteen people in his company who knew about this partnership with the other company. “I was the project manager, and as the project manager, I was responsible for all of the tracks within the project. It was a large and significant project that touched almost every organization within my company.” Quentin listed some of the business groups he had to coordinate with, which included multiple production and development teams, legal, logistics, shipping, and more. “It was a heady thing to be a part of this purple project that was being released globally,” he reflected with enthusiasm.

“Since we were working in partnership with this other company,” Quentin continued, “we needed their regional managers to be engaged in the initial planning and in the ongoing work of creating this software.” An agreement was made that the teams from both companies would work together in a single location for the duration of the project. The senior leaders of the other company mysteriously contacted a number of their regional managers from multiple sites in Europe, Asia, and North America. These managers were told that they would need to travel, but they would not be told why. The only information they were given was when they needed to clear their schedules, the city where they needed to travel, and the extended duration of the trip. Quentin described his experience meeting them, saying, "This group of regional managers arrived on schedule and a small group of us met them at their hotel. They had no idea why they

were there. They had guesses about what company we were going to be from, but they really had no details." This was quite a different approach from that of Quentin's company, and other differences became quickly apparent as well.

From outside appearances, the culture of Quentin's company is informal and casual. This is reflected in the dress and style of the employees. By contrast, people at the partner company are traditionally business-formal and immaculate in appearance. Suits, ties, and high-end business attire is the norm. Quentin and his group took one look at the regional managers and realized a trip to the mall was the first order of business. "Each of their managers was wearing a black suit, button up white shirt, and were all dressed to a 't,'" Quentin said smiling. He explained that "One of the instructions they had been given was that they cannot be walking around our offices dressed up in suit and tie. This was a purple project. Our partnership on this effort could not be disclosed, and everyone needed to blend in." Quentin recalled that one of the senior managers in his group had to explain that it was not going to work to have this group on parade. "None of them had anything really appropriate to wear," Quentin reflected, "and so we waited while they went out as a group to a nearby Tommy Bahama. They all came back in similar Tommy Bahama outfits. Once they returned, we went to the secure conference room we had reserved, and there we were in our first formal meeting with this group. Our people was sitting on one side of the table and the regional managers were sitting across from us in a line and all dressed in their Tommy Bahama outfits. It was actually a fantastic icebreaker and, through the entire project, we joked about it and it became this funny thing where everybody felt connected."

In addition to the partner company's mysterious recruitment of their managers, Quentin was involved in similar recruitment internally as well. He explained that one of the quirky things

about recruiting team members to work on purple projects is that the project manager needs to tell senior managers that their team members are being moved to a project that they cannot tell them anything about. "I would set up a meeting and go in saying, ‘I need your people, but I can't tell you why'" Quentin explained. He clarified that the managers he met with were mostly generous, but that it can be difficult for them when a project manager is asking for 100% of someone's time for an extended period. In these situations, Quentin relies on his relationships and networks to help the request go smoothly, but often there are still obstacles. For this particular project, Quentin needed an extended amount of time from several people who work on a small team. Quentin describes this group as, "basically running things with duct tape and baling wire on a shoestring budget." Given the existing constraints for this team, it was unsurprising that Quentin's message was met with some tension. "I met with two managers in that area," Quentin remembered, "about needing the dedicated time of staff members from the group and not being able to say why or for how long."

Quentin added to this request with more details like letting them know that their team members were going to be working very hard, that they would have no time to help their home team, and—since they were hourly employees—that they would all be submitting large overtime balances that the managers would need to approve carte blanche. “We kept adding details like this and, at a certain point, their patience wore thin,” Quentin commented. The managers expressed their concerns by scheduling regular meetings with Quentin and asking for status updates about how their staff members were doing. “It felt like the goal was to create a little bit of busy work, keep me in check, and to let me know that they were watching.” Quentin understood their need to make sure that he knew that they still had some authority, were still in

charge of their people, and that these individuals were still members of their team. Quentin was relatively happy to attend these meetings and provide what information he could. He empathized with the position in which the managers found themselves.

While the establishment of purple project participants went as smoothly as could be expected, in this case, Quentin shared the mantle of project leadership and it was not a smooth experience for him. "There was a lot of responsibility and with that came a lot of pressure. I think [the pressure] got to me a little bit in the way that I dealt with people," he reflected. "It caused a couple of relationships that I had with other people on the project to be strained." One of the relationships Quentin is referencing was with a senior manager, Kevin, who was assigned to partner with Quentin as co-leader. "The differences between our roles and responsibilities were never clearly defined, no specifying of who was doing what. I felt that a lot of times I was doing work which was being claimed by his organization. I would prepare the meetings, type up meeting notes, set direction, create roadmaps, and then that would get co-opted by Kevin's organization," Quentin complained. He wryly added, "So, that was an interesting dynamic." Quentin explained that this issue came to a head a couple of times and required intervention from both of their managers so that they could agree on how they were going to work together and to define the parameters of their working relationship.

Another pressure point for Quentin was the tight timeline by which the project and the new software needed to be complete. Quentin was driving a complex project with multiple milestones and very challenging deadlines. A source of frustration for Quentin was around the interim deadlines being set by the senior executive who was also Kevin's manager; to his mind, these deadlines were artificial, arbitrary, and tighter than Quentin would have set. He also felt

that he did not have the clout to push back against or change these deadlines and that it was out of his control. "So here we had this massive project that had all of these different threads and organizations," Quentin added, "and all of [the teams] were marching to this aggressive timeline that was artificial. There was really nothing driving why these deadlines were necessary other than this one senior executive saying, ‘We will launch on this date!'"

These aggressive timelines put Quentin in a difficult position with the others who were working on different aspects of the project. “One of the challenging positions I found myself in,” he said, “was I was taking a lot of heat from the other groups who were feeling the pressure to test the product, launch the product, create the legalese for the product, I mean you name it." Quentin felt that he became the person who was taking the slings and arrows for the decisions about the project deadlines even though he was not the person who was making those decisions and was only the messenger. From Quentin's perspective, the aggressive timelines were unnecessarily ramping up tensions and threatening the quality of the work. Quentin emphasized this point saying, "I was aware that the quality wasn't super high because of the rush that we were in to get it out the door, which added to my stress because I knew that there were gaps in what we were delivering and I knew that it could all backfire." The facilitator asked Quentin if the senior executive was unrelenting in his insistence that this deadline be met, or if he was open to the possibility of moving the date as more information about the status of the project became clear. He replied, "No, there was none of that. It was ‘this is the date!'"

Quentin recalled another experience with Kevin's senior executive in a pivotal meeting. "I remember a point where things came to a head, Kevin and I met to discuss our roles and responsibilities and accepted that things were moving too quickly for us to be able to afford

missing a beat," Quentin remembers that they were both mature in their interactions about the confusion and that they amicably agreed to ask their respective managers to join them for a meeting to help them get clarity and come to an agreement on who was responsible for doing what. Quentin's manager came to the meeting with a desire to see things work out for the best. Kevin's manager, however, set a different tone. "He came into the meeting and basically told us that he was in charge, the decisions were his to make, his person was carrying out his directions, and that my manager and I needed to back off," Quentin recalled. He continued, saying, "It was a pretty heated discussion and I remember my manager came away saying, ‘I don't feel like I particularly want to help this guy.' We didn't think anything had gotten resolved and more like we had gotten smacked down," Quentin explained.

This was a meeting that he still recalls quite vividly, as it was a significant turning point. After that meeting, Quentin and Kevin became more separated and less communicative. They let the decisions of who was responsible for doing what happen organically rather than having a structured plan. "After that," Quentin said, referring to the meeting, "things on the surface got better, but underneath, the churn just got more and more volatile. We partitioned more and more of the work into my pieces and his pieces." Quentin sensed the working relationship between them deteriorating as they communicated less, became more isolated from each other, working separately from each other and without coordination between them. Quentin did not feel obligated to report on what he was working on to Kevin or to provide any review or perspective on his peer's pieces. "For example," says Quentin, "when people would ask about the status of the legal contract, I would say, ‘That's not my thing and not my responsibility. Ask Kevin.'" Looking back, Quentin believes that this turn of events negatively impacted the project, created

undue stress on both teams, and continues to affect their working relationship today negatively. Quentin doubts that either team would voluntarily sign up to work with the other again.

Quentin paused, shifted gears, and commented, “There were positive things that also happened in that project. I don’t want you to think that it was all bad.” Quentin emphasized the connections he formed with others he met as a result of this project. “I formed some strong relationships with people who were on the testing team and with SMEs [Subject Matter Experts]. They gained a lot of visibility through the project. They did some excellent work. Many of those people eventually left the teams that they were on for promotions and better jobs. This project was a springboard for some peoples’ careers and I was happy to have been a part of that and, maybe, I had a small piece in helping them achieve that,” he reflected.

Returning to the main story, Quentin indicated pressure was mounting for him as the project moved forward. The things that needed to be delivered were not coming in as fast as the deadline demanded and the work that was being delivered was of poorer quality than expected. The facilitator asked Quentin what happened next. He paused and answered with a conclusion. “We did it,” he replied. “We hit the date. It required a lot of twelve to sixteen hour working days and working weekends, but we launched and some really neat things happened.” The software that Quentin helped develop and launch is still in use today and is one of the core tools used in his company. Quentin feels that the successful launch of this high-profile effort despite challenging circumstances has served him well and is part of what helped him advance to the position that he now holds.

In the context of this project, Quentin best fits into the creation cycle. Quentin's time window was perpetually focused on the span of the full project. Beyond the delivery of the

software on the launch date, he was also involved in helping to plan the workflows and design the process that would become a new type of support and service that his company provided by a new line of business. He was committed to completing the project in the service of a larger initiative for which this new software was key. In a discussion of the tasks he performed, Quentin replied in a way that spoke to his task variability in the project. "God, I did a little bit of everything," he replied. "I was the PM, so I was the primary point of contact for this project and I wore many hats," he continued. Quentin listed off different roles he performed. He broke down the project management aspects of his work, which included building a work breakdown structure, lining up all the tasks that needed to be done, confirming who was doing those tasks by when and solving for situations that blocked the plan of record as they arose. Quentin also performed what he refers to as the soft aspects of project management. Quentin describes these tasks as relationship building and communicating project information with the various groups carrying out the work of the project, as well as using formal and informal networks to manage and, as necessary, reallocate project resources. Quentin also participated in longer-term planning that was necessary for the work beyond the project.

This researcher considered the quadrants in the 2x2 matrix that best represent the other key individuals and groups with whom Quentin interacted. The first group considered was the internal managers whom Quentin informed that he would be claiming the time of their staff members and then provided regular updates. In the context of the project, the internal managers best fit the cultivation cycle. That is, they had a broader time window, focusing on the duration of the multi-month project as they eagerly awaited the return of their staff members. The managers also had low task variability. Their tasks were to regularly ask if Quentin knew when

the project would end and for status reports on what Quentin could tell them. Quentin emphasized that their interactions were mostly amicable and their frustration was not directed at Quentin in a way that was unprofessional. Everyone involved had seen similar situations before and they knew what to expect. The managers were singularly focused on finding out when their staff members would return and trying to persuade Quentin to make that event happen as soon as possible. The broader perspective of the project did not influence them, nor did the new services being provided, or the longer-term gains that the company would realize. What they knew was limited, and the broader perspective that Quentin had from the creation cycles was beyond the scope or relevance of the perspective that can be associated with the cultivation cycle.

Quentin's counterpart, Kevin, aligns with the cultivation cycle as well. Quentin explained that his peer managed a small team that had a very defined scope that they were responsible for delivering the project. He explained that Kevin's goals, and the goals of his team, were long-term goals that remained their central focus even throughout the purple project, and as such his time windows were more extended. "And maybe that's where we began to butt heads," Quentin realized, "in that managing, multiple threads and ambiguity became difficult for this person. It sounds kind of shitty to say, but that feels like the thing that led to some of the problems. He was driving for structure versus recognizing the need to work with ambiguity." Quentin reflected that Kevin did not have experience managing multiple things that were changing quickly. In considering this experience through the lenses of cultivation versus creation cycles, this researcher noted that Quentin described himself and Kevin organically dividing tasks and areas of responsibility, Quentin consistently took on those pieces where the details and realities changed fluidly. By contrast, Kevin took on tasks that were more straightforward and less

ambiguous. Quentin posits that, as a result, Kevin had far less variability in his project tasks, and that this contributed more than he realized to their tensions and different perceptions on the project.

Quentin's reasoning resonates with the understanding that creation cycles are characterized by enormous task variability, and that the fundamental task of groups working in a creation cycle is to create new things, which was central to the effort of this purple project. The creation cycle also refers to work where both the timeline and the outcome remain fluid. While the work of the project did have what Quentin referred to as arbitrarily aggressive deadlines, the project was a launching point for a new business product and workflow that continues to evolve fluidly, which does closely match this description. In contrast to creation cycles, cultivation activity cycles reflect longer-term work and processes that are outside of one's immediate control but within established parameters of development. This does lend itself to Quentin's description of Kevin as revealed in his narrative and commentary. While their positions as initially defined may not fall into the creation and cultivation cycles, in actual practice their roles evolved to a place where this does fit the narrative. The difference in perspective that can arise from different activity cycles may have contributed to the impasse experienced by Quentin and Kevin as they tried to define and understand each other's roles. In the end, they were not able to find a common framework or understanding.

Quentin: Discussion and Analysis

Quentin is a person who can be portrayed as operating from the perspective of a creation activity cycle while still managing a large project with a clear end goal and a definition of

completion. The creation cycle argument comes from the perspective that this project was the launching point for a new service that was being created and offered to a new customer base. Quentin was driving this project as just one of many factors involved in the early stages of developing this new service. Quentin knew that he would be involved in the ongoing operations of this effort beyond the timeframe of this project and that he was building the foundation of that service in the form of an online interface and the underlying infrastructure that supported it. One of the pivotal points of conflict in his story is his contentious relationship with his fellow project manager. The two ended up not being able to work together well in a coordinated way, so they ended up dividing up the tasks. It is telling that Quentin took on the more open-ended, ambiguous, planning aspects indicative of a creation cycle while his counterpart took on the more linear concrete tasks symbolized by an example referencing legal contracts. It also makes sense that Quentin took on those tasks that were more aligned to his broader role of providing ongoing support of this new service beyond the time frame of this project. Quentin had a history of taking on large multi-faceted projects that extend over a broad time frame and Quentin often tackled multiple inter-connected projects.

Quentin's time windows were on the broader end of the scale. This is noted in the narrative, which states, "Quentin's time window was perpetually focused on the span of the full project. Beyond the delivery of the software on the launch date, he was also involved in helping to plan the workflows and design the process that would become a new type of support and service that his company provided by a new line of business. He was committed to completing the project in the service of a larger initiative for which this new software was key."

A point of frustration for Quentin was the imposition of deadlines that created what Quentin considered to a more rigid structure that was unnecessarily tight. The narrative explains that, "these deadlines were artificial, arbitrary, and tighter than Quentin would have set," but that they were also out of his control. The fact that these deadlines chaffed with Quentin may speak to a creation cycle perspective where the work is more broadly extended across time where specific deadlines and outcomes can never really be known.

While the specific project Quentin discussed in his story did, by definition, have an articulated end point, aspects of the creation cycle might be seen in Quentin's observation that, "there was really nothing driving why these deadlines were necessary other than this one senior executive saying, ‘We will launch on this date!'" Quentin's task variability was also high. He notes that he, "did a little bit of everything…and…wore many hats," His tasks included building a work breakdown structure, lining up tasks, confirming who was doing those tasks by when, solving for situations as they arose, relationship building, communicating project information, reallocating project resources, and participating in long-term planning. This collection of tasks aligns with many aspects of a role aligned to a creation activity cycle. These are tasks that are extended across time, are highly varied, more iterative than linear, and some have timelines and outcomes that can ever really be known. On top of all of this, the addition of a large outside company that they were working within partnership speaks to the added complexity, ambiguity, and high-stakes nature of the project.

The mysteriousness and ambiguity associated with the project did not sit as well the internal managers whose staff was reassigned for the duration of the project. The internal managers are identified as being in the cultivation cycle. Their frustration is understandable

given the circumstances and took the form of seeking as much concrete information as possible and the creation of recurring meetings and structured processes in the face of ambiguity. Quentin notes in the narrative, "It felt like the goal was to create a little bit of busy work, keep me in check, and to let me know that they were watching." To his credit, Quentin understood, "their need to make sure that he knew that they still had some authority, were still in charge of their people." Quentin responded amicably to their need for less ambiguity and more structure. The narrative notes that "he empathized with the position in which the managers found themselves." This is an example of a character recognizing and accommodating the different perspective of others operating in a different quadrant. This went relatively well as compared to other narratives where different perspectives that were not accommodated more often ended in frustration and disagreement.

Quentin's interactions with Kevin went less smoothly. The narrative establishes Kevin as being aligned with the cultivation cycle. Kevin had a defined scope that was project-focused. The narrative emphasizes that Kevin had less comfort with ambiguity and that he took on more linear and structured tasks. Quentin associates much of their tension and the strain of their working relationship with the differing levels of ambiguity in their roles and their differing levels of comfort with that ambiguity. One attempt at finding a resolution included meeting to discuss their roles and to create a structure to define said roles. The gravitas of authority was added to the meeting when they invited their bosses. From the perspective of activity cycles, this can be seen as possibly providing a path to resolution that seeks to reduce ambiguity, possible for the party who is working from an activity cycle that seeks to reduce ambiguity as a matter of course.

Quentin's narrative continues to support the idea that ambiguity is a central characteristic of work in a creation activity cycle and that comfort with ambiguity is associated with being successful in that role. Quentin's efforts with the internal managers and with Kevin suggest that adapting to others' need for less ambiguity in communication and efforts lends itself to more fruitful interactions and efforts.

Conclusion

Several themes emerge from an examination of the five narratives included in this chapter. The five identified themes are: 1) open-ended, 2) less structured / more dynamic, 3) broader perspective, 4) comfort with ambiguity, and 5) pulled in multiple directions. This conclusion provides a brief examination of each.

The first theme is a sense that the people who are identified in the narrative as primarily working in a creation cycle perceive the work to be done as having a more open-ended timeframe and are less deadline-driven in their interactions and work handoffs. This theme is labeled "open-ended" in this researcher's coding. Nancy's narrative supports this when Bobby is described as being more comfortable with an open-ended timeline and encouraging of an open-ended discussion about what constitutes the best user experience. The idea of an open-ended timeframe and being less deadline-driven is evidenced by Nancy's description of Bobby as "he kept dawdling…and weeks were going by. I kept trying to get this thing done and he just wouldn't do it." Nancy's narrative regularly associates Bobby with a comfort with ambiguity about, and flexibility with, timelines and determining the path forward.

From a creation cycle point of view, Quentin expresses frustration about the imposition of deadlines that created what Quentin considered to a more rigid structure that was unnecessarily tight. The narrative explains that "these deadlines were artificial, arbitrary, and tighter than Quentin would have set." Together, these observations suggest a consistent perception of timeframes on a project as being flexible and deadlines not being the primary driver of decision making for the individuals in these narratives operating from a creation-oriented activity cycle. While not explicitly called out as such, Ballard (2009) describes an aspect of the concentration activity cycle as, “neither the timeline nor the outcome can ever really be known” (p. 215). From a perspective of continuing to develop and improve a user interface or a new program, it makes sense that the creation-oriented characters in these narratives might place less of a priority on the deadlines of milestones along that path and place more emphasis on the broader and open-ended tasks. These observations help to support and further validate Ballard’s description of the creation activity cycle.

The second theme in the context of these narratives is that the work of people in a creation activity cycle is less structured and changes dynamically. This theme is labeled “less structured / more dynamic” in this researcher’s coding. The narrative uses these same terms in describing Grant’s work, stating that, “his world is a lot less structured and a lot more dynamic.” Grant also says in his post-mortem interview, “…I can’t say what I’m working on next.” Penny’s narrative notes that her perspective, “supports the idea of pursuing a more iterative improvement process.” Together, these observations help support this second theme which aligns to Ballard’s (2009) discussion of task variability, “the variability arising from each task does not inhere in a novel undertaking *per se,* but in the intrinsic capacity of the situation to dramatically change

hinged on the slightest perturbation." This supports the idea that the characters in a creation cycle find themselves operating in an environment where things are less structured and changing more dynamically than the tasks of their colleagues who are working the same activity cycle.

The third theme is that of having a broader perspective of the work. This theme is unsurprisingly labeled "broader perspective" in this researcher's coding. This aligns with Ballard's (2009) description of broader time windows. Nancy's narrative describes Bobby as, "focused on creating new things that improve iteratively over time as an ongoing effort." Lucy, similarly, takes on, "a number of different tasks…centered on supporting ongoing processes…focused on long-term improvement efforts, rather than on a final set of success criteria." Penny is both focused on the central project of her story as well as a larger suite of projects, "that formed a multi-year initiative that is still ongoing today." Her narrative also notes that "Penny is trying to serve larger and broader needs over an extended timeframe." Quentin's narrative notes that he was, "driving this project as just one of many factors involved in the early stages of developing this new service," and that, "Quentin took on the more open-ended, ambiguous, planning aspects" in his project. The creation-cycle characters in these narratives have a consistent focus on a broader perspective of the work, which can be a source of stress and frustration for their colleagues who are driven by more of a pressure to meet immediate short-term deadlines and to advance a project incrementally, rather than iteratively.

The previous two themes feed into the fourth theme, which is having comfort with ambiguity. This theme is labeled "comfort with ambiguity" in this researcher's coding. Characters in the creation cycle were consistently portrayed as having or needing a high level of comfort with ambiguity. Grant's level of comfort was high enough that the fact that the future

was ambiguous did not register with him until his "manager asks for a list of his projects for the rest of the fiscal year," and Grant realized that he did not know how to answer the question. His fellow designers, who said they also had no idea what they should be working on next beyond their current tasks, reinforced Grant's perspective. They underscore this further when they tell Grant, " We don't know (what we are working on next) and we don't need to care. That's not important right now." This comfort with ambiguity is highlighted when creation-cycle centered characters interact with those who have a different perspective. Quentin associates much of the tension and the strain of his working relationship with Kevin to the differing levels of ambiguity in their roles and their differing levels of comfort with that ambiguity."

Given that uncertainty has been a central aspect of the previous four themes, it follows in that trend that the fifth theme identifies that the characters are described as being pulled in multiple directions. This theme is labeled "pulled in multiple directions" in this researcher's coding. While all characters exhibit this in their story, Grant provides the clearest example. Grant notes that "There are always a number of folks who are always trying to figure out how to get use of my time," and that his tasks are intertwined across multiple projects with overlapping time frames. Grant's narrative calls out that, "there is a greater level of ambiguity…around his work when he considers it in the context of the many different pieces of software that he supports and continues to help develop and improve simultaneously."

In the review of the narratives included in the creation activity cycle chapter, there are five closely related themes that are called out. These themes are coded as 1) open-ended, 2) less structured / more dynamic, 3) broader perspective, 4) comfort with ambiguity, and 5) pulled in multiple directions. The five themes each feature aspects of working in an uncertain context

where details shift. The themes also highlight a level of comfort and understanding of this context. Much of this further validates the work of Ballard (2009) and also adds a consideration of how these aspects are highlighted in an examination of interactions and work handoffs between people operating in and outside of a creation cycle context. Differing levels of comfort and support of ambiguity and uncertainty are shown in these narratives as being a potential source of tension and professional disagreement between colleagues working together on aspects of a common project.

CHAPTER 10: COMMOTION CYCLE NARRATIVES AND ANALYSIS

This chapter focuses on narratives that describe a commotion cycle perspective. What follows are the narratives, in order of appearance, from Arthur, Barry, Karen. Helen, and Robert. Their narratives are stories told from a commotion cycle perspective. The coding of the narratives in this chapter focuses on the storytellers' descriptions of their interactions and work handoffs with others who are identified as primarily operating in other activity cycles in the context of a particular project. The coding also focuses on common aspects of the commotion cycle. People whose work falls within the commotion cycle operate within brief time windows and with high task variability. They also experience two characteristics that typify the experience of operating in the commotion cycle. First, that different groups temporarily form long enough to discuss and decide on courses of action. Second, that job duties are characterized by moment-to-moment, rapidly unfolding, and often-changing events that must be managed quickly. As the commotion cycle experience is defined by rapidly changing circumstances, one who is successful in this environment is able to gain agreement on and execute informed decisions quickly. This chapter examines the experiences of Arthur, Barry, Helen, Karen, and Robert by first supporting their placement in the commotion cycle and then highlighting the characteristics of their interactions with others outside of their quadrant. This chapter concludes by summarizing the experiences of these participants who are rooted in the commotion cycle in their stories.

The narratives of the participants who shared stories from a commotion cycle perspective have many commonalities. This includes being driven by and operating from a feeling of urgency around one's primary job functions. This makes intuitive sense given our understanding

that people in a commotion cycle need to respond in the moment as different challenges and needs arise. The narratives also show ad hoc groups being formed to assess problems and determine a course of action. A key finding that emerges is that the characters consistently express frustration and irritation when working with others operating from within other quadrants who they sense are not driven by the same level of urgency or lack a deep and precise understanding of the subject matter, or do not display an intuitive understanding of the details involved. For the most part, their narratives also reflect their own lack of understanding and accounting for others' frameworks as it relates to the larger effort.

Arthur's Narrative

Arthur's reflection during his post-mortem conversation expanded to include a description of his work on the east coast as a software engineer for a large startup company that provides an e-commerce website where small businesses sell their products. The website is a one-stop site where customers can browse and buy an array of items from a plethora of sellers. In the story that follows, this researcher will describe Arthur's work in the present tense. This is intended to be in service of the story and because Arthur consistently described his work in the present tense.

Arthur works in a group of eight on what startups call a 'pizza team' as a rule of thumb. The idea is that the team should be the right number of people to share a pizza. More than that and there are too many people to stay focused on a task. Less than that and there isn't a broad enough set of skills and perspectives to be effective. The pizza teams at Arthur's work usually consist of software engineers, a product manager, an engineering lead who manages the other

engineers, a designer, and a marketing person (who is a member of multiple pizza teams). The engineers are divided between front end, back end, and native systems. Whether a pizza team is autonomous and self-contained or a team that interacts with other teams depends on the scope of their work and can shift from one project to the next. The pizza teams are somewhat fluid in that people get re-shifted and moved rather regularly, but they do sit together while they are on the same team.

Problem solving and decision-making happen informally on the pizza teams where Arthur works. He explained that, "If I have to work with the engineers over on another team, it's as easy as… and this happened just last week… when I was walking to my desk and somebody said, 'Hey! You work on the notifications system, right? Can you take care of this issue that we're having really quickly for us?' I knocked it out because I understood the issue and the fix." Arthur clarified that the request was that informal because both teams are a part of the same larger group in the organization. Cross-group communication is more formal and requests like the one he handled would instead go through someone like an engineering manager or a product manager.

Arthur went on to describe a particular project that he had just wrapped up. His team had been working on a different project that was about 60 percent complete when a new project popped up and was prioritized to the front of the queue. The facilitator asked Arthur if his new project had a cool code name. He laughed and replied, "Yeah. Revenue Attribution."

Arthur learned about the new project at a Friday kickoff meeting with the designer and the product manager. Arthur explained that when sellers log in to their website, they see a dashboard that reports sales and advertising data. For example, a seller can see how many people

searched for products like theirs, how many people saw their ad or listing, and how many people clicked on that listing. This gives the seller some sense of how much revenue can be attributed to their listing, such as, if a seller spent $10 on their listings and they can attribute $30 dollars in sales to those listings, the seller will have an idea of whether those listings resulted in a positive return and to what level.

Arthur's company decided to change how that revenue attribution is calculated and the variables that are involved. Arthur gestured as he emphasized, "So, it was waaaaay important that this change be transparent and overly communicated so that it wasn't a surprise and things like the revised formulas didn't take anyone off guard." This is where Arthur's work on notification systems came into play. Arthur explained that he was asked to code a series of notifications to the sellers saying, "this thing will be changing soon, this thing is about to change, and then after go live that this thing has recently changed and here's how and why." The legal team was one of the louder voices stressing that the communication had to be clear, obvious, accurate, and communicative.

Arthur and his manager discussed the idea that, if it were up to them, they would not go overboard on communicating all of these changes in such detail. They felt like the changes were relatively minor and that people were not going to care all that much about the changes. Arthur shrugged and said with a chuckle, "But, hey, Legal said otherwise".

Now that they understood the 'what' and the 'when'—which was to have the work done and ready to send the first notification in less than a month—the next step was to work out the 'how' and Arthur was worried about the complicated logic right off the bat. "I voiced my concerns," he explained, "but I was also worried about being too aggressive in that kickoff

meeting when I said, ‘this is complicated and just working out which notification fires, and when, could take us a month to get right.” He went on to explain that, “Our product manager was talking about all of this as if it was easy and pretty straightforward. There was a point where I grabbed him when we were in front of a white board and I was like, let’s draw a grid.” Arthur mapped out a timeline that ranged from two weeks before to two weeks after the calculations changed.

Arthur was worried that the product manager wanted the notification to be dismissible and to not reappear if the seller dismissed it, but to also have the second notification that is displayed be different depending on whether the first notification was ever dismissed. The product manager also talked about having timers on each of the notifications and different messages that appear depending on whether or not an earlier notification was dismissed before the timer. “Let’s see the use cases,” Arthur said, “I want you to visualize how complicated this is getting with these new pieces of logic.” After diagraming the complexity of the logic that was being asked for, Arthur circled back and asked, “What do we actually want?” Arthur explained that he pressed this point because he wasn’t clear on what the legal requirements were, what the Legal Team really wanted, and what the team and product manager’s needs were. Arthur stressed that, “Legal wasn’t prescriptive as to the design or implementation, they just wanted us to be clear, transparent, and communicative.” After mapping out the timeline and complexity of the project to the product manager, Arthur stressed that if this complicated if/then logic wasn’t there, the project would be a lot easier and more straightforward. Arthur’s argument won the day: the product manager understood the issue, went to legal, and got approval to use a simplified logic for notifying sellers.

The next open question for Arthur to resolve was understanding what the notifications would actually look like. At the kickoff meeting, the designer shared her idea of using a dismissible tooltip. This was another point of concern from a coding perspective. While this UI element exists in different parts of their website, the underlying technology would be different and it presented technical barriers to doing it the way the designer envisioned. Timing added an additional challenge in that the designer was scheduled to start her vacation a couple hours after the kickoff meeting. The meeting ended at 3 p.m. and the designer was leaving to start her time off at 5 p.m.

Arthur began to implement the tooltip idea, but quickly started running into challenges. "At my previous job, I was responsible for notifications. There, it was one site-wide system that was well designed, well documented, and well understood from the top down," Arthur explained. "Here, there are multiple notification systems that target different senders, topics, and audiences. They have different features, have been built separately, and are not integrated. On top of that, another new notification system tends to get built when a new type of content needs to be sent to a new group or in a new way." So, Arthur reached out to another group in the company called Design Systems. They have a toolkit and style guide for commonly used user interface solutions along with the code to implement them. Arthur dropped into their chat room and started asking for help. Design Systems recommended a using standard notification UI instead of the tooltip approach. They explained that it is less snazzy and less cool but is easier to implement and is in use all over the company's website.

In her absence, Arthur reached out to the designer's manager to use this approach. She went back into the chat room to ask some more clarifying questions. She was hesitant at first and

didn’t want to walk back on the designer’s decision without being sure it was the right call. “The designer's manager, my manager, and I all got into a private chat room. “The designer’s manager asked if I had mock ups that the designer had done. She was trying to get as much info as possible to understand how we got to the tooltips decision, but there weren’t mockups or wireframes,” Arthur reflected. Arthur speculated that the designer’s manager wanted to make sure that they had Design Systems approval so that she could say this outside authority guided this decision. Arthur was growing more stressed as these different players went back and forth trying to decide on the right path forward. Arthur knew that the deadline was short and his gut feeling was that it would be faster to use something that already exists and apply it as opposed to building new code from scratch to do a thing. The pressure he felt also came from the sense that the additional time spent on making this decision meant that there would be less time to spend on the next challenge.

The crunch of needing a decision and the sense of deadline pressure grew as Arthur’s boss was out of the country for a part of this time. Arthur explained, “So, my boss’ boss, who is the senior engineering manager, sat in on these discussions.” Arthur explained that the senior manager shifted the conversation to a discussion about the concerns people seemed to have about meeting the overall project deadline. “He was really unclear about timelines and didn’t understand quite why it was going to take as long as it was going to take to deliver. I was uncomfortable giving estimates because we hadn’t clearly defined what we were going to build yet.” Arthur went on to say, “He was like, ‘This doesn’t seem like this should be difficult. It’s just notifications. This should be fast to build. If we can’t just show notifications, we have bigger problems.’ and I was like… yeah! We do have bigger problems.” To drive home this point,

Arthur logged into their website and showed a situation wherein three different and overlapping notifications appeared making all three unreadable.

Arthur stressed that, as an organization, they had not really thought through this notification system and the system wasn't in good shape. The senior manager bottom-lined the conversation by asking the team if they could meet the project deadline. The product manager said, "We aren't sure." The senior manager grew more exasperated saying, "Well, the deadline is in a month. Surely we can do this in a month." From Arthur's perspective, one positive thing that came from these escalating tensions was that the uncomfortable pressure pushed everyone towards being on board with the shortcut strategy recommended by Design Systems and Arthur's argument of, "Let's just get this decided and done." Looking back, Arthur reflected and said, "I was annoyed. We are not idiots. We understand the issues and the deadline. We just needed to quit getting wrapped up in complexities that are not necessary." So, in the end, the simpler idea was adopted and implemented. "We had specifications I knew we could implement fairly quickly and that were not overly complicated," Arthur mused. And with a wry smile said, "I was happy that we didn't do the thing that was really hard and instead did the thing that was a lot easier for me." As a kind of epilogue, Arthur commented, "Oh, and by the way, the designer came back from vacation and was on board with the change in approach. She was cool with it."

At the end of the post-mortem conversation, Arthur was happy to share that the more simplified and streamlined notification system went live on time and without incident. The facilitator asked Arthur a series of questions that helped inform a better understanding of Arthur's time windows and task variability. In his story, Arthur's time windows are brief in that he tackles coding challenges as they emerge and has broken down his work into a series of

smaller tasks. Given the assortment of his tasks, it is fair to say that his task variability is high. This places Arthur squarely in the commotion cycle quadrant in terms of his role on this project. Arthur's response to questions also helped inform which quadrant served as the dominant quadrant to which the people he had to work with aligned. Based on his story, the people with whom Arthur struggled to get the answers he needed as quickly seem to align the cultivation cycle where time windows are more extended and task variability is lower. A common perception Arthur saw in his interactions with each of these characters (the program manager, his manager, his boss' boss, and the designer's manager) was his frustration with the time they were taking to make what he saw as an obvious decision, and that the time they were taking was wasting time, which at one point, he explicitly described as a precious commodity. By contrast, his interaction with the Design Systems team, which this researcher places in the concentration cycle (briefer time window and lower task variability), he described as smoothly transactional. He had a problem and needed to be given a solution and the Design Systems team delivered.

Arthur: Discussion and Analysis

Arthur's placement in the commotion cycle quadrant starts to become clear early in the narrative when he describes an informal request for help that he received and explained that he "knocked it out because [he] understood the issue and the fix." Handling surprise issues quickly is the essence of life in this quadrant. Another example of commotion cycle activity is when Arthur was asked to code a series of notifications. This was a straightforward task that needed to be done in order to communicate that, "this thing will be changing soon, this thing is about to

change, and then after go live that this thing has recently changed." Performing small tasks in anticipation of changing circumstances also typifies work from a commotion cycle perspective.

In his story, Arthur interacts with managers who are operating from a cultivation perspective, and in doing so, some frustrations arose. Regarding details and tasks, Arthur's commotion cycle perspective was by its nature far more detail and task oriented than the cultivation cycle perspective, in which participants are less concerned with incremental milestones and more focused on overall progress towards a larger goal. Arthur consistently eschews more complicated solutions that take longer to deliver and pushes for actions that are simpler and faster, which is typical of a commotion cycle perspective. For example, the managers seem satisfied with a solution that Arthur felt was far too time consuming due to its unnecessary complexity. To help the managers understand the reasons behind his stronger sense of urgency, Arthur diagrammed and explained the complexity of the current plan and, in an effort to drive towards a simpler approach, asked the managers to visualize how complicated it would be to implement the new plan.

After diagraming the complexity of the logic that was being asked for, Arthur circled back and asked the managers what they actually wanted. This question, in addition to the detailed diagram of complexity, framed Arthur's argument. He was focused on what the specific needs were so that he could advocate for the fastest and simplest solution that met those requirements. Arthur points to the Legal team's request as a way to supplement his argument, noting that Legal wasn't prescriptive as to the design or implementation and simply presented an end objective. Next, his sensitivity to time, which also aligns to his commotion cycle perspective, was emphasized when he was stressed that the deadline was short and, "his gut feeling was that it

would be faster to use something that already exists and apply it, as opposed to building new code from scratch to do a thing." Arthur even felt time sensitivity in the form of his concerns about how long it would take to make a decision, much less executing on one.

In addition to their lack of understanding of details, Arthur frequently expresses frustration in his story that the managers in the cultivation cycle do not share his sense of urgency. This was evidenced when the senior manager shifts the conversation to a discussion about the concerns people seemed to have about meeting the overall project deadline. Arthur notes that the senior manager was unclear about timelines and didn't understand quite why it was going to take as long as it was going to take to deliver. He also notes that the manager bottom-lined the conversation by asking if the team could meet the project deadline. The manager expressed repeated frustration that the larger deadline could not be met with the current plan, and reluctantly agreed to the change in approach that Arthur proposed. Arthur's story suggests that this is why his argument won the day. He was able to present an argument why option B was better and faster than option A, and that option B would still meet the goals. From a cultivation cycle perspective, it is not surprising that—as long as the case Arthur presented seemed sound—they accepted his recommendation. The path to this decision contained frustration on both sides that was rooted, at least in part, in different senses of urgency from different time windows and around a focus on discussing the details of the option versus the broader scope of the project.

An interesting contrast is Arthur's interactions with the design team, which he found to be smoothly transactional. This makes intuitive sense from the perspective of the 2x2 matrix. The design team operated within a concentration cycle consisting of specific tasks to be completed in a relatively short amount of time. Arthur's engagement with this team met his

expectations because they suited the team's activity cycle. Arthur was requesting help with a particular task. The requested task was one commonly performed by these team members, was not overly complex, and was needed in a short time frame.

In reviewing Arthur's narrative, the common themes that emerge from a comparison of his interactions with people rooted in other quadrants were a focus on time sensitivity, urgency, and level of detail. Frustration was a common thread when these perspectives differed. None of the characters were initially inclined in these stories to view the experience from the other character's perspective and were more inclined to be frustrated when the other character's perspective differed.

Barry's Narrative

After his post-mortem interview, Arthur suggested that the facilitator meet and have a similar conversation with his colleague, Barry, who also worked as a software engineer on another team in the same company. In the story that follows, this researcher will also describe Barry's work in the present tense. This is intended to be in service of the story and to better align with Arthur's narrative since their stories are both told from their time in the same company.

Barry works on the Sales and Coupons Team. His team creates and codes the logic behind different online coupons that the small businesses selling goods on their e-commerce website can offer to their potential customers. Barry and the facilitator discussed a project that Barry had worked on, which was an overhaul of their coupon system. They created a wider variety of coupons with more complexity around how they can be used. Barry paused and asked, "Am I right that you are looking for stories about projects that didn't go smoothly and where

there were problems?" The facilitator replied with a chuckle, "Yeah, I suppose. Stories where everything goes perfectly and everyone is reasonable and wonderful aren't nearly as exciting as the stories where everything goes off the rails." Barry nodded and said, "Well, then you won't be disappointed. We banged into a few walls, especially when it came to meeting deadlines."

Barry began explaining the goal of the project, which was to make a much broader suite of coupons that sellers could offer, that were easier for buyers to use, and that gave sellers a lot more flexibility and variability in how they set up of those coupons. Barry's team was also changing how they store the data about how the coupons are used so that data could be used in sales reporting.

Barry began by explaining some of the more confusing and complicated aspects of this project by describing a hypothetical scenario and then listing a string of questions that his team needed to be able to confidently answer in order to be successful on their project.

"When we create a coupon, this coupon applies to specific items. So, let's say, I sell aprons and airplane plants and I want this coupon to apply to only the aprons, but not the airplane plants. But, what if a seller has 10,000 items for sale and they apply the coupon to all items? Can we apply the coupon to all of the items collectively, or do we apply it to each item? Applying it to each item would generate 10,000 records. But, applying it to all makes it hard to differentiate and say some items, but not all items. Also, what if they later add an item that didn't exist when the sale was created? Is it grandfathered in? Does the seller make this decision when they first add the new item? What if the coupon applies to all of their items, but now they don't want it to apply to this one item that is being added? Do we create a coupon-allowed code for the other 9,999 items?"

Another area of complexity that Barry described was around whether a particular coupon is an item-level or order-level discount. An example of an item level discount, Barry explained, is, "I bought three aprons and my coupon gives me $1 off of each apron. An order level discount," Barry went on, "is when I order three aprons and I'm getting $1 off on this entire order. The coupons we were making available needed to have the potential to do either."

At this point, Barry was getting on a roll. He lit up as a thought occurred to him and said, "Oh. And another complex bit is that there are certain kinds of sales that we don't want to offer, because it would be too complex or dissatisfying for their customers. For example, we aren't going to let a business offer 33% off. I mean, you can have 25%, 30%, or 35%, but 33% is just too complicated. We also don't want businesses offering 1% off. I mean," he said as he started chuckling, "can you imagine a business having a huge banner that says 'SALE!!!' and then the customer figures out that it's only 1% off? It's too small!"

The last area of complexity that Barry offered as an example was about multiple coupon codes that compete with each other. That is, for example, when a business offers a 10% off and a $5 off coupon and a customer tries to apply both. Barry explained that his team had to design an algorithm for this that determines the better of the two options and applies that coupon.

With a new grounding in the nature of online coupons, the facilitator asked Barry to tell him the story of how this project rolled out. Barry's team started by reading through the detailed technical requirements. Barry explained that, "There were so many places where things started out as a clear sentence or requirement but didn't hold up to interrogation." Barry explained that this would usually surface between the engineers on Barry's team. "One person would ask how something is supposed to work. Another would answer with one way, but then another person

who got pulled into the conversation would say, ‘no I disagree’ and suggest a different way.” Barry quickly sketched a hand drawn map of his office area while explaining, “We are in an open office environment, so it would start as a small conversation, but then people would hear the discussion and pile on. The Engineering Manager would walk over and clarify what she thinks is going on and so on. Before long, we would realize, ‘Oh shit!’ we don’t really know how this is supposed to work.” When this would happen, Barry and others would pull in a few key people, “like the designer and the product manager,” Barry offered. “We all sit around each other in the same area, so this would happen organically.”

Barry’s concern steadily grew as his team kept encountering fundamental questions like, ‘How should this work?’ “Often, team members didn’t have a clear idea or answer when you laid out a specific scenario,” Barry noted. “At several points we would all get around a table and start drawing it out and asking “Is this right? Is that right? Is that what we expect?” Barry reflected that this process was clarifying, but even so, there was a growing sense of confusion between and among designers, engineers, and product owners. An added frustration for Barry emerged when their group would sort out an answer, but then things would change, and decisions had to be remade. Barry explained, “the product manager was getting nervous and started taking questions to outside groups and to other teams. Then, the product manager would come back with changes and new ideas after decisions had been made and understood. There was no time for that because we had a lot to do and not much time to do it.”

In order to do his part to help unpack this complexity, Barry began mapping out a matrix of the different use cases and scenarios, then sharing his map with the people in his area and marking those areas where the path forward was unclear. At about this same time, and after

another one of the organic group discussions about where the team was confused, a relatively long email went out from the engineering manager that listed all of the use cases and how they work. This was based on the group discussions and questions. This document became the "voice of clarity," as Barry described it, and was a turning point where Barry felt like his team started to get traction.

Barry paused to stress that while all of this was "pretty crazy, all of this was relatively early on in the project." The time line and launch date were also points of confusion later in the project. "In the last two weeks of the project, people were working a lot of late nights," Barry reflected. He explained that this was not typical to the culture. "The way launches had worked in the past were different," Barry explained.

"Other teams I've been on in this company would take the day off before a big launch. It gave everyone a chance to rest and clear their heads. But, it was also a strong statement that we aren't scrambling to get this out, that we are ready. And, sure, sometimes you would put in some work on those days. It wasn't sacred. But, it was a lot more deliberate and Zen-like than running around yelling, 'Oh my God! Everybody has to get their stuff done and we've got to get it all out at the same time! Aaaaah!' And hopefully it will all be ready and there won't be bugs and taking this time at the end demonstrates that the team has a high degree of confidence in their product."

Barry explained that, because they release updates multiple times a day, keeping a calmer schedule and taking a few extra days to be sure everything was right was more of the norm. "I got used to this company doing continual deployment. Constantly releasing. Not weekly or monthly, but constantly," Barry stressed. "So, this means that there's less pressure to get everything in one release, but to tweak, adjust, and update as needed, as opposed to doing a big

launch and making a big deal out of it." Barry estimates that his company puts out new release or update around fifty times a day and, for him personally, he averages putting out a release or update one to several times a day. Barry noted that there was a breakdown in communications about what the expectations were on this project.

The night before the coupon project was supposed to launch, Barry had plans to have dinner with a friend. Barry described the exchange he had with his boss before her left to go to dinner. "I told my boss that these are the things left undone. She said, 'OK, well, can you get those in by tomorrow?' I told her, 'Oh yeah, I can get some of this out tonight and I can resolve the final issues tomorrow morning." Barry paused to explain that he knew she just needed to connect the right data to the right system so that coupon values showed correctly. He explained that he wasn't too worried and that it was a little change.

Upon reflection, Barry conceded that maybe he was being a little optimistic. "I probably knew at the time," Barry said, "that I was giving her reasons why I could go to dinner and I realized later that night that there was code other people had pushed out that I hadn't seen and it was conflicting with my code. And then, the next morning there were some additional complications. So, we had to work out all of these issues before we could launch." Barry explained that it is usual for there to be a big 'war room' set up on the day that they launch a big complicated project. But, he had never before worked on anything that was this close to the wire and hectic.

Once the team was in the 'war room,' the issues he had alluded to earlier became clear and the solutions were going to take time to implement. The decision was made to roll the project out a day later than scheduled and to use the time to get everything sorted. Barry paused

at this point in the story and his eyes widened. “Oh yeah,” he said, “there is something else that happened that day.” Barry explained that, “the marketing side of the business had written an email that was going to go out to all of the businesses saying, ‘Hey. This thing launched. Yay.’” When the company realized that the project was not going to launch on that day, a person on the marketing team put a hold on the email. “But, later, a well-meaning but misinformed engineer saw that the email wasn’t getting sent out and he flipped the switch,” Barry said, “So, we started sending out hundreds of thousands of emails announcing the project launch and that put us in a weird spot.” Barry shook his head and said, “That poor guy was just trying to be a good Joe…”

Although the project did end up missing the publicly announced launch date by a day, it ended up going live and being a success. “On the one hand, what’s the big deal,” Barry mused. “It’s a day. So, we launch on a Wednesday instead of a Tuesday. But, others felt differently.” Barry explained that some people in the office were not pleased with the delay. In a post-launch meeting, Barry explained that the product manager, the engineering lead (Barry’s boss), and especially the product manager expressed unhappiness about the missed launch date. Barry explained that the product manager kept stressing that he had wanted to keep their promise to the businesses. Barry relayed that the program manager said, “Yeah, I know that a lot of teams miss their deadlines and it’s not a big deal. But, I don’t want to be like that. I want to be really clear with the businesses. I know it’s just a day, and a day is a lot better than what a lot of teams do, but I want the businesses to be able to depend on us.” Barry reflected that the engineering manager had been deadline conscious throughout the project and worked really hard to stick to the deadline. She cut scope in order to get there and Barry believes that he was hoping to be really proud of hitting the deadline.

The team met their objectives, although they had some rough patches and crossed the finish line a day later than planned. Barry's comments supports the placement of him in the commotion cycle given that his range of tasks on the project were varied, that he felt time constrained, and that he was operating in smaller time windows. One of Barry's larger points of frustration came early in the project with the product manager. The product manager kept bringing new people and groups into the decision-making process, and Barry felt frustrated that his sense of urgency around deadlines did not match (in his perception) the sense of the product manager.

Barry's perceptions place the product manager in the cultivation cycle when considering Barry's perceptions of their task variability and time windows. Barry commented that, "We often move fast without looking back and learn our lessons on the fly. Everyone is kind of winging it. We don't give it a lot of reflective thought. We are busy running on to the next thing." By comparison, Barry talked about his perceptions of upper management and that they work in a broader timeframe. "We think in terms of the next week or two. They are thinking about what kind of headcount we will need for the next year and what projects will happen next year." Barry's narrative highlights perceived misalignments around a sense of urgency. It is interesting that Barry's frustration in the beginning is that others in the cultivation cycle do not share the same sense of urgency that he feels in the commotion cycle. But, by contrast, the positions seem to be reversed when these same groups are reflecting on the importance of hitting the day of the target deadline. The difference in urgency is consistent, but which groups are feeling the greater sense of urgency is reversed.

Barry: Discussion and Analysis

Barry's story places emphasis on the amount of complexity that he has to deal with in his projects, which is indicative of a commotion cycle perspective. His description of the project that his story is about takes up the first third of the narrative and reiterates the fluid complexity of his environment. The project is described as having confusing and complex elements, and effort is made to explain the interconnected details that he needs to account for, which ultimately become the source of the primary challenge for the characters in his story. Barry's perspective as one who is working in a commotion cycle is also reinforced later in the narrative when he describes working in a 'war room' environment. Barry's reflection on the nature of his work at the end of the narrative describes both short time windows and high task variability when he says, "We often move fast without looking back and learn our lessons on the fly. Everyone is kind of winging it. We don't give it a lot of reflective thought. We are busy running on to the next thing." Barry's comments about reflective thought add weight to his descriptions of their different time perspectives as he explains that he and his team members, "think in terms of the next week or two. [The product and engineering managers] are thinking about what kind of headcount we will need for the next year and what projects will happen next year." These different perspectives of both complexity and time contribute to the conflict in the story.

Complexity becomes a growing source on concern when Barry notes that, "There were so many places where things started out as a clear sentence or requirement but didn't hold up to interrogation." The program manager, who he identifies as being in the cultivation cycle and lacking grounding in the level of detail necessary for his work in the commotion cycle, wrote Barry's technical requirements. This sets the stage for Barry's expression of frustration and

having to rally quickly to find solutions. Barry makes the point that the requirements sounded fine as a general description but fell short when examined with a more detailed analysis. Barry emphasized the growing problem of a lack of clear understanding as an ever-growing group of fellow engineers struggled to make sense of the complexity and the details that needed to be sorted. The narrative notes this, when Barry explains that, "The Engineering Manager would walk over and clarify what she thinks is going on and so on. Before long, we would realize, 'Oh shit!' we don't really know how this is supposed to work." The setting of complexity within a short timeframe is also reinforced later in the narrative when Barry reflects that, " he had never before worked on anything that was this close to the wire and hectic."

The Product Manager, who this researcher identifies as being in the cultivation cycle, enters the scene and tries to resolve the concerns about the lack of clarity around the complex details and a need for direction by bringing answers to Barry and the team. With this effort, the Product Manager also introduces changes and new ideas to the discussion that were brought from outside sources instead of from the internal discussions of the team. This is another source of frustration. The narrative portrays both Barry and the Product Manager as characters that are trying to achieve a clear understanding and a path forward. A difference is that Barry tries to achieve this through an internal understanding of the complex details involved where the Product Manager tries to summarize the path by bringing an already formed solution and a decision about how the solution will be executed. Barry responded to this from the perspective of one who was focused on coming to agreement by trying to clarify the intricate details. The narrative supports this observation when, "Barry maps out a solution. Tries to create a firm structure."

Perceptions about the importance of hitting a target dealing on time versus a day later is another difference that occurs in the narrative. Barry's perspective was, "what's the big deal… It's a day. So, we launch on a Wednesday instead of a Tuesday." However managers, "expressed unhappiness about the missed launch date." The commotion-centered character expresses less concern in this narrative about the end objective and places more emphasis on having worked through the churn of issues as a success indicator. Whereas, characters operating from a cultivation perspective were more focused on meeting the target objective with this being the more primary indicator of success.

Like the other commotion-cycle narratives, Barry's story revolves around a focus on a sense of urgency, time sensitivity, and immersion in details and complexity. Barry places an even stronger emphasis on this complexity than does Arthur. Complexity serves both as the background for the narrative, but also as one of the primary factors leading to the conflict in the story. The managers Barry interacts with, who are operating from a cultivation cycle, were focused on trying to drive a solution regardless of the details. In the story, they engaged less with the churn of hashing through the details in a way that is more indicative of a commotion cycle perspective, being instead more focused on achieving a "voice of clarity" by making an overall decision or idea intended to move the project forward.

Karen's Narrative

Karen manages a team of software engineers and has responsibility for maintaining several key technical systems and tools. In her post-mortem conversation, she explained that she is regularly involved in projects that require new development in her systems, but there is one

particular role she plays that people always hope she does not have to play. That is because it is her responsibility to muster the troops when something goes horribly wrong. Therefore, a large part of Karen's daily existence is to be aware of her phone. She is on call 24/7. Even in the middle of the night, her phone is always turned on, and she is conditioned to wake up to the sound of an incoming call or message. "It's like Star Trek when the captain declares ‘Red Alert'!" she quipped. And that's what happened on a recent Thursday night.

"These high priority alerts go off automatically if our system detects something," Karen explained. "The alert fires and I immediately get an auto-generated text message and email," Karen explained that it is usually about 10 minutes later when her manager starts calling her asking about what is going on. Karen said that happily, it is rare for her to get a priority message about the servers and systems that she is directly responsible for. She explained that the problem is usually with one of the other systems with which tools are integrated. "Every so often, one of those servers goes down," Karen explained, "and, unfortunately, some of the people responsible for those systems are not as in tune with these alerts as I am." As a result, Karen sometimes finds herself being the first-responder driving high priority issues that affect multiple systems beyond her own. Karen explained that she is committed to responding quickly because she cares about her internal business partners. She also does not want the customers to be impacted and to have that look bad for the business.

“So, this P1 alert came through in the middle of the night,” Karen said, pausing to explain that a P1 is the second highest alert that can be sent, and only a P0 alert is higher. “I immediately checked to make sure it wasn’t one of my servers or systems, and as soon as I was positive that it

was not, I worked with the overnight teams to get them working on getting the servers back online.”

The first thing Karen did on Friday morning when she got to work was to walk over to Rudra’s cubicle. Karen explained that Rudra is someone with whom she often collaborates. He is on a team that is responsible for a number of systems that are connected to those that Karen oversees. Many of their systems are interdependent. Karen gathered up Rudra and two contract engineers on his team, and then recounted what she had learned so far about the P1 alert. “The whole day, I’m like, ‘Where are we at? What do we know?’, Karen recalled. “It took a while to figure out that the issue was related to a deployment [software update] that Rudra’s team had released to fix a different issue.”

Leading up to the P1 alert, Karen's internal business partners had reached out to her about problems they were seeing that were affecting customers. Karen had escalated the issue over to Rudra's team who created and uploaded new code to address this issue on Thursday night. Karen was annoyed because Rudra took their servers offline to make the change. "While he's deploying the new code," Karen explained, "he's just shutting off servers," Karen explained that every app in her organization is supposed to be able to stay online and functioning even when new code is deployed. This is done by designing other servers to take over to continue operations of any other server that goes offline. Code can then be put onto servers in what is called a rolling deployment. That is, servers can be taken offline one at a time, and the code can be installed while the other servers continue to operate and cleanly maintain the overall functionality. "Half of my job is making sure that this is the case"' Karen stressed. Bristling, Karen said, "So, Rudra has his deployment the night before to fix one issue, and it creates a whole new one." Karen

explained that her systems pass key data to certain servers and that, when these servers were taken offline without warning, hundreds of messages that were passing this data were dropped and this dropped data had implications that were customer-facing. "So, my system fires a data request to him," Karen explains, "and he decides that it's a great time to shut off that server." Karen continued on, saying, "There are 130 other requests on that server. He uploads the new code with the fix to the issue. He turns the server back on, and all of those requests on the server are totally dropped, and then he proceeds to do this with all of the servers that he has. Each time, more data requests are lost." With the cause of the issue understood, Karen's next step was to figure out how to restore the lost data. "So, I'm in Rudra's cube, and I'm following up again with him and his team," Karen recalled. "I was trying to be nice and positive but if there is customer impact, then I was determined that they were going to fix this crap ASAP!" Karen explained that people do not like it when she has to step into this role, "…but somebody's got to do it." Karen was determined to see a fix put into place.

Another complication that Karen faced was that this was the Friday before a holiday break and Rudra was boarding a flight to India that evening to go home and get married. “So, I am spending the day trying to drive this issue as he is trying to get ready for his wedding,” Karen explained. Karen told Rudra, “I know you’re on your way out, but I need your help. We need to figure this out.” Karen was concerned that Rudra and his team were not exhibiting a sense of urgency. “So, I spent the first half of my day talking to Rudra, his boss, and the director of operations about how we make sure this never happens again by putting in rolling deployment processes,” Karen explained. Karen spent the second half of the day with her team taking the

initiative. They went into multiple back-end systems and found the different data points that, when taken together, could be used to reconstruct the messages that had been lost.

"So, I go to his team at the end of day Friday and I'm talking to Rudra while he's got one foot out the door on the night before he is flying out to India for his wedding," Karen explained. She was stressing the importance of getting the restored data sent out. Fortunately, Karen's team had been working on the problem, so she came to the conversation with a process that was already approved. Karen explained the step-by-step process to the contractor engineers on Rudra's team that Karen and her crew had worked out.

Karen was happy to have a “get well plan” in place but was surprised and displeased that Rudra and the contract engineers seemed irritated that they had to do it. Karen passionately explained what she was thinking at the time. She said, “How is it that they get to be irritated? My team went and scraped everything from our tools to figure out a solution. We went above and beyond to work with them so that they didn't look like dumbos. I put together a whole operational process in a day and I put my name on the line. If our leadership was going to have a problem with any of this, it would be on me." Karen sighed, mimicking them, saying, "They were like, ‘Oh do we really have to do this?'" Karen laughed as she was relaying this part of the story and said, "Are you fucking kidding?!?? So, it's 8 p.m. on a Friday and I'm trying to be a team player and they seemed annoyed." A moment later, Karen acknowledged that she understood where they were coming from. "They were checked out. They had other priorities and it was the end of the day before winter break. I don't think they were thinking about the customer experience too much or about the broader needs of the organization," Karen considered. "I don't think their head is with the customer all day and I don't think they realize

how something like this can make us look as a company." Karen also acknowledged that, "they probably also think I'm partially nuts because I'm super invested. I might have seemed crazy, but if someone's using an application that you have worked hard to get perfect and they press a button on the application, it should reliably do the thing you want it to do." Karen pushed the contract engineers to complete the needed tasks and even pointed out a couple of ways that they could automate the process so that it took less time and fewer steps.

In the end, the emails got sent a day later. Karen followed up with the contract engineers to make sure the process was complete. She thanked them profusely and emphasized that fixing the issue right away was the right thing to do. Karen helped them make sure that they were communicating progress updates and details to the business. Karen did a lot of the follow-up work on Rudra's behalf since he was going to be out and Rudra caught his flight as planned and was off to get married.

Considering the 2x2 matrix, this researcher identifies Karen as being in the commotion cycle. "I carry out a lot of tasks, but everything is brief," she explained. When a high priority alert fires, Karen is in rapid response mode. Karen measures the work she does in hours and stress. This researcher also identified the two contract engineers responsible for implementing the fix as being in the concentration cycle. They had a list of data messages that they needed to find and then send. Karen described the process itself as being fairly simple. "Find the necessary information, plug A in, plug B in, initiate a search, pull up the failed message, and click send," Karen explained. Karen noted that she didn't fully trust that they would check in with her on their progress, so she proactively and regularly checked in with them. One of the striking things about Karen's story is the challenge she and the contract engineers had with understanding and

relating to each other's point of view. Karen had a broader understanding of why it was important to find and implement a solution as quickly as possible. By contrast, the contract engineers seemed to see this only as an additional set of unanticipated tasks assigned at the last minute. Karen pointed out that the work of finding the solution to the problem was under-appreciated by the engineers and Karen did not sense any desire from the engineers to appreciate the bigger picture as they took on the fresh set of to-do items.

Karen: Discussion and Analysis

That Karen operates within the commotion cycle is evidenced when the narrative states that, "a large part of Karen's daily existence is to be aware of her phone. She is on call 24/7. Even in the middle of the night." Commotion cycles are commonly characterized by moment-to-moment, rapidly unfolding, and changing events that must be managed quickly. Further examples of these characteristics were revealed as Karen described herself as, "a first-responder driving high priority issues." Her fast response to emerging issues was typified by her description of immediately receiving auto-generated text messages and emails, which are usually followed by a call from her manager 10 minutes later.

Another aspect of the commotion cycle is as different challenges and questions surface, different groups temporarily form long enough to discuss and decide on courses of action. This aspect is referenced early in the narrative when it is pointed out that one of her responsibilities is to, "muster the troops when something goes horribly wrong." One of the central threads of this narrative also demonstrates the formation of ad hoc groups to solve an emerging issue as Karen first identifies the server problem, then brings together Rudra and the two contract engineers on

his team. Her commotion cycle perspective of trying to drive fast solutions to emerging issues is seen as she describes her interactions with them as asking, "Where are we at?" and, What do we know?" all day long. Another ad hoc group she engaged were made up of people from her team to help understand the resolution and develop the process for achieving it, which she gave to the contract engineers. At the same time, Karen organizes a subset of the same characters into a different ad hoc group. The narrative describes this when Karen says, "I spent the first half of my day talking to Rudra, his boss, and the director of operations about how we make sure this never happens again by putting in rolling deployment processes." Together these elements in the narrative help to identify Karen as a person operating in the commotion activity cycle.

Karen prioritizes finding solutions over being nice and getting along with colleagues, including those in other activity cycles. This starts to become clear in the narrative when she describes being in the mode of solving problems. Karen explains that, "people do not like it when she has to step into this role, …but somebody's got to do it," and that "Karen was determined to see a fix put into place." This idea continues to emerge in the narrative as the tension rises between Rudra and Karen. Despite Rudra being hours away from boarding a plane to take extended time off from work to be married in India, Karen had to keep pushing him to mobilize his team for a fix to be implemented before he left, and she had no time to be sensitive to his schedule. The narrative captures this when Karen says, "I am spending the day trying to drive this issue as he is trying to get ready for his wedding," and when she tells Rudra, "I know you're on your way out, but I need your help. We need to figure this out." This aspect of prioritizing solutions over niceties is explicitly called out in Karen's narrative and might also be inferred from Arthur and Barry's narratives. Both Arthur and Barry make an effort to lobby for a

faster and shorter path, and both stand firm making their case in the face of others who do not necessarily understand or share the same sense of urgency to solve the immediate problem as quickly as they do.

Determined to get a solution in place, Karen is ultimately dependent on the contract engineers, whom she has identified as being in the concentration cycle, to complete key tasks. Karen demonstrates adaptability in the face of working with others in a cycle different from hers as she prepares the work required of the contract engineers. This is seen in the narrative in the passage, "Karen's team had been working on the problem, so she came to the conversation with a process that was already approved. Karen explained the step-by-step process to the contractor engineers on Rudra's team." Activities in a concentration role take place within a brief span of time and are highly routinized, which Karen saw and understood she organized the tasks for them. This is seen in the narrative where Karen described their process as starting with, "a list of data messages that they needed to find and then send… Find the necessary information, plug A in, plug B in, initiate a search, pull up the failed message, and click send," Recognizing this, Karen communicated the instructions she needed them to follow in a similar way. With the process spelled out clearly, Karen was better able to push the contract engineers to carry out their role, "to complete the needed tasks and even pointed out a couple ways that they could automate the process so that it took less time and fewer steps."

Karen expressed frustration that the contract engineers did not display the same consideration for her and did not adapt to meet her needs, which can be understood as the sense of urgency and need for a fast fix to an emerging problem that is common for a commotion cycle perspective. This becomes clear in the narrative as Karen describes her frustration when

interacting with the contract engineers who, "seemed irritated that they had to do it." This exasperation is called out when Karen asks, "How is it that they get to be irritated? My team went and scraped everything from our tools to figure out a solution. We went above and beyond to work with them so that they didn't look like dumbos. I put together a whole operational process in a day and I put my name on the line. If our leadership was going to have a problem with any of this, it would be on me…Are you fucking kidding?!?? So, it's 8 p.m. on a Friday and I'm trying to be a team player and they seemed annoyed." Karen then acknowledges the legitimacy of their perspective from the concentration perspective, which is task-centered with a narrower focus noting that, "they had other priorities and it was the end of the day before winter break. I don't think they were thinking about the customer experience too much or about the broader needs of the organization."

The tension between these two perspectives at the end of the narrative, which notes that, "Karen had a broader understanding of why it was important to find and implement a solution as quickly as possible. By contrast, the contract engineers seemed to see this only as an additional set of unanticipated tasks assigned at the last minute. Karen pointed out that the work of finding the solution to the problem was under-appreciated by the engineers and Karen did not sense any desire from the engineers to appreciate the bigger picture as they took on the fresh set of to-do items." Karen's experiences in this narrative highlight a frustration that recurs throughout many of these narratives where frustration and exasperation are felt when an interactant takes a position that is in line with their activity cycle but is not in line with the other person's activity cycle. In Karen's case, she tells a story of feeling this even more because she put in the effort to

organize the work in a way that accommodated their quadrant, while also, hopefully speeding up the end result, which was aligned to her priorities.

Like the other narratives told from the commotion perspective, Karen's story places an emphasis on a sense of urgency, time sensitivity, and is detail-oriented. Karen brings these perspectives into her interactions with others and they become points of contention when working with others who do not share these as drivers of what level of priority a problem should be regarded. Karen also emphasizes complexity in her story but addresses this by trying to reduce complexity when handing off work to the contract engineers who are functioning in the concentration cycle.

Helen's Narrative

As new software releases and updates are developed, tested, and finalized, Helen's team helps integrate that new development into the suite of tools that employees use at Helen's office. Helen learns about the new functionality in great depth. She strives to become knowledgeable about how everything works, where the remaining bugs and issues are, and how the new development should function once integrated into other connected systems. Helen is the person people reach out to whenever users think something is not working the way it should, so she uses this knowledge to answer questions and respond to concerns about the new functionality. As new issues are identified and problems are discovered, Helen works with software engineers to diagnose the situation and, when possible, put a fix in place.

Helen and the facilitator kicked off their conversation by deciding on which of Helen's many projects they wanted to focus. It only took a few moments for Helen to zero in on a

particularly memorable one, which will be referred to by the code name Ravenclaw in this writing. Ravenclaw was one of Helen's first experiences when she was new to her position and came to her mind, in part, because of the challenges she dealt with on this project.

Helen encountered difficulties from the start. Helen began working with the Ravenclaw project manager when the two worked together to bring Helen onto the team and transition responsibility for the project over to her. The project manager was also new to her own position, with this being one of her first projects in her new role. "She got assigned to this project, which was huge. She didn't understand all of the intricacies, which was understandable because she was new," Helen explained. "The unfortunate part is that she thought she understood it better than she did. So, the things that were communicated were either wrong or incomplete." This presented challenges and problems for Helen, but upon reflection, she acknowledged that this situation was also good for her in some ways in the long run. Helen explained her reasoning saying, "This meant that I had to figure things out for myself, rather than trust the communication that was given to me. The situation gave me a much better understanding of Ravenclaw as a whole."

Helen explained that these challenges took her a long time to resolve as she figured out how things truly worked from a technical perspective, and this had longer-term effects. "It ultimately had a negative impact on my working relationship with the project manager," Helen explained, "because it made me not trust the things that she was telling me, and I felt like I had to double check anything from her that came my way because I had such a poor personal experience," Helen explained that things have gotten better since. Both she and the project manager have matured in their positions and there have been fewer issues since. Even so, Helen

is still affected by the experience. "It is hard to let go of those first impressions," Helen explained. "I would much rather have somebody tell me, ‘I don’t know’ than give me an answer and have it be wrong.” Helen’s frustration with the project manager’s level of knowledge about the technical details and intricacies of the project came across clearly in this portion of the story.

As Helen got up to speed on the details of the project, she would handle questions and issues raised by the users of this new software. Some escalations were solved by answering ‘how-to’ questions or clarifying that a particular functionality works the way it does by design. In these situations, Helen would explain the broader reasoning behind the design or explain that the tool could not work in the way the user wanted because it would affect, or break, other parts of the workflow or other systems. There were, however, genuine issues that were also raised where the software was not working as intended, and Ravenclaw was the source of many such escalations. In these cases, Helen reached out to a team of engineers who developed the Ravenclaw software and her primary point of contact on that team was a software engineer named David.

Working with David was another point of frustration for Helen. “I just wanted to punch him in the face all of the time,” Helen said with a laugh that made it clear that she was venting her frustration rather than actually advocating violence. Helen explained that when a problem is raised and confirmed, she submits a ticket to the engineering team asking for an investigation. David is her usual point of contact on their team and Helen is often frustrated by the lack of details or explanations that are shared. “David seems to have the attitude that people in the business shouldn’t have to worry about that,” Helen explained. “But, no, it is my job to worry about that,” Helen said firmly. “I don’t know if he doesn’t trust me to be smart enough. Or if he

doesn’t trust people in the business to be technical. But, it causes so many problems because so many of the operational problems from the last 18 months have been from his division,” Helen explained. “I think, it’s because he does not trust people in the business to help him. I think he finds it to be an adversarial relationship,” Helen went on to say. “But, if you take the time to make sure your partners—which we are supposed to be—have buy-in and understanding of the thing that you are providing to them, it makes a huge difference in the overall success of the project because everybody needs to be on the same page,” Helen explained. “I can prevent escalations if I know which escalations are coming. I can head it off. I can set expectations. I can communicate appropriately. Whereas, if I'm blindsided, I'm as likely to run that up to an escalation flagpole as anyone," Helen emphasized.

Helen's frustration with David came across very clearly as she explained that he consistently would not discuss the more technical details of his team's investigation, their status, or other issues that they found and were addressing. Helen found that the level of mistrust between her and David grew over the rollout of Ravenclaw, and the issues mounted. Helen felt under informed and this meant that she could not set the expectations of or prepare the users of the tool. "If I know what the tool will do, won't do, and won't do well," Helen explained, "I can head off a lot of panicked escalations." Helen felt like she was being limited in what she could do to support both the users of the tool and the engineers who were trying to fix the issues.

At one point, a combination of factors put Helen in a tough spot. Helen had only been in her position for a few months and was still trying to understand the details of the Ravenclaw software, which were both many and complex. She was receiving incomplete and sometimes inaccurate information about the tool from the project manager, and David on the engineering

team was playing his technical cards close to the vest. It was in this environment that the business team members using the new tool requested a change that Helen initially thought would be a minor adjustment by the engineers and an easy win. Helen said as much at first. The people in the business group believed that this change would be something that would noticeably improve their business workflow and fix an issue that was already getting escalated to Helen. She recalled that one of the recurring points of frustration for the people trying to use this new tool was the amount of time it would take to make fixes and changes. “It always comes back to the turnaround on fixes and enhancements,” Helen explained. “You can never make someone happy by telling them, ‘I can fix this in 6 months, but I can’t fix it faster than that,’” Helen said sagely. Helen had hoped that this fix would be a much-needed win. “The request came to me pretty well formed,” Helen explained, “and they knew what they wanted.” In the end, the easy fix was not easy. It took months and was more difficult than she imagined because the tool was not designed in the way that she thought. She did get the new development across the finish line. “It took a little longer, but it could have been much worse,” Helen explained.

Even so, this challenge was memorable for Helen because it ratcheted up the frustration being voiced by people on the business team. "There was a sense of disappointment from the business team and a lack of trust in me after that because I had thought at the time that we could do it quickly and then it turned out that it was going to take more time," Helen explained. The users' disappointment and frustration took the form of nagging follow-up emails asking how it was going when the change was going to happen, and if it would help to have a meeting. Helen explained that, regardless of the answer to their questions, they regularly scheduled meetings to get a status update. "I understand why they were being so hands on," Helen reflected. "It was

because they wanted their project to wrap up and I was preventing that because I had been given bad information and I was still trying to figure out exactly which part of the information that I had was bad and why" she reiterated. Helen summarized how she felt at the time saying, "I was still new and I didn't know if it was just that I was doing it wrong, or that the system wasn't behaving in the way that I had been told, or it was something else." Another effect of being new to her position was that Helen did not have the kind of relationships that she has today with the software engineers, so she did not know who to go to and ask for a detailed explanation of how things actually worked.

Helen explained that, while things were continually tense, there was not a singular moment when things came to a dramatic head. “I tried very hard to be a de-escalation point,” Helen explained. Reducing, or at least maintaining, tension levels while moving the project forward was something that Helen was particularly good at doing. “Maybe it’s because I’m a middle child,” Helen contemplated, “but the role of mediator is one that I do well. There’s a little bit of charm involved, but it’s mostly knowing strategically what information to give and what information to hold back,” Helen explained.

Another tactic that Helen employed was deflecting blame in order to keep everyone’s focus solution oriented. ”This is terrible, but it is so easy to blame things on the engineers,” Helen said. She explained that the people on the business team never talk directly to the engineers, "so it doesn't ever get back to them. I shouldn't do that, but it is incredibly effective to have a focus for the blame to soften tensions," Helen reflected. If Helen felt that she had to, she would say to people on the business team that, "there is this engineer who is making things really difficult and I'm shielding you from them, but you've just got to be patient," Helen recounted. "It

was a super effective way to de-escalate tension because this end user thinks you are on their side when, in reality, it may be that they are being crazy and asking for ridiculous things." Helen reflected that this goes the other way too. "I would say, 'Hey engineers, there is this crazy business person is asking for this crazy thing, but could you please do this thing, it would mean a lot and it would make life a lot easier if you could help out with this.' And, when they can, they do," she explained.

In the end, it took Helen several months to grind through the issues and limitations that the business team needed to be addressed in the new software. Helen was eventually able to facilitate getting the necessary changes made and the tool is in heavy use today by a wide range of different business teams and users. The tool is seen as a powerful addition to the suite of tools used at Helen's company, and Helen will always remember the rocky road and tense times getting to that point.

After reviewing Helen's story, this researcher determined that, in the context of her role on the Ravenclaw project, Helen was most aligned with the commotion cycle. Helen's time windows were briefer than others in that her focus was on individual issues. Helen worked to understand an issue and its negative effects. She reached out to different groups to help address the issues. She then tracked and reported on those issues. Each issue was captured in an electronic ticket and each issue was, in many ways, a self-contained work unit. The work on each issue was not routine and presented its own problem-solving challenges for Helen. Thus, Helen's task variability was high in comparison to others with more defined and procedural duties on the project.

This researcher concluded that the Ravenclaw project manager fit best in the creation cycle. The project manager's time window extended back to the start of the project many months before Helen came onto the scene and extended through to its deployment and the resolution of the issues that were Helen's focus. The project manager had a variety of responsibilities and tasks that were necessary in order to be able to plan, coordinate and deliver the project. Helen depended on the project manager as a subject matter expert on Ravenclaw and felt that she would need this information as this as she gathered information from about the user experience that would inform the future software updates and releases that she was responsible for delivering in future fiscal years\. The frustrations Helen experienced were rooted in her perception of the capabilities of the project manager at the time, and not delivering information accurately with the detail and deep explanation that Helen wanted. Helen found the focus of the project manager to be more superficial and lacking in precision.

This researcher also concluded that David, the software engineer, was largely in the cultivation cycle in his role on the project. As a manager of those who helped develop the code for the overall project, David's time frame window was often focused on creating and refining the Ravenclaw code base. As an engineer who was writing, testing, and editing lines of computer code, his tasks were less varied, by comparison, than it was for many others on the project. Helen also struggled with David's lack of communication and transparency on the technical details on the design and coding of the software and the issues that Helen was raising. Helen felt that David had these details and this information but was not taking the time to share and to give Helen what she needed in order to be able to communicate with the people on the business team.

This researcher also placed the members of the business team who were anxious to get a positive resolution to the issue that was taking months to resolve in the creation cycle. Helen explained that these were business leaders who were integrating new workflows and a complex new tool into their organization's daily business. Their time frame was more extended and their tasks were varied in this context. Helen felt like she was the source of frustrations for the members of the business team that were similar to the frustrations she was experiencing with David. The business team members wanted more details and more precise information, and Helen was irritated that she did not have this information to share and was struggling to acquire it.

Helen: Discussion and Analysis

In a commotion cycle, the work is characterized by moment-to-moment, rapidly unfolding, and changing events that must be managed quickly. We see this in Helen's narrative when she explains that one of her core functions is to be ready to respond when people reach out for help, "whenever users think something is not working the way it should." Another example comes later when it is explained that she handles, "questions and issues raised by the users of new software. Some escalations were solved by answering 'how-to' questions or clarifying that a particular functionality works the way it does by design." The narrative calls out that when she is not responding to one of these contacts, she is learning about new functionality of tools and features in great depth as it is being developed so that she is ready to respond when needed.

Another feature of commotion cycles that Helen experienced is that ad hoc groups temporarily form long enough to discuss and decide on courses of action. The narrative notes

that, “as new issues are identified and problems are discovered, Helen works with software engineers to diagnose the situation and, when possible, put a fix in place.” The groups that Helen assembles vary depending on the particular tools and often the specific features with the tool that are affected as well as the nature of the problem. The narrative hints early on at the high variability of the tasks that Helen is tackling when it states that Helen and the facilitator, “kicked off their conversation by deciding on which of Helen’s many projects to focus.”

The nature of Helen's work in the commotion cycle is such that she needs to have already or have quick access to, accurate information necessary to carry out her responsibilities. Her issues with the project manager put her in a situation where she didn't have this access. While having incomplete and inaccurate information would be a problem in any position, this becomes particularly problematic with the short time windows and variety of tasks that come with Helen's activity cycle. These frustrations are seen in the narrative when Helen reflects that, "It ultimately had a negative impact on my working relationship with the project manager…because it made me not trust the things that she was telling me, and I felt like I had to double check anything from her that came my way because I had such a poor personal experience." Helen's frustration that the project manager was not engaged with the technical details and intricacies of the project is then noted in the narrative.

The narrative places the project manager in the creation cycle. The narrative notes that her time window extends back to the start of the project many months before Helen came onto the scene and extended through to its deployment and the resolution of the issues that were Helen's focus—which from a creation cycle perspective—is but one piece of a much larger puzzle. In contrast, for Helen, that piece is the majority of her world. The narrative also calls out

that the project manager had a variety of responsibilities and tasks that were necessary in order to be able to plan, coordinate and deliver the project. Nonetheless, she also continued to support the deployment and use of this software beyond its deployment, serving as a subject matter expert on the tool for Helen and gathering feedback from the users so that this information could feed into future software updates and releases. Helen was frustrated that the project manager was not operating from the same sense of urgency and need for a fast response to the users who were struggling to use the new software right now and thus were less interested in future enhancements.

Helen has a similar frustration with David who leads the team of software development engineers. The narrative notes that, "Helen is often frustrated by the lack of details or explanations that are shared. David seems to have the attitude that people in the business shouldn't have to worry about that." The narrative places David in the cultivation cycle and explains this placement noting, "As a manager of those who helped develop the code for the overall project, David's time frame window was often focused on creating and refining the Ravenclaw code base. As an engineer who was writing, testing, and editing lines of computer code, his tasks were less varied, by comparison, than it was for many others on the project."

Helen is frustrated both with David's less detail-oriented communication and his failure to communicate enough information as quickly as she needs it. She calls out that this inhibits her ability to respond quickly to the variety of requests that come in, which are aspects of a person operating successfully in a commotion cycle. This is seen when Helen explains the consequences of not having this information. She explains, "I can prevent escalations if I know which escalations are coming. I can head it off. I can set expectations. I can communicate appropriately.

Whereas, if I'm blindsided, I'm as likely to run that up an escalation flagpole as anyone." The expectation that Helen will respond quickly is also called out when she says, ""You can never make someone happy by telling them, 'I can fix this in 6 months, but I can't fix it faster than that.'"

Helen's narrative shares similar traits with the other narratives told from the commotion perspective. Helen, too, is driven by a feeling of urgency around her core responsibilities. Time is of the essence for Helen and having correct and precise details about the problem, the root cause, and the solution are key for her. Helen feels these poignantly in her interactions with characters in both the cultivation and creation cycles. Both cultivation and creation cycle characters operate in a broader time window than commotion, and Helen sees them as under-responsive to her needs, both regarding response time and the details they provide when they do respond. Helen's emphasis on the details and information that she has to regularly find, confirm, and communicate as well as the emerging problems for which she needs to help drive a solution to speak to the complexity of her work and role as she defines them.

Robert's Narrative

As Robert and the facilitator met and decided on the projects that Robert would focus on in his post mortem conversation, they agreed to unpack an experience Robert had that spans three years, with a significant shift taking place between years two and three. Robert maintains a very particular piece of functionality that is used in some different internal systems in Robert's office world. The functionality looks somewhat like an online survey in that it allows users to answer a string of complex questions. Different types of questions offered include different ways

of providing answers, such as a drop-down menu, a checklist, a radio button list, short or long open-text fields, and so on. Unlike a standard online survey, this system is more dynamic and responsive to user input. For example, as an employee is entering data about a particular issue, some questions are optional and others are required. The answer that an employee gives to one question often determines the next question that can be asked. Regardless of input method, all of the data that is entered can be collected, synthesized, and used for a variety of purposes including business reporting and forecasting.

Robert's system contains a particularly vast array of different questions as many different business groups use Robert's functionality to gather data in different tools and for different purposes. Many of these question trees are extremely complex due to the number of questions that need to be asked and the wide range of possible question and answer pathways. The diagram of these paths is so dense; it cannot be displayed in its entirety and still be legible or discernible. Robert supports the system within which these trees exist. Every time a user follows a path through a question tree, Robert's system helps the answers flow into the target databases to be used in a variety of ways.

People from different internal lines of business need to reach out to Robert whenever they have an idea for a new question tree that they want to develop or notice an existing one that needs to be updated. The act of creating or updating a tree is surprisingly laborious. One might comparatively imagine this work to the ease with which one might update an online survey, but that would be a misperception. It can take multiple weeks of back and forth exchanges of complex diagrams and spreadsheets for Robert to reach a final agreement on a question flow that works as desired by the internal customer. Robert often has to teach someone new how the

question flow charts work, the limitations of the system, and how to interpret and communicate back information in a form that both parties understand. This can be a challenge because of the different ways people visualize their interaction with Robert. He described his experiences of working with a large number of individuals saying, "I work with various different people, with various levels of technical competency, and various levels of communication ability." Robert explained that some of the people he works with see themselves as the person responsible for creating and owning their question trees when they come to Robert for help. Others see themselves as dropping off a job that they expect Robert to do and return to them once it has been completed satisfactorily. In reality, they need to meet in the middle, so Robert clarifies, manages, and adapts to each new relationship as it comes along.

One of the first things Robert does when he receives one of these tasks is to define the data model that determines how questions will be displayed and the resulting answers organized. There are a variety of considerations he has to negotiate with each new request. For example, he needs to determine whether a group wants to make the question and answer process as easy as possible, and have the questions laid out in such a way that they always look similar and familiar from tree to tree. For more complicated requests, he guides groups to consider how difficult will it be to build, maintain, and use what they are asking for. In a related question for complex trees, groups need to consider how much money they have budgeted to spend and how much time it will take to do the work. One approach Robert takes when helping groups balance complexity versus ease is to ask groups if they want a tree that can fit on a piece of paper or is it acceptable to have a tree that extends across a hundred pages.

Once the plan is finalized, the amount of labor involved in implementing new trees or changes to existing trees is high. This has been a point of frustration for groups in the past that are trying to implement a complex tree quickly or to make iterative changes at a fast-recurring pace. “Because of the sheer number of different projects going on, I think, there are some details that get lost and some problems that we’ve had for sure,” Robert explained, “and it was time to start looking for better solutions.” This leads into the description of a project in which Robert was recently involved.

The goal for a new tool being developed was to channel the detailed content of the requests that Robert received into a design canvas that allowed people in the business to create their own trees and see exactly what they were building and how it functioned. Robert saw the idea behind the project as making it easier for people to be closer to their data and train them to build out functional questions trees that they can then submit to be added or updated within the system. The hope was that many of the things Robert was spending time teaching and validating as people turned in their drafts could be built into this new software, and also that some of the setup work Robert has to do after a final draft was agreed upon could be done by this new software as the trees were created. Ideally the end result would be that this tool could prevent people from creating a tree with self-referential loops, absurd logic, or question flows that were fundamentally broken. The future workflow Robert envisioned was that people would use the design canvas to build their own trees, then submit to him trees that would have already been checked for broken spots and have the necessary master data embedded. Robert could then review the changes, go through his governance process, and then publish the new flows. Once published, the people from the business could immediately confirm if the data looks right to

them and that questions are firing correctly. The hope was that this would make the entire process run more smoothly, quickly, and accurately for all involved.

Another issue Robert was eager to solve was giving people a place where they could store their flows until it was time to make updates. “I would get requests all the time,” Robert explained, “from people who couldn’t find the file of the old flows they wanted to update.” Robert spent a fair amount of time helping people hunt for something that they submitted a year or more ago. “As a bonus, this new design canvas tool would allow them to instantly look through their archive and quickly load what they were looking for,” he explained. Despite the many potential benefits for all, Robert pointed out that not everyone was a fan of the project. Concerns about the security of the flows and the ease of use of the new tool were raised. “The old requestors already had a way of doing this work and were not interested in learning a new tool,” Robert explained that this came as no surprise; he anticipated that resistance to change would be something that needed to be addressed as they moved forward with the new project.

A first attempt to create this tool was made about three years ago. The first version a software engineering team created was an attempt to move the question tree workflows, and the tasks involved in creating them, out of the old tool that Robert used and into the new system.

This first version introduced a fundamental limitation. "The problem was that the people who wrote the requirements were not the people who were regularly using the question trees," Robert mused. "They made an assumption that the largest of the question trees could be printed on a couple of pages of paper," he explained. Robert provided a detailed explanation about how a lot of question trees grow dramatically when you expand on them by adding the same question to multiple branches, and then add a question to all of those branches, and so on. The technical

issue they were facing was that once the tool displayed a large tree, in full, it became incomprehensible and was not able to be edited. Zooming to the point that a user could see the details of the tree left them with a view so narrow they could not easily maintain context and understand at what point in the tree they were looking. "I first discovered this issue right in the middle of testing when all of the coding was, pretty much, set in stone," Robert commented. "The developers did their whole proof of concept on this idea, but never showed me the details or brought me into those conversations because I wasn't the project manager. I was more like a consultant. I was only shown a few designs of the final tool and, from that, it looked like something that would work."

Robert understood the problem as soon as he saw the final flow diagrammed in its entirety. The question trees that he regularly built would be unmanageable in this tool unless they put strict rules in place that limited how big or complex a tree could be, and he knew without a doubt that no one in the business groups he supported wanted rules like that. “The guiding principle of their design,” Robert explained, “was that the developers did not want intersecting or overlapping lines when viewing the tree diagrams. As a result, the developers made what could have been small diagrams into huge data sets because they couldn’t easily solve the issue of crossing lines without making sacrifices.” From there, the developers decided on a solution that Robert feels they made without understanding the impact of that decision.

Evidence of this misunderstanding surfaced when the first version of the software launched and the relationship between data points kept breaking because it could not support the complexity of the question trees. The new system would repeatedly shut down and Robert's ability to create new trees was offline for almost three weeks, which meant he wasn’t able to

make progress on any incoming requests. “It was a nightmare,” Robert said, “I felt like it was my fault and I wasn’t even involved in most of it.” As a result, the groups Robert supported still used their old submission flows after the launch of the first version, and Robert reverted back to his old tools and processes once they were made available to him once again.

Two years ago, the business told Robert they were going to develop a second version of the tool. They explained that the new version would have new functionality and would expand the number and types of users who could use the tool. The message about the hopes for version two at the time, as Robert describes it, was, “It will be peaches. It’s gonna be great. Everybody will be happy.” Robert suspected that things might not be quite so ducky when he realized that the new development team did not know that nobody was still using the first version of the tool. “They assumed that version one had been working since it launched, but we had abandoned it and nobody was even using it,” Robert said. He explained that the engineers were working from an assumption that version one of the tool was stable and Robert had to explain that the reality was exactly the opposite.

Robert shook his head and explained that, when version two was released, the experience was about as bad as it could get. “When you would try to do the work, it would mess something up, lock a template, and then that problem would go live even though that was never intended,” Robert said as he shook his head slightly. The template was frozen when it surprisingly went live in these cases, so Robert could not unlock the template and fix the problem. “Every time we touched something, we would mess something up or lock something else out, or turn something else off,” he explained. Robert has a team member, Murray, who would often help him enter large question trees into the system when they had a backlog. “Murray and I were really

frustrated after about a week of this," Robert recalled. "Murray was saying things like, 'I'm not gonna do this anymore because everything I do causes more work and breaks things worse,'" he said. Robert told Murray to take a break at that point and to work on other things for the rest of the day. Robert figured that he would knock it out for him, but he had the same problems. "All of a sudden, boom," Robert said, "I would be locked out of the template. I would try doing another piece of work and that would turn off another template." The situation worsened to a point where people were reporting on erroneous data, business intelligence was getting more and more inaccurate, and Robert was locked out of many templates without a way to make any changes to fix things.

These issues were happening at the same time that the company was announcing and releasing multiple high-visibility, high-profile initiatives. The inability to add or modify question trees and to have existing incorrect trees that could not be fixed was not received well by business leaders. "I ended up taking a lot of flak for it. Even though I did not create the problem, I was, however, the face of this process for a lot of different groups," Robert reflected. Many of Robert's biggest problems were addressed after a series of emergency updates that followed the initial release of version two. These releases addressed the core stability issues and made it possible for him to reliably enter question trees both before and after the data went live. While some level of basic stability was achieved, Robert still felt that version two had some difficult limitations. One example is that there was no way to enter a question and have it duplicate across multiple lines of questioning. This means that if a tree had 50 branches and the business wanted to add a key question at a certain point on all of those lines, the question would need to be manually entered 50 times instead of just once.

Robert chuckled as he remembered the process of getting the development team to deliver these needed fixes as a part of their series of emergency releases. "I was in a meeting where the developers began by presenting one option, and after they described their plan which did not include any way to aggressively fix this, they started to wrap up the meeting." Incredulous, Robert jumped in and asked what the second option was. "I know I wasn't the project manager, I was still just essentially a consultant who gets brought in on occasion, but I really didn't understand why we weren't discussing a second option," he explained. The developer who was leading the meeting explained to Robert in no uncertain terms that this was the only option, that they could not go back, completely scrap their design, and rebuild the tool from the ground up, which he assumed Robert was asking for. Robert sensed he was backed into a corner, and it would be futile to engage further; as his role was to simply be the mild-mannered consultant, he had no authority or responsibility for shaping the ultimate outcome, so deferred to the project manager to drive whatever the end solution would end up being.

A number of meetings and business discussions about the next release of the tool ensued, and Robert explained that while these were happening, it became more and more clear just how poorly version two was behaving. "There was a list that grew to 185 identified bugs and there were about 250 open tickets that were calling out specific problems," Robert recalled. He explained that about 150 of those tickets were each classified individually as a medium priority, but when taken together formed multiple high priority issues. Robert remembers that using the tool at that time was a miserable experience. Eventually, the project team came to him and admitted that he had been right about a lot of the things that he called out as being fundamental problems with the design. They agreed that the inability to automatically add a question to

multiple lines within a tree was something that needed to be fixed, explained that the decision had been made to revisit the fundamental design of the whole tool and that funding and resources for a third version had been secured. This time Robert was asked to be more heavily involved from the start as they designed version three, which happened close to a year ago.

This was quite an exciting opportunity for Robert. He remembered what it was like to not be heavily involved in the day-to-day details and management of the first two projects. "I didn't write either of those requirements, I just read through them once, and while I could say I felt like they were a good set of words on a piece of paper that could explain what we're trying to do, it was hard to visualize what the end result would look like," he reflected. Robert also noted that it was hard for him and others to predict the kind of situations and issues that they were going to run into from having only the project documentation available to them. Happily, Robert's experience working on V3 was altogether different from the previous two versions. "They brought me in from the very beginning and we worked together," he recalled. "We defined that my role was that of an SME [Subject Matter Expert] and I would help with writing the requirements, looking at the user experience designs, seeing what it looks like in testing, and even supporting it after it goes live." He explained that over time his involvement became less necessary as the project matured, but in the beginning, the V3 development team had a large knowledge gap and Robert was heavily involved on a daily basis, working hand in hand with the project manager.

They began by including him in the development of a fresh set of technical requirements. "I got engaged with the writing of the technical requirements and reviewing new versions as they came out on a weekly or sometimes bi-weekly [twice a week] basis. We went through so many

versions; I think there is a limitation of the English language to describe them all," Robert laughed. He was also able to participate in the design conversations, and he feels that this is where he made his biggest contributions. "Once I could see the design and how we should expect things to interact, things made more sense to me," he said. Robert describes that phase of the work as his "sweet spot" where he was able to make the most meaningful contributions, including being able to help the engineers and project manager make smart choices when they had to make compromises in order to meet their deadlines and other constraints. "We had to make those tough decisions, but we did it all together," Robert reflected, with a hint of a smile indicating what a welcome change this was for him. The people working together on the tool included not just the people building it, but also a primary user, the person whose budget was being used to pay for it, the user experience designer, and the project manager. Robert notes that the work made more sense to everybody involved and, unlike in the previous two versions, a lot of the refinements and realities of the tool were well defined and expected. Robert describes the work saying, "We had a complete car with fully functional parts, all except for the engine. So, what we did was basically swap out the engine." Robert paused a couple beats, thought to himself, and summarized aloud saying, "I don't know how you really make the car metaphor perfect, but we did really major work that needed to be done." Today, months after the initial launch of V3, Robert describes the tool still quirky, but decently stable and much improved. Robert will tell anyone who asks that V3 is in a far better place than the versions that preceded it, and he contributes this to the more collaborative approach that was lacking in the first two versions. He also remarked that he has maintained the good working relationships that were built during the V3 project, joking that he doesn't feel backed into corners any longer.

As Robert’s story concluded, this researcher considered the 2x2 matrix particularly in regards to the contrast of Robert’s daily job function, his role - or lack thereof - in the first two versions of the design canvas tool, and how his role changed during the development of the third. Robert's primary job function falls most closely into the commotion cycle. His time frames tend to be shorter. He is focused on receiving a request for a new question tree or modifications to an existing tree. Within that, his tasks are to review requests and provide feedback. From there, he often meets with an ad hoc business team to negotiate the nature of their relationship and the workflows they follow to complete the work. He helps them consider different constraints in order to make decisions and trade-offs about the nature of the final trees that will be created. These decisions affect business reporting, employee workflows, and decision-making in the business. All of this adds variability to his tasks.

The commotion cycle carried over into his role on the first two projects. He was given the same kinds of tasks like reviewing a technical document and attending occasional meetings to provide comments. He was also tasked with answering questions if and when they emerged. Robert's quadrant of involvement may help to explain his perception of the project regarding how he felt others were perceiving his role, the value placed on his input, and the frequency with which he was asked for that input. Robert's role changed dramatically in the third project. He was asked to contribute more to the effort and was engaged more deeply throughout the project. The narrative supports an argument that he shifted into the cultivation cycle for the third project. His time window expanded to include the full project and complete phases of the project, like requirement writing and user experience design. Robert was engaged in more long-term processes that were outside his immediate control so that he shifted to working more

collaboratively within the established parameters of the project. In Robert's narrative, his shift in roles results in his contributions being seen as being more valuable both to himself and the others with whom he worked, as well as allowing him to contribute more to the greater good of the project.

Robert: Discussion and Analysis

One of three transitional stories in this collection, Robert's story is also different from the others in that his story spans a three-year time frame that includes his shift from one activity cycle to another. Considering the two axes of the matrix, task variability and time windows, Robert's narrative identifies a number of tasks that he performs in his role. These include teaching others how his tool works and how question trees work. Robert notes that he, "has to teach someone new how the question flow charts work, the limitations of the system, and how to interpret and communicate back information in a form that both parties understand." The narrative also notes that Robert defines data models, and balances "considerations he has to negotiate with each new request." Robert also, "guides groups to consider how difficult will it be to build, maintain, and use what they are asking for." This includes helping groups consider complexity, time to deliver, and budget considerations as they plan their work. Robert's time windows are measured in weeks as he manages requests for new question trees to be developed.

Managing multiple concurrent requests hint at complexity in his role, and Robert highlights the role of complexity throughout his narrative. The descriptions of complexity start with the complexity of the system that Robert manages. The narrative explains that he, "maintains a very particular piece of functionality that is used in a number of different internal systems," and goes on to describe it as a, "system contains a particularly vast array of different

questions.” The narrative provides a description of the complexity of the question trees themselves, noting that, “many of these question trees are extremely complex due to the number of questions that need to be asked and the wide range of possible question and answer pathways.” It also notes that, “the diagram of these paths is so dense, it cannot be displayed in its entirety and still be legible or discernible.”

The narrative also captures the complexity of Robert's role in addition to the system and the question trees. The narrative describes how Robert's workflow changes, "for more complicated requests," and that, "the amount of labor involved in implementing new trees or changes to existing trees is high." The narrative notes that, "this has been a point of frustration for groups in the past that are trying to implement a complex tree quickly or to make iterative changes at a fast-recurring pace." This leads to an explanation of managing multiple requests from folks who are hoping for or expecting a fast turnaround due to the pressure of their timelines. Robert's narrative, like the others, told from a commotion cycle perspective, use complexity as it pertains to emerging issues and changing circumstances in their role. This supports the identification of Robert and the others in this chapter as working from a commotion cycle perspective.

Robert's role in the context of the first year of the project and a first version of the new software continues to be defined by his work in the commotion cycle. Robert was not engaged in the planning of the project or in other capacities that would be more in line with a broader time window or cultivation cycle like others on the project team. Robert voices frustration that the members of the project team did not share his detailed understanding of the tool or how it was used. Robert comments, "The problem was that the people who wrote the requirements were not

the people who were regularly using the question trees." Robert's narrative calls out the tension that came from interacting with the project team that was operating in a cultivation cycle while he was in a commotion cycle. Support for this is found in the narrative that reads, "Robert had a detailed understanding of the tool and could see issues from this perspective. Felt that the development team (cultivation) did not have this same perspective and saw problems with what was developed because of this lack of detail." Robert expands on this frustration in a way that also points out that he was engaged in shorter time frame tasks, like testing, and not given tasks that align with a broader time window or role. He says, "I first discovered this issue right in the middle of testing when all of the coding was, pretty much, set in stone." This point is supported again when he points out that he was never shown project details or brought in to broader conversations because he wasn't the project manager.

Robert's role in a commotion cycle continued in the second year of the software development project and involved the second version of the software still in development. Robert's frustrations with engaging with others in a different activity cycle continue as he describes the project managers (cultivation) having a lack of attention to detail and points out that they make incorrect assumptions because of this. His description implies that they are not connected to the immediate realities of their work and are significantly out of touch. Robert's claims are supported in his statement that, "they assumed that version one had been working since it launched, but we had abandoned it and nobody was even using it." Robert's self-description in his story describes his different role and his frustration with the difference when he says, "I know I wasn't the project manager, I was still just essentially a consultant who gets brought in on occasion." This is also supported in the year two description of Robert's role in the

narrative, which states, "his role was to simply be the mild-mannered consultant, he had no authority or responsibility for shaping the ultimate outcome, so deferred to the project manager to drive whatever the end solution would end up being." The first two years are summed up as Robert remembers what it was like to not be heavily involved in the day-to-day details and management of the first two projects. Robert's frustrations for the first two years align with the frustration of being seen and engaged with as someone one who is limited to the commotion cycle within a project being driven by a team operating in a cultivation cycle. This sets the stage for the contrast that is year three.

The beginning of the description of the third year of the project immediately signals his transition to a role that is more in line with a broader time window as it states, “This time, Robert was asked to be more heavily involved from the start as they designed version three.” This change of time window duration puts him more in alignment with others in the cultivation cycle. This is accompanied by a change of heart that Robert feels in the form of reduced frustration and greater empathy for the others on the project team. Robert describes his broader role saying, “We defined that my role…would help with writing the requirements, looking at the user experience designs, seeing what it looks like in testing, and even supporting it after it goes live.” The narrative affirms and describes this role change in positive terms stating, “in the beginning, the V3 development team had a large knowledge gap and Robert was heavily involved on a daily basis, working hand in hand with the project manager.

It is also noted that Robert was included “in the development of a fresh set of technical requirements,” and was “able to participate in the design conversations.” Robert’s change of quadrants in the narrative is one of the key turning points of his story. He had issues with the

decisions made while he was operating from a commotion cycle, but then his perspective changed as his quadrant came into alignment with the development team. This transition and change of opinion are expressed when Robert explains that he helped "the engineers and project manager make smart choices when they had to make compromises in order to meet their deadlines and other constraints. We had to make those tough decisions, but we did it all together." Robert's narrative highlights his change in perspective and the resulting reduction in frustration that comes from his role coming into alignment with the others with whom he is working, rather than change as a result of establishing an understanding of one another's perspectives and roles within different quadrants. This is a luxury Robert was able to experience that the other participants from this quadrant did not.

Robert's narrative continues to share similar characteristics with the other narratives told from the commotion perspective. Robert's role gives him a sense of urgency around responding to emerging requests and as he develops question trees with different business groups. Attention to details is central to his description of his role. Robert, like the others in this chapter, voices frustration at working with other individuals, and this frustration decreases as his role aligns with the activity cycle occupied by the others with whom he is working.

Conclusion

Several themes emerge from an examination of the five narratives included in this chapter. The four identified themes are: 1) time sensitivity/urgency, 2) detail and complexity, 3) problem solving, and 4) frustration. This conclusion provides a brief examination of each.

The first theme is that the people who are identified in the narrative as primarily working in a commotion cycle are driven by feelings of time sensitivity and urgency. This theme is labeled "time-sensitivity/urgency" in this researcher's coding. The storytellers of the narratives in this chapter call attention to their focus on time sensitivity and urgency in their work. Arthur, notably, frequently expresses frustration in his story that the managers do not share his sense of urgency. This also supports the fifth theme, frustration, which is discussed below. Barry notes that, "everyone is kind of winging it. We don't give it a lot of reflective thought. We are busy running on to the next thing." Karen's narrative notes that, "a large part of (her) daily existence is to be aware of her phone. She is on call 24/7. Even in the middle of the night." Karen also describes herself as, "a first-responder driving high priority issues." A pivotal part of Karen's story centers on her desire to get an urgent task done quickly in the face of Rudra's imminent departure for his wedding. It is not surprising that this theme emerges given that it aligns with the name of this activity cycle. It also supports one of Ballard's (2009) central descriptors of this activity cycle, which is, "moment-to-moment, rapidly unfolding, and changing events that must be managed quickly." This theme further supports and validates this characteristic.

The second theme is a greater focus on detail and urgency than others who are operating from a perspective that is rooted in different activity cycles. This is often accompanied by the commotion-centered character stepping in and taking on an informal role as one who explains and deconstructs the complexity for others. This theme is labeled "detail and complexity" in this researcher's coding. Barry emphasizes in his story the amount of complexity that he has to deal with in his projects. He describes his project as having confusing and complex elements and that he has to make a special effort to explain interconnected details to his management who are less

focused on the details and who operate from a different primary activity cycle. Barry notes that, "there were so many places where things started out as a clear sentence or requirement but didn't hold up to interrogation."

Related to the second theme, Barry also emphasizes the experience of an ever-growing group of fellow engineers struggling to make sense of the complexity and the details that needed to be sorted in his project. Karen's focus on working through complexity and engaging others in building a shared understanding is demonstrated when Karen came into a conversation with the contractor engineers on Rudra's team. Karen showed up with a process that was already approved and she explained the step-by-step process to them. Helen explains that, in her role, she needs to have already, or have quick access to, accurate information necessary to carry out her responsibilities. Helen also notes how she helps to demystify complexity in her role. She says, "I can prevent escalations if I know which escalations are coming. I can head it off. I can set expectations. I can communicate appropriately. It is noted in the narrative that having correct and precise details about a problem, the root cause, and the solution are key for Helen. For Robert, managing multiple concurrent requests hint at complexity in his role. It is mentioned in the narrative that, "many of (the) question trees are extremely complex due to the number of questions that need to be asked and the wide range of possible question and answer pathways." The narrative also notes how Robert's workflow changes, "for more complicated requests." Together, these help to highlight the focus on detail and complexity that these characters have and the role they take on in deconstructing the complexity for others.

The third theme builds on the role described in the previous theme of explaining details and breaking down complexity for others. An extension of explaining complex details is to then

take a hand in driving others towards a solution that based on their detailed understanding. This theme is labeled “problem solving” in this researcher’s coding. Karen’s narrative highlights the proactive problem-solving role that she takes on when trying to urgently push through a solution to the issue that woke her in the middle of the night. Karen says, “I spent the first half of my day talking to Rudra, his boss, and the director of operations about how we make sure this never happens again by putting in rolling deployment processes.” The narrative also calls out that Karen was determined to see a fix put into place. The story highlights Karen prioritizing finding solutions over being amicable and getting along with colleagues. Helen is described as a problem solver in her narrative. One of her core functions is to be ready to respond when people reach out for help. Helen handles, “questions and issues raised by the users of new software.” Helen’s duties include, “working with software engineers to diagnose situations and, when possible, putting a fix in place.” Proactive problem solving is a recurring theme that is central to the stories told in this chapter about characters operating primarily from a commotion cycle perspective.

The fourth theme calls attention to the frustration that is consistently expressed by the characters operating in a commotion cycle. This resonates given that, by definition, they are working to complete a multitude of tasks that are tied to emerging problems in a short time frame. Being frustrated in that environment makes intuitive sense to this researcher. A degree of frustration is expressed by characters operating from other activity cycles in this collection of narratives, but the frustration seems more central to the story and a more prominent feature in the narratives in this chapter. This theme is labeled “frustration” in this researcher’s coding.

Frustration was a common thread throughout Arthur’s narrative when he encounters perspectives that differ from his and he feels the need to course correct decisions that are being

made. Karen vividly expresses frustration in her story when she talks about the contract engineers not displaying the same consideration for her and not adapting to meet her needs. She also describes her frustration when interacting with the contract engineers who, "seemed irritated that they had to do 9the work)." Frustrations are seen in Helen's narrative when she reflects that, "It ultimately had a negative impact on my working relationship with the project manager…because it made me not trust the things that she was telling me, and I felt like I had to double check anything from her that came my way because I had such a poor personal experience." Helen expresses frustration that the project manager was not engaged with the technical details and intricacies of the project. Helen was also frustrated that the project manager was not operating from the same sense of urgency and need for a fast response to the users who were struggling to use the new software. Helen notes that she is often frustrated by the lack of details or explanations that are shared by David and with his failure to communicate enough information as quickly as she needs it. Robert repeatedly voices frustration in his story that the members of the project team did not share his detailed understanding of the tool or how it was used. He is also frustrated about not being shown project details or brought in to broader conversations in the first two years of his story. Frustration is a recurring and central theme throughout the narratives included in this chapter on concentration activity cycles.

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CHAPTER 11: DISCUSSION

This final chapter provides a discussion of the research and findings of this qualitative examination of narratives told by people who participated in a post-mortem debrief at their company about their experiences working in support of a past project on which they chose to discuss and reflect. The data for this research comes from a review of secondary sources. This researcher was given access to the recordings, notes, and other materials collected as a part of these conversations where a facilitator met with a variety of employees who regularly work on projects in different roles. Key criteria were identified as being a must-have for the stories that were selected for this dissertation. The selected narratives include a description of the storyteller's role, as well as detailed descriptions of interactions with others who were also working on the same project but in different capacities. This researcher prioritized stories that featured interactions where work handoffs occurred, and each story features at least one character with whom the storyteller interacts and is identified as being in a different activity cycle (Ballard, 2009) than the storyteller.

The concept of activity cycles used in this research effort is grounded in the model of activity cycles defined by Ballard (2009) and applied to a communication design context by Ballard and McVey (2014). In this model, four different activity cycles are depicted in a 2x2 matrix. The dominant activity cycle of a character is identified based on the context of the story and the project in which the character was involved. The design of this research is to collect a set of stories that center on characters completing a project while working within and interacting with others across the four activity cycles. A narrative methodology was used to examine and organize the collected stories.

The activity cycles that Ballard (2009) provides are determined by two axes which are time windows and task variability. The time window axis refers to the length of time it takes organizational members to perform a complete task as they define and understand it. This may range from a few seconds to several years, depending on the task. The task variability axis references the level of uncertainty and unpredictability involved in task execution. This may range from a mundane, routinized task with fairly predictable results to a completely novel task with highly uncertain outcomes. Together, these two axes form the 2x2 matrix of four different types of activity cycles, characterized variously as concentration, cultivation, commotion, and creation cycles. An activity cycle suggests that particular communication processes or practices may be utilized based on the activity cycle from which one is operating. For instance, the beginning and end of a daily coordinating call would make up the frame that alerts the project manager to the proper actions to take within that window. A brief description of each of these four activity cycles is as follows.

Concentration activity cycles have a brief time window and low task variability. Organizational work that occurs within concentration cycles is often tied to modest changes in the day-to-day operations of an organization owed to the common quality of sameness and small-time windows within which these activities unfold. In the context of these narratives, software testers are a great example of people operating in a concentration cycle. Software testers often have a set of testing scripts that they need to complete. A typical testing script lists a series of steps. A tester tries to complete the steps successfully and records the results. Tests that fail are noted and sent back for further investigation. The software testers in this collection of narratives operate in brief time windows, in that each test typically takes 20 to 40 minutes to complete. The

testers also have a low variability of tasks in that they are receiving and completing an ongoing sequence of tests. This workflow conjures images of a virtual in and out box for this researcher.

Cultivation cycles occur within more extended time windows, but with lower task variability. In contrast to concentration cycles, work unfolds over a more extended period of time. This extended time period involves longer-term processes that are outside of one's immediate control but within established parameters of development. Project managers often operate out of this activity cycle in that they are focused on both the duration of project phases and the overall project. The project managers featured in these stories tend to be responsible for communicating these timelines to others, working to create a shared understanding of timeframes, and ensuring that the work of different teams involved in the project are on track and schedule. The project managers communicate this with Gantt charts and other progress trackers. Their task variability is lower than their counterparts in the higher variability quadrants. In part, this is because the project manager is primarily focused on coordinating the work done by others and on the current and future phases of the project.

Commotion activity cycles occur within a brief time window and contain a highly varied set of tasks. Work that occurs within commotion cycles is characterized by moment-to-moment, rapidly unfolding, and changing events that must be managed quickly. As different challenges and questions surface during project work, different groups temporarily form long enough to discuss and decide on courses of action. In the context of this set of narratives, the characters operating in the commotion activity cycle are often the problem solvers. When issues emerge with software and technology, these are the people who mobilize and try to solve the problem. Their time windows are as brief as possible as they try first to understand, and then diagnose and

solve the issue. For example, project issues that are classified as high impact and customer-facing usually result in the creation of an open phone bridge that stays active until the issue is resolved. This call can last for hours or even run overnight. An ad hoc group is formed and made up of representatives from teams that manage and are responsible for each system that might be affected are required to join and stay on the phone bridge until the issue is solved or at least until the visibility and impact of the issue are reduced. The calls that run overnight might have people rotating in from different regions of the world (e.g., Asia-Pacific, Europe, the Americas) as team members hand off the troubleshooting to their regional counterparts. The people who are coordinating and driving this troubleshooting effort are often operating in the commotion cycle, which seems particularly aptly named given the nature of their work.

Creation activity cycles are highly extended across time and characterized by enormous task variability. The work and processes that occur in this activity cycle are more iterative than linear. The fundamental task of groups working in a creation cycle is to create new things, and neither the timeline nor the outcome of which can ever really be known. The characters in these narratives which are operating from a creation activity cycle have a broad perspective of the time windows in which they work. User experience designers are a featured example. These are people who have a responsibility for designing the user interface of software and ensuring that this design continues to evolve and improve over time. They incorporate thinking about designing interfaces that improve workflows and overcome challenges, such as accessibility issues for people with disabilities, and overcoming localization issues for users working in the same tool but operating in different countries around the world and in multiple languages. While the characters operating in a creation cycle perspective do work that meets the needs of

individual projects, they are as much or more focused on serving a broader agenda and time frame that goes far beyond the delivery date of a project. A user experience designer is often thinking about goals that are three to five years in the future and dealing with the limitation that they only reliably know firm details about new workflows, tools, and business direction one year into the future. This is a core reason why people in the creation cycle need a high level of comfort with ambiguity and to be ready to shift their direction and focus as new details develop.

This dissertation examines the stories told by people in these different quadrants to better understand work interactions and handoffs between people operating in different activity cycles. Narrative methodology offers a complementary framework for this research because, as humans, we often construct meaning and understanding of past events and challenges by combining those events into sequences that take the form of stories. Collecting stories about events and interactions that have already been represented as part of a project with a defined and commonly understood temporal framework offers a chance to collect participant perspectives in a familiar context.

This chapter is organized into six sections. The first provides an overview of the research questions and project focus, including the findings and how those findings align with or differ from, other researchers' findings. The second explores possible explanations for the findings, and/or speculations about them. The third recognizes the limitations of this research. The fourth considers possible practical and theoretical implications of the findings. The fifth explores methodological implications, and the sixth provides recommendations for practical application and future research.

Research Questions and Project Focus

This dissertation focuses on identifying the dominant activity cycle for each of the prominent characters in the collected stories and then examining, through the lens of those activity cycles, their self-reflections and perceptions of others with a focus on interactions. This can be summed up with the following set of three research questions.

- (RQ 1) What is the dominant activity cycle of each of the major characters in each narrative within the context of the narrative and the project that is central to the story?
- (RQ 2) What are the outstanding characteristics of the interactions between characters identified as operating in different activity cycles within the context of the narrative and the project?
- (RQ 3) What are the outstanding perceptions of the storyteller about the interactions and work handoffs between characters identified as operating in different activity cycles within the context of the narrative and the project?

This researcher then takes this collection of data and compares it to the work of Ballard (2009) and Ballard & McVey (2014) where each activity cycle is described. This comparison leads to the main question, which is as follows:

- (MQ) Which of the outstanding characteristics and perceptions that are identified contradict and/or validate Ballard's (2009) explanation of activity cycles, and which might further expand our understanding of these activity cycles?

An examination of the findings for each of the four activity cycles serves to help answer the above questions.

There are four key themes that emerge from an examination of a set of narratives that are considered from the perspective of the concentration activity cycle. These are coded as 1) fast and quick, 2) feeling constrained, 3) lack of authority, and 4) feeling overwhelmed. The first theme is a sense that responsibilities are focused on completing small and straightforward tasks quickly, and that the people are task oriented with a "get it done" focus. This aligns with the descriptions provided by Ballard (2009). The second theme is the expression of feeling constrained in one's concentration cycle role while one is aware of larger issues in a project. The third theme is the expression of feeling a lack of authority and/or influence in one's role. The fourth theme is the expression of feeling overwhelmed by complex developments that extend beyond a concentration-cycle focus. The second, third, and fourth themes might be considered as having a frustrating and/or negative effect. It is speculation on the part of this researcher that these aspects may be exacerbated due to the awareness of working within the context of a larger and well-defined project. The short and consistent tasks of a person whose self-perception aligns to a concentration cycle might feel particularly constrained when their work has a notably narrower time frame and task variability than the dominant context of the larger project as it is described.

There are three key themes that emerge from an examination of a set of narratives that are considered from the perspective of the cultivation activity cycle. These are coded as 1) push back, 2) role sensitivity, and 3) reducing ambiguity. The first theme is a sense that the people who are identified in the narrative as primarily working in cultivation cycle often receive feedback that challenges decisions that have already been made and work already in progress, which is commonly referred to as "push back." The second theme speaks, in part, to how the

cultivation-centered characters react to the push back and tension that they experience. These characters demonstrate an awareness of and sensitivity to the differences between their roles and the roles of the characters with whom they are engaged. How they respond differs. The range of responses in the narratives includes either trying to adapt to or trying to constrain the roles of others. The consistency is the framing of the tension and push back regarding roles, rather than being limited to the specific topics or issues at hand. The third theme highlights a desire to reduce or minimize ambiguity. The characters based in a cultivation cycle in these narratives tend to avoid and shy away from ambiguity. Instead, they tend to seek clarity and definition around the details of their projects. In the context of a project, the project manager often operates from a cultivation activity cycle. That is, having less task variability while the project is in a given phase of the project, and often operating within a time frame that takes the full phase or the entire project into account. This larger role of coordinator may help to explain the association of themes like trying to eliminate ambiguity, being sensitive to roles when interacting with others, and fielding resistance along the way. These are common aspects of project management and of being a driver of larger initiatives. In the context of a project, it may make sense that these themes would be more central and prominent.

There are five key themes that emerge from an examination of a set of narratives that are considered from the perspective of the creation activity cycle. These are coded as 1) open-ended, 2) less structured / more dynamic, 3) broader perspective, 4) comfort with ambiguity, and 5) pulled in multiple directions. The first theme is a sense that the people who are identified in the narrative as primarily working in a creation cycle perceive the work to be done as having a more open-ended timeframe and are thus less driven by deadlines in their interactions and work

handoffs with others. The second theme in the context of these narratives is that the work of people in a creation activity cycle is less structured and changes dynamically. The third theme is that of having a broader perspective of the work. The fourth theme is having comfort with ambiguity, which has strong associations with the other identified themes for this activity cycle. The fifth theme identifies that the characters operating from the creation activity cycle are described as being pulled in multiple directions.

The characters identified as being in the creation activity cycle in the context of these narratives and projects tended to be the keepers of knowledge that transcended the needs of any one individual project. For example, the narratives featured people who were responsible for the overall user experience design for software and are involved in multiple projects as parts of large, new, ongoing business initiatives. In this context, it makes sense that these characters aligned with the themes above because they have open-ended responsibilities that do not have a clear concluding moment where their work is finished. This aligns to the descriptions provided by Ballard (2009) where she notes that "the work and processes are more iterative than linear (and) the fundamental task of groups working in a creation cycle is to create new things—neither the timeline nor the outcome of which can ever really be known." (p. 215). Major aspects of the first four themes are reflected in this description, and these findings serve to validate Ballard's observations further. The fifth theme of being pulled in multiple directions may be further highlighted in these narratives and when the roles of people working in the creation cycle are examined from the perspective of the projects with which they interact.

There are four key themes that emerge from an examination of a set of narratives that are considered from the perspective of the commotion activity cycle. These are coded as 1) time

sensitivity/urgency, 2) detail and complexity, 3) problem solving, and 4) frustration. The first theme is that the people who are identified in the narrative as primarily working in a commotion cycle are driven by feelings of time sensitivity and urgency. The second theme is that of having a greater focus on detail and urgency than others who are operating from perspectives rooted in different activity cycles. This is often accompanied by the commotion-centered character stepping in and taking on an informal role as one who explains and deconstructs the complexity for others. The third theme of problem-solving is an extension of explaining complex details by then taking a hand in driving others towards a solution that based on their detailed understanding. The fourth theme calls attention to the frustration that is consistently expressed by the characters operating in a commotion cycle. While a degree of frustration is also expressed by characters operating from other activity cycles in this collection of narratives, frustration seems more central to the story and is a more prominent feature in the narratives focused on the commotion activity cycle perspective. This resonates given that, by definition, they are working to complete a multitude of tasks within a short time frame to diagnose, address, and resolve emerging problems.

The first and third themes align fairly explicitly to the description provided by Ballard (2009). A sense of time sensitivity/urgency and problem-solving are seen in her description of job duties as "characterized by moment-to-moment, rapidly unfolding, and changing events that must be managed quickly" (p. 215). The other two themes—detail and complexity, as well as frustration—seem intuitive extensions of the description provided. These two themes are both prominent features of the creation-centered narratives in this collection. It may be that a focus on detail and complexity are a natural effect of selecting narratives centered in the tech sector and

often on software development. This is a detail-oriented and complex setting, and the narratives regularly featured challenging deadlines and short project timelines as a characteristic of the settings of these stories. This may also help to explain the frustration that was a common characteristic of interactions between characters in the creation-centered narratives.

Explanations for the Findings

Of the 16 themes identified, none were in contradiction of the descriptions provided by Ballard (2009) of the four activity cycles. Nine of the 16 suggest aspects that are not explicitly called out in Ballard's descriptions and may offer an opportunity for expanding our understanding and definition of the four activity cycles. A summary graphic of the 16 themes is provided below as well as characteristics identified by Ballard (2009).

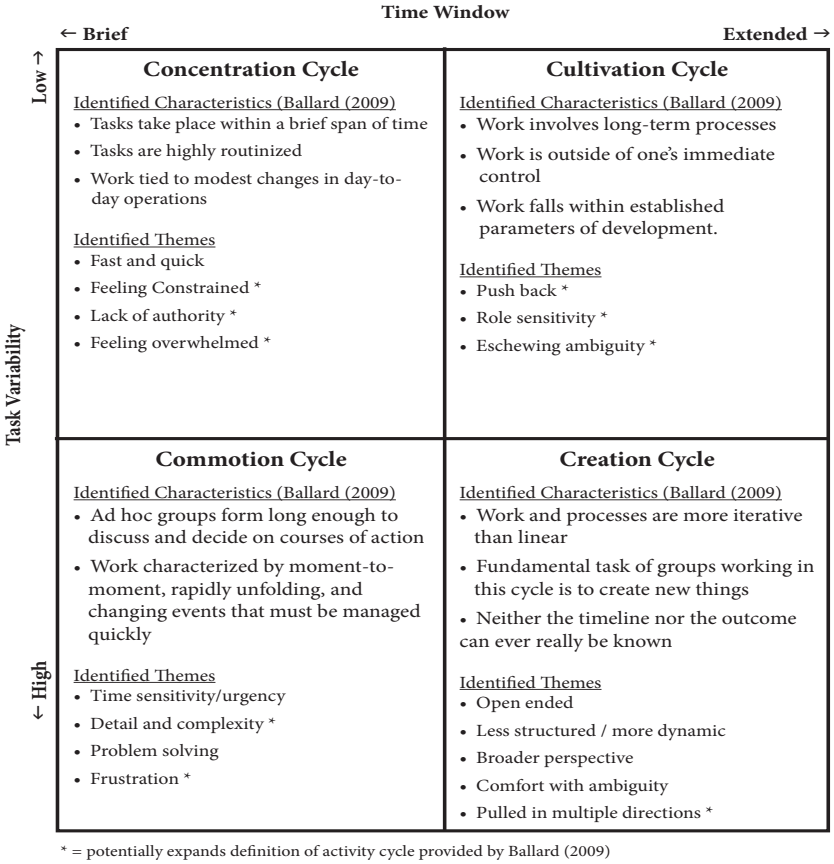

Figure 3. Activity Cycles with established characteristics and identified themes

The themes identified in each of the four quadrants intuitively fit in their respective quadrants for this researcher. This is true for both those themes that align to the characteristics identified by Ballard (2009) and those identified by this researcher as extending, to some degree, the initial definitions and descriptions. Speculation on the part of this researcher is that these aspects that emerge as new themes may be the result of collecting narratives that are mostly told in the context of working towards the completion of projects in the tech sector. If one simply reads the list of the nine new themes as one set without considering different quadrants, the list sounds like it could be a description of the realities of working on a large project with several people involved and under tight deadlines. The list reads as follows: feeling constrained, feeling overwhelmed, (receiving) push back, role sensitivity, reducing ambiguity, (managing) detail and complexity, frustration, and (being) pulled in multiple directions. As mentioned earlier in this chapter, the nature of these characters' involvement in projects may add elements to an analysis of activity cycles in that context. This may be a compelling direction for future research.

Limitations

It should be stressed that this study has been primarily concerned with narratives by working professionals telling stories about their experiences on a particular project, the majority of which were technology focused. This narratives in this collection are diverse regarding the roles represented, the kinds of projects described within this context, and the types of stories told. However, the findings of this study are limited to their context. Another limitation of the study is that the dominant activity cycle is identified based on the context of the story and the project being described. Ballard (2009) notes that people tend to operate in nested activity cycles and a person can be perceived as operating in different quadrants simultaneously depending on the

time frame that one views the work. Selecting a dominant activity cycle based on the context of the story and the project may then be artificial in a sense. It does help to focus on one activity cycle and interactions with others within the framework of that activity cycle. This provides an opportunity for a better understanding of the nuances of each activity cycle but does need to be called out as a potential limitation of this study.

Practical and Theoretical Implications

The implications of this study include a further validation of descriptions of the characteristics of each of the activity cycles as provided by Ballard (2009). This further supports and strengthens an argument for using this model in future analysis and attempts to understand the roles of time windows and task variability in work carried out in organizations. This research supports the further examination of the nuances of perceptions and roles of individuals who are each working as part of a common effort in the context of a project and suggests that there is validity in using the activity cycle framework as one tool for conducting such examinations. This study also identifies one to three additional characteristics per quadrant of the perceptions of individuals working in each of the four activity cycles.

This study further suggests that there may be combinations of individuals in particular quadrants who are especially prone to being compatible, or prone to misunderstandings, frustrations, and other difficulties during key interactions and work handoffs. An easy example to point to is that reducing ambiguity is one of the themes for people in the cultivation cycle, which often includes project managers who need to be precise and detailed when tracking timelines and who is responsible for which tasks, while a comfort with ambiguity is a theme identified for people in the creation cycle who are focused on long-term planning, are often the

keepers of the vision for ongoing iterative efforts with a design aspect to their focus, and as such are open to new ideas and adjustments along the way. Each of these aspects is an invitation to study further the differences in perceptions and roles of individuals working together on large projects.

Importantly, the study of organizational communication within the context of projects and project management highlights the temporal nature of organizing described by McPhee and Zaug (2000) as activity coordination. A project is a temporal event by definition, having a finite beginning, middle, and end. Projects have a defined objective that can be verifiably completed. A project can be further broken down into milestones and target goals along the way. Thus, projects are defined and measured in concrete terms and are often described and discussed as such. This makes them an excellent site to learn more about organizational communication processes, in general, and cyclical processes, in particular.

The fourth edition of "A Guide to the Project Management Body of Knowledge (PMBOK Guide)," which is often referred to simply as the PMBOK, provides a set of standard terminology and guidelines for project management. The PMBOK defines a project as a "temporary endeavor undertaken to create a unique product, service or result" (p.5). The text goes on to explain that,

"…The temporary nature of projects indicates a definite beginning and end. The end is reached when the project's objectives have been achieved or when the project is terminated because the objectives will not or cannot be met, or when the need for the project no longer exists. Temporary does not necessarily mean short in duration. Temporary does not generally apply to the product, service or result created by the project; most projects are undertaken to

create a lasting outcome. …Projects can also have…impacts that far outlast the projects themselves."

This temporality helps to provide a framework and a structure that might be used to establish context when examining communication processes and phenomena in organizations. As described earlier, the nature of projects is that they have a defined beginning, middle, and end. The study of projects and project management has a prominent place in certain areas of academic research, and there are academic journals dedicated to this topic of study. A consistent motivator for both scholars and practitioners is to identify best practices that can lead to effective project completion (Miller, Mollaoglu-Korkmaz, and Mandhana, 2013). The academic value that is placed on understanding the nature of project management in other areas is clear. For example, the University of Texas at Austin offers a Construction Engineering and Project Management graduate program. Miller, Mollaoglu-Korkmaz and Mandhana (2013) also note that "in the Architecture, Engineering, and Construction (AEC) industry, especially related to sustainable building projects, there are numerous calls to develop improved integrative practices that both improve project quality and lower costs." For practitioners, the Center for Professional Education at the University of Texas at Austin offers certification in project management, and the School of Engineering offers certification in software project management through their Engineering Executive Education program.

The realm of projects and project management seems on its face to offer rich opportunities for further study in the area of organizational communication. Many of the emerging concepts and core tenets of this area of study might be further explored and better understood by an examination in a project-focused context. Similarly, this might also be an area

worthy of further investigation for scholars focused on communication design as well as time and temporality. The goal-oriented and time-bound nature of projects with the potential for high yields for complexity might also lend themselves well to further study in this area.

Methodological Implications

There is another implication to this research that lies separate from the discussion about projects and activity cycles. That is, the way this study treats the topic of collecting and writing narratives while protecting intellectual property and the privacy of secure projects. The details of many of the projects that are described in these narratives are a generalized account of work involving privileged and proprietary information. The details of the projects themselves are kept vague and described in non-specific terms. Key vocabulary and proper nouns were changed. It was the goal of this researcher to do this effectively while still creating meaningful and engaging narratives. Another goal of this researcher was to describe stories about technical projects for a non-technical audience in a way that conveyed the central themes and challenges of the project without bogging down the story or the reader with too much technical detail. If these efforts were successful, this research might serve as an exemplar for researching and writing about proprietary information and technical detail without compromising secure information, while still presenting research and findings in a meaningful and engaging way. An area of future work may be to examine the tenets used in this study to collect, protect, and portray sensitive and proprietary data while still providing meaningful research.

Directions for Practical Application and Future Research

This researcher had the opportunity to examine data collected from colleagues in his work context as a part of doing this research; in doing so, some practical applications for this research seemed readily apparent. When fielding the commonly asked question, “So, what is your dissertation about?", This researcher has become fairly polished at giving a three-minute answer to this question and, for the most part, people seemed curious and engaged on the topic. This researcher has also received positive reactions when sharing draft narratives as part of the member-checking process to support validation of the findings. A typical reaction is that individuals find value in seeing their story depicted as a narrative. Several people have expressed an interest in reading the narratives when this work is complete, indicating that it gives them a helpful new perspective into understanding their roles and how they might better understand and communicate with others in different roles. This level of initial interest further supports the practical application of using the concept of the 2x2 matrix of activity cycles to provide a framework for better understanding and describing different perspectives and interactions to improve communication and workflow amongst coworkers involved in various aspects of a project. It would be interesting to validate these initial findings further to see if they are consistent across different organizations and if the characteristics are particularly applicable to people working in the context of delivering projects.

An aspect of the storytelling that emerged from this research is that the storytellers seem to deemphasize the personality, individuality, and human interactions of the characters in the stories. These aspects are present in the stories, but they are subdued. They are often more in the background of the story rather than the drivers of key narrative turns. While the personal styles

of different individuals are present, there are only a few instances in which this takes center stage. An example of where individual style is present is in Sebastian's story where he describes his West Texas manner of speech and how he worked an ongoing discussion of Texas football into his meeting agendas. Another example is in Quentin's story about the engineers who arrived from another company dressed in formal business attire, and how they then had to change into something more informal to blend in, only to return wearing strikingly similar Tommy Bahama floral print shirts. These examples stand out, in part, because of the infrequency with which these elements appear in the stories. Instead, the focus of the storytellers is mostly on a holistic view of the work on the project.

Additionally, the stories seem to be less centered on social and power dynamics between people; this includes the observation that the hierarchy of management often seems underemphasized. The descriptions of roles and interactions between people working on various aspects of a project are often mostly about understanding and overcoming challenges to the work in ways that are more even-handed and impartial. This is a common observation but is not a universal one. The clearest exceptions may be in the stories told about characters operating in the concentration activity cycle. These characters often express frustration and feelings of constraint at not being able to do more in service of larger goals and feeling limited by their more narrowly defined duties. These might be seen as issues with their placement in a hierarchy, as they are often told that they cannot pursue certain objectives or concerns. Even so, the rationale for restricting their role is often presented in terms of serving the goals of the overall project and is presented as an attempt at making an even-handed decision. This raises questions about whether the deemphasizing of interpersonal aspects is a product of either the facilitator or this researcher

in collecting and interpreting this data, or if there is a larger consistency in the way people who are working on large projects conceptualize and represent themselves and their work when they are functioning in concert with teams filling different functions.

An avenue for future research might be to examine these questions, and also whether deemphasizing personality, individuality, and human interactions are consistent within specific companies, working environments, and/or project types (e.g., construction, software development). For example, do stories about technology inherently tend to downplay the human element? That is, it may be that a good technology story minimizes character involvement and is focused on the task of the individuals rather than the individuals themselves. It may be that task clarity supersedes personality in stories that are focused on technology and, if done well, the reader may not see the persons within it.

Another aspect that emerges from these narratives is that management by exception seems to be the norm. Management by exception is a method of management that deemphasizes the involvement by managers in day-to-day affairs (Bragg, 2014). Managers leave regular operations to the purview of those they manage, and they instead focus on identifying and handling unusual and emerging issues and problems (Bragg, 2014). The appeal of this approach is that emerging problems and sticky issues are the focus of managers, and their bandwidth is available to address key problems that put projects and business operations at risk. An effect of a management by exception approach is that employees have more individual responsibility (Banerjee, 2012). There are also disadvantages to a management by exception approach (Bragg, 2014; Dekker and Woods, 1999), but the set of collected narratives offered in this dissertation

seem to consistently model a management by exception approach in which this tack is mostly successful.

Penny’s narrative is one exception where appealing to a higher authority did not lead to success. Even when requested, the manager involvement around Penny's issue seemed tepid in her story. Characters faced with issues to solve in these narratives typically tried to address the issue themselves, and managers only intervened when specifically called upon, such as in Quentin's and Sebastian's narratives, or when an issue became problematic to a point where a manager felt a need to step in to help, such as in Carol's narrative. This raises another possible area of future research about the use and effectiveness of a management by exception model in the management and execution of projects.

This dissertation has provided a qualitative examination of the stories told by people participating in a post-mortem debrief at their company about their experiences working in support of a past project on which they chose to discuss and reflect. The findings support the examination of the primary roles and workflows of individuals, and their perceptions of interactions and work handoffs, to better understand different situations that may lead to misunderstandings and frustrations that may, in turn, affect the success of a project.

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