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**Begging for Money:
Technology Commercialization and Business Pitches**

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**Begging for Money:
Technology Commercialization and Business Pitches**

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**Begging for Money:
Technology Commercialization and Business Pitches**

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Although popular literature on business pitches abounds with advice to tell stories to engage an audience, little has been said about the function of those stories in creating technology commercialization networks. Current theories of business pitches present the product (and by proxy, the company making the product) as an entrepreneurial hero, one which relieves a population from some market pain. In these approaches, products, consumers, and values are intertwined in sociotechnical networks with an orientation toward relieving this pain. However, these approaches ignore the role of investors in technology commercialization networks. Investors hold the power to bring a product to market or banish it to obscurity, and thus further study of their roles in these sociotechnical networks is needed. This dissertation seeks to fill that gap, using two case studies from a larger data set collected over the course of a year. These case studies are from a technology commercialization pitch competition held in Suwon, South Korea, and supported by the University of Texas at Austin and the government of Gyeonggi-do province. Using the lenses of North American genre theory, actor-network theory, and narrative, I show that placing products between investors and preferred roles can be an effective approach to integrate investors into a network oriented to technology commercialization in international markets.

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Chapter 1: Shoes, Geese, Swords, and Beans

A lone woman stands before a projector screen, adjusting the lapels of her sportcoat. She clears her throat and runs through her speech's movements in her mind. Her hands gesticulate as she hits the high points, shoes clicking as she paces the hardwood floor of the boardroom. She makes mental notes to hold eye contact, to keep her arms close to her sides, to smile and slow her speech. She has run through this routine numerous times before, but today is different. It is not a class presentation nor even a spiel given to colleagues at the technology incubator. Today is the real deal—the culmination of planning, prototyping, and preparation across years of her life. Her house is remortgaged, her credit maxed. She has exhausted her family and friendly connections, and today is the determinant of success or failure. The oak doors of the boardroom swing wide, and five potential investors file in and settle into their seats. She beams a big smile, takes a deep breath, and begins: “Thank you for taking the time to hear my proposal today. . . .”

Our protagonist is participating in a common scenario played out across the globe daily. She is an inventor, an innovator in her field. She may offer the next hot app to sweep mobile devices, a burgeoning service the public doesn't even know it needs yet, or an incremental change in a manufacturing process that leads to millions of dollars or lives saved. No matter her actual product or service, she must move through this rite of passage. She must stand before a group of potential investors and convince them that her idea is viable, that a thriving market exists for what she's offering, that she and her team are the

right people to gift the idea to the public. She is performing the genre of the entrepreneurial pitch, a subset of business presentations.

Broadly, an entrepreneurial pitch typically consists of a business plan; a value proposition about the utility of the product or service; a description of potential markets, competitors, and obstacles; company qualifications, characteristics, and milestones; and/or an account of current funding sources. While entrepreneurial pitches may include or exclude any of these parts, the core purpose of the pitch is to secure investors for the pitcher's product or service. "Pitch" used in this sense dates to around the mid-19th century ("Pitch," 1989), coming into popular use at the tail end of the Western Industrial Revolution and the concurrent globalization of previously geographically constrained markets. Undoubtedly, though, the rhetorical situation of asking another to invest in a business is as old as trade itself. Over tens of thousands of years of social evolution, the genre of the pitch has developed into its present iterations, now supplemented by digital images, text, sound, and video. A speaker stands in front of an audience and weaves sociotechnical networks from these modes of communication. More specific to this dissertation, though, she stands in front of an audience and transforms both her own and others' identities.

In a business pitch, the pitcher must successfully transform herself from an inventor to an entrepreneur. The common perception is she gives the audience sound, logical reasons to invest in her business idea: she has the connections to do business; others see value in her product or service; she has a sound business plan to reinvest in her company. Rather than outlining an argument with logical reasons, though, she is weaving a tale—telling a

story—and much of the popular business literature recognizes the importance of narrative in a good business pitch. However, the preponderance of that literature assumes she is the hero of the tale. She is not. The “successful” entrepreneur shifts her identity from inventor to businessperson not by positioning herself as a hero come to alleviate the pain of the market, but by interesting others in the activity through constructing this narrative. *Interessement*, as defined by Michel Callon (1986), is one of a number of *translations* necessary for network-building: movements in a process through which actors become oriented toward a network’s goals—in this case, the goal of technology commercialization. She places the audience in between the public who needs rescuing, and her product or service as the tool to assist in this rescue. In this way, the *potential investor* becomes hero in this tale, and the inventor and her innovation become what is called an *obligatory passage point*: for the network to survive (and thus the audience adopt its identity as hero in this narrative), her business must be funded, her product make it to market, her service launched to save the day. This runs counter to the common Western trope of entrepreneur as hero. To be a successful pitcher, she must forgo that identity, handing it over instead to the audience. She is not the hero, but the magical item in the quest: the winged shoes, the golden goose, the enchanted sword, the magic beans.

But how are these narratives created? How do business plans become the magic beans or golden goose so desperately needed to alleviate the market’s pain? Through the lens of actor-network theory, we can discern moments of translation in cocreating the networks of business pitches. Not only must a story be told, but there also must be certain duties performed by the story. Granted, these narratives serve to humanize an otherwise

abstract concept—the business model become real—but also to create a network whereby human and nonhuman actors sustain that narrative. These narrative movements do the leg work of network-building, and we can see in these moments of translation that shared meanings, roles, and stories create the conditions under which capital is invested. While this can happen at any stage of a company’s lifecycle, it is perhaps most interesting to note that it even works in early stages, when no product or service exists in the physical world, but is instead a product of interacting imaginations. These networks are no less real than supply chains or factory workers and machines laboring to turn raw materials into goods.

This dissertation seeks to elucidate those imaginary, narrative networks formed daily in the world of technology commercialization, processes rife with myth and story, conflict and resolution, heroes and villains. How do innovators become entrepreneurs? By what actions do they transform from storyteller on a stage to scion of industry? How do the ideas for products and services become the enacted answers to consumers’ problems? Perhaps more interestingly, how do innovators, in enacting the genre of the business pitch, cocreate roles for potential investors to adopt?

AIM AND SCOPE

The aim of this study is to look at two case studies of technology commercialization through the lenses of genre and actor-network theory to develop a holistic view of the entrepreneurial pitch. Rather than focus on the delivery of pitches—as most scholarship does—I will leverage the strengths of these two theories to examine the process of the pitch. That is, this work seeks to better understand the processes by which pitches change

over time to do the work necessary to integrate potential stakeholders into a network of entrepreneurialism, a network oriented toward the commercialization of a technology.

Business pitches are as varied as the industries in which they are performed, compounded by the purposes they serve. The focus of this study, however, is the entrepreneurial pitch, a common—perhaps even the most important—genre in 21st-century technology commercialization. There is a dense mythos surrounding the genre of entrepreneurial pitches, with popular culture often elevating the pitchers to sage status. When speakers like Steve Jobs, Elon Musk, and Mark Zuckerberg stand on a stage, people listen. Biographies—“truthy” and embellished—abound of the lone, technologically-savvy genius who perseveres through rejection and conformist social pressures, and such stories cross a variety of 21st-century media. Films such as *The Social Network* or *Steve Jobs* distill complex assemblages of human and nonhuman actors into the will of a singular visionary. These films are often met with social and critical disdain, but the fact remains that they continue to be told, and countless resources are spent to tell the myth of the singular protagonist against internal and external conflicts.

Myth has been a focus of organizational development and management studies over the past half-century. Among the chaos of collective human action, myths “represent one way in which [. . .] elements of organizational culture are conceptually organized into a system of organizationally relevant logic” (Boje, Fedor, & Roland, 1982, p. 18). They give reasons for actions and procedures, and “exemplify why the given practices and procedures are the ‘only way’ the organization can function effectively” (p. 18). Myth is a way to make sense of the past and use that framework to govern present and future behavior. Myths are

more than mere tales; instead, myth-creation is a central practice that directs collective action. For individuals socialized into an organization, myths are a “factual and highly objective reality” (p.18) that in turn provide evidence for arguments about how one should act in problematic situations. Rather than fanciful fictions, myths are how organizations weave the very fabric of their reality to define truth and rational action.

Further, as with the three examples given above, entrepreneurial myths demarcate “acceptable” identities and have directed historical scholarly examination of the same. In the American tradition, those identities “are rooted in the heroic myth which defines the dominant, rational, European/North American male model” (Ogbor, 2000, p. 609). Myths contribute to ideologies which have led “researchers [...to focus] their attention on the individual entrepreneur and [seek] to understand not only *his* roles in the economic system, but also the masculine personality attributes that are supposedly congruent with these roles, namely, ‘his’ psychological or personality traits” (Ogbor, 2000, p. 616). In short, myths reify dominant power structures, rationalizing both narrowminded research and discriminatory business practices.

It is important to note we are not passive recipients of monovocal myths; instead, we participate in the networks that create and sustain those myths. Even in a darkened theater, mesmerized by the flickering of the screen, we are actively cocreating meanings that we carry from genre to genre, from medium to medium, from network to network. Though the scope of this study does not include the aforementioned films, the machinery by which they operate—that is, the generic conventions—are within the purview of the following work. Narrative is the mechanism by which these myths are cocreated and

sustained, and narrative is the mechanism at work in the genre of business pitches. Whereas in film narrative is overt and expected, however, in pitches, narrative works much more subtly to cocreate meaning. As such, this subtlety presents an underexamined aspect of entrepreneurialism, and thus a prime site for exploration in the following work.

To analyze the ways value propositions change throughout the pitch process, I, as part of a research team, studied the Gyeonggi Innovation Program (GIP), run by the IC² Institute at the University of Texas at Austin. I discuss the site and methodology for this dissertation further in Chapter 3. This current work is preceded by a number of articles published by our research team over the course of two years (Spinuzzi, et al., 2014; Spinuzzi et al., 2015a; Spinuzzi, et al., 2015b; Spinuzzi, et al., 2016a; Spinuzzi et al., 2016b), and the overall framework for how the GIP operates is drawn from these sources. Expanding upon our published work (Spinuzzi, et al. 2014), I collected data from the second year (2012-13) of intense study of the GIP. Through a variety of research methods discussed at length in Chapter 3, our research team painted a holistic picture of the operation of the GIP and the ways in which South Korean entrepreneurs attempt to commercialize their innovations in North American markets.

Chapter 2: Genre Theory, Actor-Network Theory, and Narrative

To understand the narrative of the pitch, I draw upon North American genre theory as well as actor-network theory's notion of translation. In a previous publication, my collaborators and I have put these two theoretical strands into dialogue in terms of standing set of transformations (Spinuzzi et al. 2015). Further, my understanding of the role of narrative in entrepreneurial myth-making is grounded in the work of David Boje and numerous colleagues (cf. Boje, Fedor, & Rowland, 1982; Boje, 1991; Boje & Rosile, 2008; Boje & Smith, 2010).

NORTH AMERICAN GENRE THEORY

North American genre theory is grounded in Mikhail Bakhtin's (1986) work on speech genres, who defined them as relatively stable types of utterances and broke them into two types: primary and secondary (p. 61-62). His classification of genres relied on complexity, in that "complex," secondary genres are made up of "simple," primary utterances. Utterances, for Bakhtin, were the building blocks of language: "There is not a single new phenomenon (phonetic, lexical, or grammatical) that can enter the system of language without having traversed the long and complicated path of generic-stylistic testing and modification" (p. 65). Though somewhat relative classifications, Bakhtin broke ground on understanding speech genres as tied to "A particular function (scientific, technical, commentarial, business, everyday) and the particular conditions of speech communication specific for each sphere" (p. 64).

Primary speech genres, then, make up the everyday chunks of speech needed to get things done in the world, while secondary genres "lose their immediate relation to actual

reality and to the real utterances of others” (Bakhtin, 1986, p. 62). Secondary genres “absorb and digest” these primary genres. While speech genres are tied to both individual and social styles, Bakhtin warned against reducing the object of study to either primary or secondary genres. For him, it was the “very interrelations between primary and secondary genres and the process of the historical formation of the latter [that] shed light on the nature of the utterance (and above all on the complex problem of the interrelations among language, ideology, and world view)” (p. 62).

Speech genres are not individual. By their very nature, they are foreign to the speaker, as language itself is not some individual invention, but instead socially transferred from individual to individual, group to group. Bakhtin, focusing mainly on literature as a secondary speech genre, conceded that individualistic styles do exist, but these styles are an amalgam of borrowed and repurposed speech genres. A speaker builds a repertoire of primary and secondary speech genres from which to draw within a particular situation, and these genres are not her own. They may be altered individually in some way, but too much alteration makes the utterance inappropriate for the situation.

In 1984, Carolyn Miller brought these speech genres within a rhetorical context. Until this point, as Miller (1984) stated, “rhetorical genres [had] been defined by similarities in strategies or forms in the discourses, by similarities in audience, by similarities in modes of thinking, by similarities in rhetorical situations” (p. 151). Her aim was to move away from genre as taxonomy, and instead toward genre as constituting important sociohistorical structures. As she put it, her goal was to move toward “a classification based in rhetorical practice and consequently open rather than closed and

organized around situated actions (that is, pragmatic, rather than syntactic or semantic)” (Miller, 1984, p. 155). Such a move was more than just quibbling about how certain forms of communication should be classified. Her approach intended to “explicate the knowledge that practice creates” (p. 155), to show how varied, yet common rhetorical practices not only shape our view of ourselves and the world, but collectively create these worlds as well.

These “recurrent rhetorical situations,” Miller contended, are intersubjectively determined; it is the interplay among individual interpretation and material conditions that create a recurrent rhetorical situation. Miller (1984) rejected purely materialist or subjective interpretations of the rhetorical situation, as both material conditions and subjective experience are constantly in flux (p. 156). Instead, she posited the rhetorical situation as “a social construct, or semiotic structure” (p. 157), a socially transmitted set of similarities whose recognition as a type has been advantageous in repeated past encounters. These types are not merely learned individually, but passed among groups through language. Given that the rhetorical situation itself is an intersubjective phenomenon, it follows that exigence for such a rhetorical situation is also “form of social knowledge—a mutual construing of objects, events, interests, and purposes that not only links them but also makes them what they are: an objectified social need” (p. 157). Genres, then, for Miller (1984) were “typified rhetorical actions based in recurrent situations” (p. 159).

Due to the social nature of these genres of communication, they both constitute and are constituted by the communities and contexts in which they are used. For Miller (2015), and many scholars who followed, genres were pragmatic acts that create meaning and

collectively define society (pp. 55-56). These typified rhetorical responses are more than just strategies for navigating the world. Instead, studying genre shows us how we structure that world around us and make sense of our own existence in it. As Clay Spinuzzi (2003) has pointed out in his *Tracing Genres through Organizations: A Sociocultural Approach to Information Design*, genres “represent the development and stabilization of worldviews, including the values, ethics, and other humanistic concerns implied in them” (p. 41). While the utility of genres is a major characteristic of the concept, it is important to note that genres are not artifacts. Genres may be grounded in practical activity, but genre “is more than a concrete psychological theory or a material embodiment of recurrent activity. Genres are not discrete artifacts, but traditions of producing, using, and interpreting artifacts” (Spinuzzi, 2003, p. 41).

However, there is a symbiotic relationship among the artifacts of a genre and the relatively stable traditions that constitute a genre. Following Bakhtin, Spinuzzi (2003) posited that genres are doubly oriented to history and addressivity. Genres are at once constituted by rhetorical responses to recurrent situations and also as an “ongoing dialogue among speakers in a particular sphere of activity” (p. 43). In enacting a genre, “the past dialogue of those speakers imposes itself on present speakers in ways they might not even recognize” (p. 43). Ideologies, values, and traditions take shape in the artifact, which in turn constrains present responses, perpetuating the genre in a relatively stable form. The social, intersubjective nature of genres does not mean, though, that individual actors are without agency, tightly constrained by rhetorical situation and methodically reacting to

exigence. While these genres follow certain social conventions about substance and form, because they are enacted by human agents, these rules can be altered or challenged.

Through their study of organizational genres, Joanna Yates & Wanda J. Orlikowski (1992) illustrated the moves by which genres remain static or are slightly or radically altered. Power is held not only in the mandated rules of a genre's sociohistorical context; "power also may be exercised through the manipulation or selective application of existing genre rules . . . through the strategic use of devices such as ambiguity, politeness, and agenda control" (Yates & Orlikowski, 1992, p. 321). Actors can choose to maintain, elaborate, or modify genre conventions in the course of their use:

When individuals enact the genres by using the rules of substance and form without alteration, they are maintaining the existing genres. When they consistently but slightly adapt genre rules to reflect new conditions—such as a new medium or a new locale—without substantially departing from those genre rules, they are elaborating the existing genres (e.g., a firm may customize its own memo stationery with an added field for file number). When individuals depart significantly and persistently from the rules of existing genres, they are modifying the existing genres (e.g., when prose reports are replaced by tabular, numeric reports in organizations). (Yates & Orlikowski, 1992, p. 306)

Thus, genres are repertoires of responses that we choose from in reaction to a particular situation. These repertoires carry with them implicit values, but as individuals, we can choose to enact those genres according to the script, or we can modify them to fit our specific purpose.

In relation to the current dissertation, genre gives us a lens through which to view the responses to recurrent situations within an entrepreneurial education program. This program, as we will see, is designed to both teach and to select potential technologies for commercialization in North American markets. In the next chapter, I will elaborate on the

particular program studied for this dissertation, as well as a few more theoretical underpinnings of both the data collection and analysis of the study. First, though, it is helpful to explicate the concepts of translation, as formulated and refined through actor-network theory.

MOMENTS OF TRANSLATION

Though still within the framework of actor-network theory, Michel Callon's work predates that of Bruno Latour. His study of the way actors within a network gather resources and orient others toward common goals is useful in the context of technology commercialization. As I discuss further in Chapter 4, 21st-century markets follow different logics than those of the 20th century. For contemporary markets, "value is customized: rather than being assessed under the generic and easily comparable criteria of cost, quality, and speed, it is assessed by criteria that are unique to a specific customer's needs" (London et al. 2015, p. 300). The value proposition of a good or service is determined through a dialogic process: "although the firm may *propose* a value proposition, the customer *interprets* [the] value proposition and provides feedback, which helps influence the creation of these solutions and experiences" (p. 300). If a product's "meaning" in the market is found in the network, rather than the product itself, then how do innovators learn to participate in this process? How do they leverage this knowledge to create effective approaches to commercializing in foreign markets? After all, innovators are experts at their own products' *functions*, an expertise that serves them well when discussing their product with other specialists. However, many innovators are ignorant of how their innovation

participates in complex sociotechnical networks. How can innovators *position* their innovation within the network as an indispensable actor?

Michel Callon's work helps us understand how these entrepreneurial networks are constructed and maintained. In his "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Briec Bay" (1986), he outlined moments of *translation*, "during which the identity of actors, the possibility of interaction and the margins of manoeuvre are negotiated and delimited" (p. 6). In other words, *translation* describes the network, the roles of actors within it, and how those actors can interact in such a network. It is important to point out that actors here are both human and nonhuman. With this caveat in mind, moments of translation for entrepreneurs are key in formulating roles for actors in these networks. Understanding how to define those roles not only for human actors (what an entrepreneur can do, what stakeholders are allowed to do) but also for nonhuman actors (what products can do) becomes central.

Callon's (1986) study has been used ubiquitously across technical communication studies, and with good reason. The framework provided shows both how networks are formed and how they are maintained. It is not enough to establish that a product *can* provide value for varied stakeholders in varied markets. Instead, that product must maintain its position within that network by constantly negotiating and renegotiating its role. The process is iterative: any actor in a network "can submit to being integrated into the initial plan, or inversely, refuse the transaction by defining its identity, its goals, projects, orientations, motivations, or interests in another manner" (Callon, 1986, p. 8). Translations, then, must be done with an eye to many moving parts, and as we'll see, some of the

moments of translation are designed to provide some degree of stability to the networks being formed, to cement actors into their roles so that the innovation becomes a “permanent” part of the network. “Permanent” here, is of course, a relative term. No innovation can permanently maintain its position in a constantly evolving network. However, if done skillfully, innovators can position their products as obligatory passage points that must be employed to maintain the network.

Callon (1986) described network-building as consisting of four moments of translation: problematization, interessement, enrollment, and mobilization. While these are four “moments,” they are not temporally sequenced. That is, any of the four moments of translation can occur simultaneously, but some moments tend to occur temporally before others. It is a process used to cross disciplines and orient actors in different disciplines toward a common goal. In the case of participants in the GIP, this goal is to make their product a part of a North American market.

Problematization

In describing the process of problematization, Callon (1986) subtitled this article section “or how to become indispensable” (p. 6). The aim of this translation, then, is to define actors in such a way that they become indispensable to the network. Callon (1986) characterizes this as a “double movement,” whereby “they [determine] a set of actors and [define] their identities in such a way as to establish themselves as an obligatory passage point in the network of relationships they [are] building” (p. 6). Jason Swartz, explicating Callon in the context of technological literacy, explained that the varied interests in the network “must be described and met through the discourse one has established as

important” (p. 286). This discourse is cocreated among the actors within the system, with the innovation becoming a crux, a “obligatory passage point,” as Callon calls it, “through which all interests pass and are shaped in passing” (Swartz, 2011, p. 286).

This discourse is extremely important for contemporary markets. The rhetorical nature of problematization requires that innovators understand a multitude of stakeholders and each’s individual aims—seemingly an insurmountable task for anyone, much less novices in the field of technology commercialization. As mentioned above, Callon (1986) stresses that these actors can reject any number of roles in this newly defined discourse, whether that be their own roles or the roles of other human or nonhuman actors in the network.

The process of problematization is analogous to what the business literature calls “market pain”: the need among consumers that the pitcher’s product or service can assuage. This need is not always immediately apparent to consumers or funders or entrepreneurs. The pitch becomes the site of cocreating that market pain. Indeed, funders and entrepreneurs cocreate even consumers themselves through this problematization. Through multiple iterations of the pitch to different investors, values and goals from each set of actors come to shape both the market for the entrepreneur’s product or service and the need in that market that the product or service can fill.

In cocreating both actors and values, the pitch acts a sieve through which values and goals are funneled, blended and reformulated. In the case of this current study, those values presented resistant forces to amalgamation: Korean versus American values, private versus public service values, province versus organization values, to name just a few. As

such, entrepreneurs' pitches had to find commonalities among varied and often contradictory goals.

Beyond identifying these actors, though, innovators must also show that the interests of these actors are served by participating in the proposed network the innovators are offering. For Callon's (1986) scallop researchers, this meant "show[ing] that the interests of [fishermen, scientists, and scallops] lie in admitting the proposed research programme" (p. 7). For GIP innovators, the task is to establish a market with their product featured as an obligatory passage point to get actors' needs met. This "obligatory passage point defines a common or connected set of concerns that defines the actors and their goals as being related or 'interested' in one another," as Swarts (2011) explained. "These common goals then guide subsequent links between actors, giving them common purpose" (p. 286). Addressing that market pain, then, is the common goal, a seemingly altruistic endeavor to meet the needs of a newly-defined actor. The pain—which the newly-defined actors may not even know they had—is the impetus for joining the innovators' proposed networks. The seemingly altruistic goals of alleviating that pain is a concept we will return to at length.

Interessement

In aligning varied goals across disciplines, the pitch must perform yet another translation whereby actors and their roles are stabilized within this cocreated network. By establishing a market pain, there is a gap, a niche to be filled. Interessement is enacted in entrepreneurial pitches through filling this gap with a value proposition. These value

propositions are claims about what an innovation can *do*. These propositions offer relief from that pain—a way the product or service acts to fulfill the gap left by the market pain.

Often in initial pitch stages, entrepreneurs have yet to articulate both the pain and the value proposition. They know they have a novel idea, but not necessarily a group of funders and consumers who see the utility in the invention. Formulating this value proposition—a key goal of the GIP—is necessary to intersement, “the group of actions by which an entity [. . .] attempts to impose and stabilize the identity of the other actors it defines through its problematization” (Callon, 1986, p. 8). Intersement places the innovator in between the goal and the actors defined in the moments of problematization. For Callon (1986), the term is apt because “To interest other actors is to build devices which can be placed between them and all other entities who want to define their identities otherwise” (p. 9). This move simultaneously presents the innovation as *the* solution to a newly-defined pain, while preventing other solutions from drawing away its actors into other roles in other networks. In the parlance of business, in interesting actors in their network, innovators present market competition as inferior to the innovation.

Enrollment

Enrollment is the “the device by which a set of interrelated roles is defined and attributed to actors who accept them” (Callon, 1986, p. 10). If intersement is successful, then enrollment occurs. Swarts (2011) discussed the moments of intersement and enrollment together “Because intersement ideally leads to enrollment, and because the two are not really steps in a process but rather moments that may occur simultaneously” (p. 289). However, intersement in relation to the business pitch is not so easily

guaranteed, and as Callon (1986) pointed out, “No matter how constraining the trapping device, no matter how convincing the argument, success is never assured[, . . . and] the device of intersement does not necessarily lead to alliances, that is, to actual enrolment” (p. 10). In fact, the gap between intersement and enrollment in a technology commercialization competition such as the GIP is perhaps so pronounced that it may be the crux of the problem altogether. For the GIP, the attempts at intersement are the proposal arguments made throughout the business pitch, the value propositions offered by innovators to alleviate market pain, and any number of actors (judges, investors, consultants, etc.) could thwart that process. Thus, for our purposes, it is necessary to stress the gulf between the moments of intersement and enrollment.

The translations of enrollment include the negotiations by which actors in their newly interested roles work toward the common goals of the network. Through the pitch, funding organizations and entrepreneurs are constantly negotiating their positions within the technology commercialization ecosystem. Funding organizations may enroll outside actors to consult with entrepreneurs, as is the case in the current study. The funding organization in the Gyeonggi-UT Innovation Program brought in business development professionals and research personnel, who in turn enrolled other actors such as market contacts and subject matter experts. Thus, it is possible, as illustrated through the current study in Chapter 5, for actors to accept their roles offered through problematization, yet reject other roles offered through intersement movements.

Mobilization

“Mobilization” refers to the codifying of certain complex parts of a network into routinized representatives, a “small number of individuals [who speak] in the name of the others” as Callon (1986, p. 11) put it. Swartz (2011) stressed, though, these overarching concepts for complex networks need not be human; “a concept, or a technology, or a process might serve the same function” (p. 295). Through the network-building process of the pitch, heterogeneous networks of humans, technologies, and artifacts are “black-boxed” into singular concepts: entrepreneurs, startups, donors, PowerPoints, technology commercialization reports (known in this study as Quicklook® reports), business models, SWOT analyses—even the pitch itself. Networks become actors which become parts of larger networks.

Again, mobilization highlights the atemporal nature of these moments of translation. In their articulation of a market pain, for example, innovators have already designated a few consumers with a problem as standing in for a multitude of consumers in varied geographic and cultural regions. “The market,” itself, is one such representation containing uncountable, erratic decisions based in motives unknowable. However, as economists over the last few centuries have found, assuming rational actors in a market produces wildly inaccurate models. However, that assumption is a common, repeated mobilization in the area of technology commercialization. GIP actors assume that market pain is something a rational consumer would *want* to alleviate, and major decisions about which technologies to pursue follow from such assumptions.

For a network to function, however, these mobilizations must occur. Pitchers must stand in for entire companies; investors for the long chains of financial backers that make up a geopolitical entity; abstract, individual consumers for entire markets. The chains in technology commercialization networks are too large and varied to handle in their entirety. Black-boxing is necessary to effect any change in the network at all. Otherwise, every node in the network is dealing with every other node. In order for the network to sustain—this complex and varied system in which the innovators are successful entrepreneurs in a North American market—“a series of intermediaries and equivalences are put into place which lead to the designation of the spokesman” (Callon, 1986, p. 13).

Whether these populations being represented are human or nonhuman does not matter; the result is the same. As Callon (1986) indicates, “To speak for others is to first silence those in whose name we speak” (p. 13). This silencing movement makes whether the actors have a voice (or even a language at all) a moot point. However, “It is certainly very difficult to silence human beings in a definitive manner but it is more difficult to speak in the name of entities that do not possess an articulate language: this supposes the need for continuous adjustments and devices of intersement that are infinitely more sophisticated” (Callon, 1986, p. 14). Thus, interesting actors without some voice or form of language requires more nuanced techniques that may even involve creating the very language by which an actor *could* object and then silencing that actor in that language.

Returning to our innovators, then, that language takes many forms and the choices of those forms are rhetorical ones. Effective mobilization requires an understanding of *believable* languages through which spokespersons would speak. To mobilize the market

through the language of anecdotal stories from one’s neighbor would certainly fail at the task. Instead, innovators learn devices of interessement that are relevant to the network of technology commercialization: market research, product testing, revenue streams, intellectual property law, and the like. However, these more sophisticated devices of interessement need not be learned through formal education or by specializing in technology commercialization.

As I will discuss further in Chapter 4, these interessement devices cannot be focused on the characteristics of the product unto itself, the goods-based logic of classical markets. Instead, innovators must draw from a different set of genres—those with an eye to the network in which the product is proposed to succeed. The value propositions of their pitches must be proposals about what the product can *do* within a network. The GIP highlights this process, as innovators reflect values and aims through the genres they enact.

Standing Sets of Transformations: Assemblages for Interessement

In a previous publication, our research team (Spinuzzi et al., 2016b) highlighted one difficulty faced by GIP participants: they must interesse an increasingly numerous and varied group of stakeholders, and this cannot be done all at once. This process includes “tracing a path that reconciles different stakeholder interests” while “innovator and stakeholders mutually transform the innovation and the claims surrounding it” (Spinuzzi et al., 2016b, p. 8). They manage this complexity through a *standing set of transformations*, a concept developed in genre studies. A standing set of transformations (or SST) is a group of changes that occur between genres. For the innovators in the GIP, “Each genre reuses and rerepresents arguments from previous genres [. . .] but reorients those arguments within

the action to which the current genre is oriented, while adding arguments as appropriate for that moment” (Spinuzzi et al., 2016b, p. 6). SSTs guide the complex tasks of interesting different stakeholders at different stages of the GIP process while maintaining an orientation toward the network’s goals. While the effects of an SST may be wildly divergent and erratic, the SST itself is relatively stable. Actors throughout the network of the GIP may come from different industries, operate on different funding and development cycles, and possess expertise in different fields, but “the SST provides guidance to all of these firms across their wildly different rhetorical challenges” (Spinuzzi et al., 2016b, p. 10).

The relatively stable nature of SSTs give structure to a seemingly random confluence of many factors. For this dissertation, they present the artifacts for study whereby moments of translations are performed, revised, recombined, and reiterated by different actors in varied contexts—overlaying and intertwining networks, each with its own goals and actors. These actors and goals may be at odds, and thus the task for GIP innovators was to maintain their own network orientation of commercializing their technology in North American markets. As I will discuss in the next chapter, this maintenance involved the cocreation of values and roles that actors could possess and inhabit, thereby severing their ties with roles and values in competing networks. Most often, the way in which these roles and values are constructed in the pitch process is through narrative and myth-making.

NARRATIVE AND MYTH

For this dissertation, I draw upon the work of David M. Boje with regard to the function of narrative and myth within human organizations. Although Boje has spent the last four decades developing a complex and nuanced approach to storytelling in organizations, for the purposes of this work, a full recounting is unnecessary. Instead, I use the work of Boje to ground this study with regard to *how* narrative and myth are used in human organizations. That is, the intricacies of how the tools of narrative and myth are built are outside the scope of this dissertation, but the functions those tools perform are central.

For Boje (1991), “storytelling is the preferred sense-making currency of human relationships among internal and external stakeholders” (p. 106). In its simplest form, storytelling is the act of connecting isolated experience and perception through causal relationships. For organizations, “Bits and pieces of organization experience are recounted socially throughout the firm to formulate recognizable, cogent, defensible, and seemingly rational collective accounts that will serve as precedent for individual assumption, decision, and action” (p. 106). That is, organizations are “information-processing networks” (p. 106), whereby a larger narrative is formed, one which guides present and future behavior. It is human to look for links from the past that neatly lead in succession to our present. The reality is much more varied and fragmented, but storytelling is a way to order these fragments in such a way as to transfer organizational values.

In a study of the founding narrative of Wal-Mart as evidenced in annual reports, Boje and Rosile (2008) found that storytelling allowed “Wal-Mart [to translate] and [crystallize] its version of hyperglobalization by rearticulating its dead leader” (p. 153). Sam Walton, dead since 1992, was repeatedly used to justify contemporary business practices through selectively quoting and narrativizing past events. Boje and Rosile (2008)

contend that “founding stories are not unitary. Rather, they are multiple, contradictory, and change over time” (p. 163). However, organizations construct what Boje calls “antenarratives”: “a tersely-told story, often a fragment, lacking the cohesion of full-blown narrative yet able to be transformative” (Boje & Rosile, 2008, p. 154). “Ante-,” here, is used in both the sense of coming before narrative and a “bet” that something transformational will occur as a result of the telling” (p. 173). Antennarratives, then, are fragments told before a fully developed, monovocal narrative is formed, pieces that transmit values to guide individual action in the future. In the case of Wal-Mart, numerous antenarratives about “Mr. Sam” were invoked to justify Wal-Mart’s stance that globalization equals progress. Stories of Sam Walton’s economics degree, his billionaire status, and aggressive anti-union practices were eschewed in favor of the “folksy, aw-shucks, small town, *friendly-ghost* image. He is our neighborly ‘Mr. Sam’ with his rusty pick-up, his hunting dogs in tow, stopping to greet everyone by name” (Boje & Rosile, 2008, p. 164). CEOs and store associates alike invoked Mr. Sam’s ghost as a sign of company loyalty, an indication that one’s personal values aligned with corporate aims. Such storytelling moves are used to draw upon the power of polyphonic stories: grand narratives are hidden as fragmented stories coming from multiple sources, and thus lend the credibility of many perspectives converging into singular values. As Boje and Rosile (2008) put it, “Contemporary culture employs narratives dressed up to appear like storytelling as a powerful means of persuasion” (p. 177).

The stories told in the following dissertation are less nefarious than multinational corporations justifying oppression. However, the mechanisms are the same: fragmented tales are used to transmit values. These values are justified by creating coherent causal relationships among isolated experiences. The characters, plot, and scenes are chosen from innumerable events to highlight shared value systems among entrepreneurs and

stakeholders. The aim is to incorporate potential investors into the narrative, to provide them with roles preferable to inhabit, as judged by these shared values. In short, the stories told matter. They are not an objective account of past events, as what “really happened” is beside the point. Instead, Boje and Rosile (2008) remind us that “It is not the harking back to the past, but rather the choice of which antenarrative threads we select from the past to extend into the present which is revealing” (p. 171). In the context of the current study, this means that the stories selected by innovators are an integral part of both severing ties to existent networks and creating new sociotechnical networks oriented toward commercializing a product as well.

Chapter 3: Research Site and Methodology

Now that I have established the field and previous scholarship on which this study is built, I will show how this study exemplifies one form of technology commercialization and can provide insights into the mechanisms behind entrepreneurial pitches. In 2013, I was a member of a research team studying a university-sponsored technology commercialization program in Austin, Texas and Suwon, South Korea. This initial study helped me to refine our research questions to further explore changes to pitches as innovators moved through the program. That is, the initial study (K5) focused on revision across documents in the program; this current dissertation narrows that focus to genres enacted in a subsequent year of the program (K6) by examining the mechanisms by which actors within a network cocreate market pain and value propositions, and enroll other actors and mobilize into a technology startup.

I will begin with the choice of research site and the various programs and organizations converging on this hybrid site of study. Then, I will outline Phase 1 of the methodology, the initial study (K5) conducted through thorough examination of artifacts produced in the course of a technology commercialization pitch competition, describing data collection, data storage and reduction, and data analysis. For Phase 2 of the methodology, I will outline the second study (K6) conducted on site at the Gyeonggi Small to Medium Business Center in Suwon, South Korea.

This study was approved by the author's Institutional Review Board.

RESEARCH SITE

IC² Institute

In 1977, then-president of the University of Texas at Austin’s College of Business Administration, George Kozmetsky, founded the IC² Institute. Kozmetsky’s earlier success was in technology, founding the multinational conglomerate Teledyne, Inc. in 1960. Drawing upon his earlier work in technology commercialization, his goal was to create a “think and do tank” at the intersection of higher education, government, and industry (IC² Institute, 2016). His driving vision was that close collaboration among these sectors could stimulate regional economic development, and this experiment has borne out over the past forty years—first in Austin, Texas and then in cities around the world.

Innovation, Creativity, and Capital—the “IC²” of the Institute—are at the center of this vision: drawing upon both intellectual and economic resources from each of the aforementioned sectors, innovators have been able to bring their products and services to market. Over the past four decades, the Institute has grown to produce results in four major areas: “research, education, regional economic development, and technology incubation and acceleration” (IC² Institute, 2016). Prime among the Institute’s work in regional development are the efforts of the Global Commercialization Group, or GCG—a subsidiary of IC² focused on the activity of technology commercialization around the world.

Global Commercialization Group

The Global Commercialization Group (GCG) of the IC² Institute was founded by Sid Burback, drawing inspiration from both his own previous work in post-Cold War

Russian technology commercialization and IC²'s focus on education and industry partnerships. Following the principle that “education plays a key role in the economic development of a region and that the most effective education programs are those based in action-learning,” GCG has expanded to work within over 16 countries (Burbach, 2016). The principles behind GCG's programs ensure they are focused not only on technology commercialization, but also on educating local innovators about how to appeal to international markets. This combination of education and industry creates a hybrid environment ripe for study.

Irish researchers Clare Rigg and Breda O'Dwyer (2012) have thoroughly examined formal entrepreneur education across the globe. Though they admit the term “entrepreneurial education” is difficult to pin down, they see it as “learning to recognise and act on opportunities, and interacting socially to initiate, organise and manage ventures” (Rae, as cited in Rigg & O'Dwyer, 2012, p. 322). More problematic than pinning down the term, however, is the “conflicting dualism of locating education for entrepreneurship within higher education institutions.” Entrepreneurialism, the researchers believe, “is an activity rooted in risk, uncertainty and change,” while educational institutions, by nature, “are inherently, and arguably in many ways necessarily slow, with regulation of programme awards and collegiate decision-making” (p. 322). That is, according to these researchers, educational institutions are too “safe” to accurately represent the high-stakes nature of entrepreneurial work.

On the other end of the spectrum, however, a purely commercial setting would present a different—though equally limiting—problem. There are certainly exceptions, but

industry is not as primarily concerned about the *development* of innovators into entrepreneurs. By the time an innovator pitches her product or service to an audience of potential investors, she has *already* become an entrepreneur: she has honed her pitch over innumerable iterations, met with previous investors, and in fact, may already have been funded for previous stages in her company's economic growth.

This study is concerned with both *being* and *becoming*. As innovators change into entrepreneurs and potential investors become funders, they are learning, and learning is a social construct: "learning to be an entrepreneur means changing identities" (Rigg & O'Dwyer, 2012, p. 323) and "To recognise learning as a social process helps in understanding how entrepreneurs develop their identity through inter-subjective or relational narratives" (p. 324). In order to focus on the process of changing identities, some form of educational context is necessary, but as outlined above, educational contexts are limited by their simulative properties.

The Global Commercialization Group's efforts, then, align with the purposes of this study. Given their focus on education and industry (along with support from governmental organizations), many of their programs provide strong sites of study. For this dissertation, I focus on the Gyeonggi-UT Innovation Program (GIP), one such hybrid site supported by education, industry, and domestic and foreign governments.

Gyeonggi-UT Innovation Program (GIP)

One of the Global Commercialization Group's focus countries is South Korea, a nation with a rather unique economic history which makes it an ideal site for the study of technology commercialization. While a full recounting of the past half-century of

economic development in South Korea is outside the scope of this dissertation, suffice it to say that “In the 1960s, GDP per capita was comparable with levels in the poorer countries of Africa and Asia. In 2004, South Korea joined the trillion-dollar club of world economies” (Central Intelligence Agency, 2016). Such rapid economic growth was fueled by US investment in a number of *chaebols*, extremely powerful South Korean conglomerates, most often associated with particular families. While this strategy ensured the economic prosperity of South Korea as a whole, it came at the expense of consolidating wealth in the hands of very few. A number of successful international conglomerates have come from this economic investment—name brands such as LG, Samsung, Hyundai, and Kia—and small and medium South Korean businesses have historically been bound to the supply chains of these *chaebols*.

South Korea’s culture is ancient, rich, and varied, and it is important to avoid oversimplifying the difficulties of international technology commercialization to mere cultural factors. However, given that South Korean innovators were being asked to learn to pitch to Western markets, a number of cultural comparisons arose throughout the study that deserve attention. As mentioned above, the *chaebol* system presented a unique economic situation for small and medium enterprises in South Korea. In numerous semi-structured interviews with Lyle¹ (the director of the GIP) and confirmed through interviews with a number of South Korean program participants, these cultural differences provide

¹ Unless indicated otherwise, names of GIP personnel and companies are pseudonyms.

some valuable context for the difficulties encountered by innovators in the GIP. In a previous publication, we describe this difficulty for innovators:

Successfully developing these arguments requires producing and reading multiple genres that mediate [innovators'] interactions with multiple stakeholders who have different interests and backgrounds. Yet [innovators] are initially familiar with neither stakeholders nor genres—partly because they are learning how to be entrepreneurs, partly because they must communicate with stakeholders from different cultures. (Spinuzzi et al., 2016b, p. 5)

Aside from concentrating wealth in the hands of the relatively few, the *chaebol* system works inside of “shared, relatively homogenous cultural values, cemented via long-term business relationships” (Spinuzzi et al., 2016b, p. 11) in contrast to the highly competition-driven environment of Western commerce. Economic ties are less based upon a “survival of the fittest” mentality: “failure was strongly stigmatized in Korean culture, [. . . and thus] the government tended to broadly subsidize SMEs [small to medium enterprises], lessening the pressure to compete” (p. 11). Rather than creating new products, many companies instead opt to produce domestic versions of products already on the global market. This focus on “cheaper, better, faster” production of already-existent products diverts innovation from possibly disruptive technologies that challenge the status quo. Technological innovation—at least in the small to medium enterprise sector—is less focused on radically altering markets than on filling a niche within a *chaebol*'s supply chain. In other words, SMEs in South Korea tend to make widgets for use in more complex products controlled by larger enterprises, rather than their own standalone products that unseat previous technologies. Such an orientation embeds SMEs firmly within domestic markets, beholden to the *chaebols*' established economic networks.

To counter this situation, the South Korean government began a number of programs to grow its small to medium enterprise (SME) sector. One such program is the joint partnership between the University of Texas at Austin and the Gyeonggi Small to Medium Business Center (GSBC), administered by the provincial government of Gyeonggi-do, South Korea. This joint initiative—the Gyeonggi-UT Innovation Program (GIP)—attempts to guide SMEs through the process of commercializing their products and services for international markets. The GIP defines SMEs as companies falling within a range, typically smaller in size than what is considered an SME in Europe. While European SMEs are generally thought to have less than 250 employees and an annual revenue of less than \$50-60 million a year, the GIP’s participant firms tend to have less than 50 employees and revenues closer to the low millions. Lyle, the GIP director, stated that in the early years of the program, they “used to look at single innovators, maybe small companies with three or four employees[, and now they are] looking more at companies with 50 employees” due to program growth and pressure from public sector funding.

Thus, the GIP presents a prime site of study for many reasons. It meets the conditions of high-stakes entrepreneurial environments, as SMEs compete among each other for a set number of opportunities to make international business connections. As small- to medium-sized businesses, these companies have seen some success in South Korean and other Asian markets. Thus, they are not students “pretending” to be businesspeople, yet they are not well-versed in more culturally Western practices such as the business pitch. That is, they are still learning, and the GIP supports this learning through focused instruction in pitching as well as in-depth market research.

While most institutions are hybrids—mixtures of other cultures, practices, and influences—the GIP is an example of an institution that is *explicitly* so. Multiple actors under the umbrella of what is known as the GIP frequently tout this hybridity as a major strength of the program. As mentioned above, from the University of Texas at Austin, driving principles from the founding of IC² make their way into the mission of the Gyeonggi-UT Innovation Program: success in local markets comes from innovation in universities, industries, and government. These sectors converge in a program like the GIP, and with that convergence, bring a number of common practices from each sector to bear upon a shared aim: technology commercialization.

The hybrid nature of the GIP repeatedly emerges as a focal point among program participants and employees. As we explain in an earlier study of the GIP (Spinuzzi, et al., 2016b), the program director, Lyle, sees the GIP as residing at the apex of a tripod among private, public, and academic stakeholders. These three sectors have different—and often competing—aims and expectations. In Spinuzzi, et al. (2016b), Lyle elucidates two areas where the three sectors contradict: funding cycles and measures of success.

The public sector, according to Lyle, is represented by the Gyeonggi Small to Medium Business Center (GSBC). The center was founded by the governor of Gyeonggi-do province, and as a governmental organization, runs on annual funding cycles. Also, as a governmental organization, the GSBC is focused on metrics that make for good media buzz: “The GSBC expected to generate annual media events in which it could tout ‘concrete, demonstrable results’ such as export revenue, which in turn created ‘new wealth,

new jobs, new opportunities,' leading to additional tax revenue” (Spinuzzi, et al., 2016, p. 17). Politicians need headlines to win in the court of public opinion.

The second sector of Lyle’s tripod, the private sector, worked on different, often varying, cycles. Depending on the specific industry, funding cycles for the private sector could be shorter or longer than those of the public sector. “Automotive, health care, and food industries have long (3-5 year) sales cycles due to certification, design, and testing requirements,” (Spinuzzi, et al., 2016, p. 17), while other industries such as software have shorter funding cycles. As for metrics of success, the private sector looked to the GIP to vet products for differing markets and “provide external validation for the innovations” (p. 17).

Finally, the academic sector, for Lyle, is the “long game”: academic stakeholders benefitted from the program through research and funding opportunities. These opportunities could come from the program itself—as in the case of the University of Texas’s Master of Science and Technology Commercialization (MSTC) program—or by funding other research initiatives with revenue generated from royalties. Students and recent graduates of the MSTC participate in creating written genres for the innovators, in the form of Quicklook® and Deep Dive reports (research into the technology and its potential markets). The GIP exhibited value to this sector by providing current and future educational opportunities for a variety of stakeholders. As such, the metrics by which success was measured followed common academic standards: publications, impact factors, citation numbers, and similar author-level metrics.

As Lyle put it, “Keeping all of those constituencies happy is an art unto itself,” (Spinuzzi, et al., 2016, p. 17), and the GIP personnel are trained in this art, both through explicit instruction and through trial-and-error. In Lyle’s view, “the program was built around the public-sector cycle” (p. 17), and thus favors innovators who are already commercially viable in South Korean or other regional markets—those who already had processes for producing, packaging, and delivering products and customer service. While “unnatural behavior” (in Lyle’s view) in selecting possible GIP participants, choosing innovators with these stages already worked through ensures a quicker turnaround on the metrics that matter to the public sector, such as export revenue.

The GIP as a site of study, then, ensures a rich environment where varied activities come into contact. Participants and personnel in the program must deftly navigate among different discourse communities, each with its own genres, aims, and expectations. These hybrid sites breed a plethora of genre enactments that retain identifiable characteristics while being applied to contingent, ad-hoc purposes and situations. These *boundary objects*, as some scholars have called them, present artifacts that reflect the competing values and strategies of the activities in which they arise.

Writing about objects of scientific study, Star and Griesemer (1989) contend that “The fact that the objects originate in, and continue to inhabit, different worlds reflects the fundamental tension of science: how can findings which incorporate radically different meanings become coherent?” (p. 392). Though their research describes work done in a museum of natural history, the “fundamental tension of science” is certainly not limited to scientific paradigms. Radically different meanings abound in a variety of other hybrid

environments, and the GIP is no exception. The hybrid space of the GIP allows contact and competition among boundary objects: objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Star and Griesemer, 1989, p. 393). At the confluence of education, government, and private industry, a number of boundary objects are circulated and used for individual (and often competing) purposes.

GIP Competition Specifics

At the outset of the current study, the Gyeonggi-UT Innovation Program (GIP) was already concluding its fifth year. Designed as both an educational opportunity and a pitch competition, the GIP enlisted South Korean small to medium enterprises from a variety of industries. By the sixth year of the GIP, and the conclusion of this study, the competition had grown to over 200 applicants. Over the course of each nine-month program, this number was whittled down to around 50 participants competing for around 12-15 final slots. The GIP proceeded through a number of distinct stages, each with its own document cycles surrounding the primary genre of the business pitch. In describing each stage of the GIP below, I will also illuminate the various documents associated with that particular stage.

Stage 1: Initial Applications

The initial GIP application, in theory, is open to all small to medium enterprises in South Korea. The application itself is a two-page form supplied by the GIP, with a total of 25 questions. These questions cover areas from basic contact information to a technical description of the product, development status of the product, and any intellectual property

protections for the product already in place. GIP personnel then review these applications for a number of criteria to determine the top 25-50 applications that represent the best fit for the program.

Stage 2: Firm Research

Out of this initial group of applicants, the GIP selects around 50 participants for the nine-month program. Participants must give an initial presentation on their technology, using a PowerPoint template provided by the GIP. This template, much like the application, serves to focus the applicants' pitches on topics the GIP has deemed relevant to technology commercialization in Western markets. The initial pitch deck template is 20 slides, though some participants choose to forego some slides or insert additional information.

Deep Dive comments are based upon GIP personnel's reactions to the initial pitches, along with occasional comments from the innovator teams themselves (often in response to direct questions from GIP personnel). They tend to run around four pages, and often follow a GIP-supplied template. Some GIP analysts, however, take free-form notes in lieu of the template.

In addition to the Deep Dive presentation, GIP personnel may visit manufacturing or administrative sites. The aim is to gather as much data about the participants possible to further determine both technology viability and also participant agreeableness. As found in the preliminary interviews with GIP personnel, the personalities and perceived involvement of the firm's representatives are an important factor. GIP Director Lyle recalled an incident during the data collection stage, for example, where one participant spoke for 20 minutes at the beginning of his presentation on the insult he felt at being

forced to wait for a delayed start to the presentation. Lyle was not pleased: “so I leaned over to my admin assistant and said, ‘Make a notation there’” about the participant’s attitude. Though Lyle admitted that a truly disruptive, winning technology may have offset the participant’s negative attitude, the participant “was selling treadmills,” and thus it was a “sort of an easy answer there” that the firm was not selected to continue in the program.

In addition to the Deep Dive process, selected firms receive a Quicklook® report, a methodical approach to market validation (see Cornwell, 1998; Jakobs et al., 2015). Quicklook® reports are thorough business analyses compiled by students and recent graduates of the University of Texas at Austin’s Master of Science in Technology Commercialization (MSTC) program. Each report represents around 40 hours of research into an innovator’s technology and potential markets. The reports run around 20 pages and are based upon a template supplied by the Global Commercialization Group overseeing the GIP. The authors of these reports are trained in the genre and do research into the commercial viability of the product in Western markets. This research draws upon contacts in industry and includes sections such as an executive summary, technology description, potential benefits, development status, status of intellectual property, competitors and competing technologies, potential commercial markets, potential challenges, potential opportunities, recommendations, next step checklist, and interview and research notes.

Stage 3: Training Phase

The Training Phase of the GIP consisted of a series of weekend workshops, broken into periods of instruction over two days. Training covered topics ranging from

introductory material on science and technology commercialization to market validation techniques to presentation strategies. The training sessions were designed to give an overview of technology commercialization programs like the GIP and narrowed to focus on the previous efforts of the Global Commercialization Group at UT. They further walk participants through a number of technology commercialization genres such as the business pitch and the expected information contained therein. Table 1 below presents a sample of the major topics covered in year 6 of the GIP. Note that there is some overlap in major topics addressed at each session.

Table 1: GIP Training Session Topics

| Workshop Title | Sample of Subjects | Date of presentation |
|--|--|----------------------|
| An Introduction to Commercialization of Science and Technology | <ul style="list-style-type: none"> • Relevance of science and technology commercialization to economic development; • Models of commercialization in different organizations (private/public companies, universities, small business, inventors, etc.); • Intellectual property • Market validation • Quicklook® process • Using Market Research | July 5-6. 2013 |
| Foundational Concepts | <ul style="list-style-type: none"> • Markets and market interest • Customer segments • External market factors • Value propositions • Delivering value to the customer | July 19-20, 2013 |
| Global Commercialization Issues | <ul style="list-style-type: none"> • Intellectual property basics and strategy • Cost vs. risk • Understanding the “Patent Game” • PCT patent application process • Penetrating the US market • Market assessment • Information intake dominance | August 23-24, 2013 |
| World-class Presentation Skills | <ul style="list-style-type: none"> • Intention • Planning • Awareness • Storytelling • Practice | September 6-7, 2013 |

The GIP participants also engage in a mock pitch intended to prepare them for the final competition. Tamara, the trainer involved in the World-class Presentation Skills workshop, reviews videos of the mock presentation with the participants, highlighting areas where their content or style of presentation can improve.

Stage 4: Pitch Competition

The final pitch competition is designed to whittle the 50 participants into the 12-15 finalists who will receive technology commercialization assistance from the Global Commercialization Group. Like the initial Deep Dive pitches, the final pitches follow a template of around 20 slides, but by this point, innovators tend to take more liberties in revising and reusing template slides for their own aims. GIP participants are expected to incorporate the training and guidance they have received to produce a polished business pitch to an audience of GIP personnel and South Korean innovators and entrepreneurs.

Stage 5: Business Development

Although outside the scope of this study, the business development stage is an important one in the GIP process. The winners of the pitch competition work closely with business developers with expertise in North American markets. Business developers connect these new entrepreneurs with professionals in the market, and all work to bring the innovation to consumers in the U.S., Canada, and Mexico. In semi-structured interviews, Lyle repeatedly highlighted the process of the GIP as continuing past the competition (though the scope of this study is limited to the preceding stages). He speaks to the assumptions of many potential candidates:

[A] lot these companies come into the program thinking the deal is they sign up for the program, [and] if they win, they get all of these lovely things and at some point we call them and say “sign the deal,” you know, and it just shows up on their desk and they win. And of course that’s not reality.

The reality is that although this study is bound by the selection, training, and pitch competition, the GIP extends through the business development stage as well. Participants are expected to take an active interest in commercializing in North American markets, and

GIP personnel are there to assist them in this process, but not to take over entire departments for the firms. The firms must put in the work; the GIP provides the guidance necessary to do effective work in these areas.

In short, the GIP encompasses a wealth of data across myriad genres. Paper trails are common in all three sectors, but boundary objects take shape in other media as well. The oral presentation of the pitch itself; PowerPoint slide decks; Quicklook® reports; Deep Dive reports; Deep Dive “practice” pitches; training materials in print, video, and online; brochures; marketing posters; and technical graphics are just a handful of boundary objects used within the program. These boundary objects are stored in various methods and places, retrieved ad-hoc to serve different purposes for different actants, and sometimes forgotten for years before being used again. To narrow the scope for this study, the data collection and refinement passed through three phases: an initial phase focused on gathering context for the GIP; a second phase using a grounded theory approach of coding previous years’ genres to hone in on focus topics; and a third phase of on-site observation and focused interviews. As elucidated in the explanation of the third phase below, data collected in this final phase was culled to hone in specifically on case studies for the purposes of this dissertation.

DATA COLLECTION

The entire study of the Gyeonggi-UT Innovation Program spanned over the course of a year, and proceeded in two major phases. In the following sections, I outline these two phases: K5 and K6. In addition to the data from these two phases were interviews that are

supplementary to this study but preceded my participation in the research team. I include those preliminary interviews as part of this dissertation's data set because they provide valuable insight into the GIP's process.

Initial Study Conditions

In 2013, the IC² Institute approved a \$15,000 grant to study the Global Commercialization Group (GCG) and its efforts in Suwon, the capital of Gyeonggi-do province in South Korea. The GCG had been participating in the Gyeonggi-UT Innovation Program (GIP) for five years, and already there were mountains of data generated from these efforts. Something interesting was happening in the GIP, as South Korean innovators were being trained to succeed in international markets, all while competing for a top prize of further contact-building and commercialization services provided by the GCG.

For all of this data, however, the GCG suffered from a problem, as the principal investigator put it, of “a vital mission, [but] an anecdotal process.” Among all this data were stories of the successes of GIP graduates: the program “supported over 80 companies for business development, with export revenue projected to be over USD\$30M after finishing the program” (Global Commercialization Group, 2016). Seen through the lens of Lyle's aforementioned tripod describing the GIP at the intersection of three sectors, we can see that the GIP was producing metrics conducive to the public sector's aims, but was limited in its orientation to the private and academic sectors. Given that the public sector of the GIP tripod (the government of Gyeonggi-do province) funded the center in which the program was physically housed—the Gyeonggi Small to Medium Business Center (GSBC) in Suwon, South Korea—these export metrics satisfied the “media-ready”

requirements. Broad evidence of export revenue plays well in domestic media, and thus the GIP was seen as successful in this sector. Providing these metrics is a smart move: they satisfy the immediate needs of a set of important stakeholders. However, as we will see more in the Analysis section of this dissertation, successful network-building requires constant negotiation among many stakeholders, and translating value for one set of stakeholders always runs the risk of alienating another set.

Given its public-sector orientation with regard to data collection, the GCG lacked a method by which to judge the success of its programs at a more granular level. That is, there were plenty of artifacts created throughout the process of the program and plenty of estimates about the end result of the successful candidates, but a dearth of information regarding the efficacy of the methods employed by the program. The *products* of the program were documented and validated through these metrics, but what were lost were metrics about the *process* of educating innovators to be entrepreneurs in new markets.

An initial assessment of the program attributed this dearth of metrics to three reasons: a lack of feedback mechanisms, the difficulty of producing such mechanisms, and the cultural gaps inherent in such a diverse program. Producing those feedback mechanisms proved difficult due to the iterative and contingent nature of the program. Instruction was frequently ad-hoc, dependent upon the program's participants and their specific strengths and weaknesses. Instructors, consultants, and program judges acted upon often undocumented expertise gained over years in the program, or even from inexperience in such programs before. Such practices are ubiquitous across many fields of inquiry—there

are numerous situations where outside consultants are used for their fresh perspectives on a problem to avoid the pitfalls of disciplinary blindness.

However, the status of the GIP as a hybrid program spanning differing spheres also contributed to this difficulty in pleasing all stakeholders. These spheres were political: national laws, regulations, and customs intermingled in the program, often befuddling and even at cross-purposes. They were industrial: differing aims in the educational, governmental, and private sectors, or varied contradictions among industry-specific responses to common problems. They were geographic: with offices spread across the globe, organizational goals and strategies differed among structural units and caused difficulty in collecting information in common data formats and sharing those formats with others.

Given these hurdles, the GCG had never performed a systematic study of the processes by which they assisted South Korean innovators in commercializing their technologies in Western markets. Again, the anecdotes were there, verified by past participants themselves and seen in the current successes of their companies in new markets. Standardizing such processes—when they were not only difficult to capture but even to replicate—seemed an insurmountable task. Further, full standardization would not necessarily be the most effective route for the GCG. It could be that the very contingent, ad-hoc nature of the instruction was the key to their successes, and standardizing the program could quench the very sparks that kept their fires going.

Phase 1: Initial Interviews and Surveys of GIP Personnel

Many of these factors about the GIP's state of affairs were gleaned from initial interviews with GIP personnel. Some of these semi-structured interviews were conducted and surveys sent out prior to me joining the team (Table 2). We have reported on this phase of data collection elsewhere (Spinuzzi et al., 2016b), and the pseudonyms are retained from this prior publication.

Table 2: Interviews and surveys of GIP personnel: date, (time in minutes).

| Pseudonym | Title | Background Interview | On-Site Interview | Survey |
|-----------|------------------|----------------------|------------------------------------|--------|
| Abe | Analyst | | 10.18/2013 (23) | |
| Aiden | Analyst | | | Y |
| Alan | Analyst | 3/14/2013 (61) | | Y |
| Andy | Analyst | 3/14/2013 (41) | | Y |
| Anthony | Analyst | | | |
| Arthur | Analyst | 3/8/2013 (39) | | |
| Avery | Analyst | | | Y |
| Barry | Developer | | 10/18/2013 (21) | Y |
| Byul | Developer | | | |
| Larry | Program Director | | 9/30/2013 (25) | |
| Lyle | GIP Director | 4/18/2013 (90) | 9/23/2013 (67); 9/30/2013 (132) | |
| Tamara | Trainer | 3/8/2013 (23) | | Y |
| Tracy | Trainer | 3/2/2013 (40) | | |

Phase 2: K5 Data Collection and Analysis

Phase 2 of the methodology (K5) set out to achieve a number of goals in validating the GCG's process. First, K5 attempted to understand the current state of affairs in the GCG's mentoring program, focusing mainly on the business pitch and the varied genres

involved in teaching others how to pitch. Further, K5 would catalog characteristics of pitches across multiple genres for use in modeling how pitches evolve over the course of the program. In this research process, K5 would form a set of criteria based upon those of mentors, judges, entrepreneurs, and investors, and use those criteria to measure success among multiple stakeholders in the pitch process. Perhaps most significant to this current dissertation, K5 aimed to gather data across different entrepreneur teams over the course of the program, noting changes in communication strategies to address foreign audiences and unfamiliar types of stakeholders. All of this data was intended to be used to refine the GCG's process for use in future years of the GIP and other GCG programs.

Within these aims were some driving research questions to better understand not only the GCG's methods of training others in the art of the business pitch, but the very nature of the business pitch as well. Because K5 began as centrally a pedagogical study, it was most concerned with *change*: how the program participants conceptualized their pitches at the beginning of the process, how they actually created those pitches, how those pitches were critiqued, and how those pitches changed from the initial stages of the program to the end competition. Though the initial research questions were varied, they fell into three broad areas of inquiry: how innovators' pitches changed throughout the program, how successful the mentoring process was, and how the GCG could use these insights to improve the process. Each of these broader categories could of course be broken into the nature of concepts such as change (what changes were made, what changes were significant, how those changes were enacted or received), success in pitches (what it is, how it is defined, how it is measured), and efficacy of education (what was learned, how

to measure that learning, how to measure the application of that learning). Any one of these threads would prove fertile ground for its own study. What evolved throughout K5 through the application of grounded theory was a greater focus on how the pitches themselves evolved, how strategies of reuse and revision honed inventions into solutions and innovators into entrepreneurs.

Grounded Theory

The research process evolved through the framework of grounded theory, as explicated by Corbin and Strauss (1990) in their “Grounded Theory Research: Procedures, Canons, & Evaluative Criteria.” Such an approach is intended to “not only to uncover relevant conditions, but also to determine how the actors respond to changing conditions and to the consequences of their actions” (p. 5). Again, K5 was primarily concerned with *change* or the *development* of pitch strategies throughout the GIP. Due to this focus on change, grounded theory provided a framework through which to gather and code data. The coding schema began with a few assumptions about the nature of the business pitch, and across both Phase 2 (K5) and Phase 3 (K6), those assumptions about pitches changed as well. Therefore, while this dissertation outlines the data collection and analysis in temporal order and through successive phases, the shifting viewpoints of both participants and researchers—in concert with the rigor of grounded theory—required that data collection and analysis occur simultaneously. As Corbin and Strauss (1990) explain, “analysis is necessary from the start because it is used to direct the next interview and observations” (p. 6). The paradigm here is one of constant flux, where all concepts brought into the study are provisional and only find their way into a larger theory through

“repeatedly being present in interviews, documents, and observations in one form or another—or by being significantly absent” (Corbin & Strauss, 1990, p. 7). Throughout the course of K5, both of these moves happened to shape the trajectory of K6 and thus the contributions of this dissertation. But first, we turn to how the K5 data were selected and coded.

K5 Data Collection

The competition and educational process began with over 250 small- to medium-sized enterprises, and was subsequently whittled down to 25 final competitors in the fifth year and 50 competitors for the sixth year of the GIP. As mentioned above, such a program, by nature, generates both paper and electronic data for sifting through.

Phase 2 of the data collection began at the IC² Institute, where researchers collected documents created throughout the fifth year of the Suwon program (K5). As we have noted previously on the K5 data collection process, the approach is “exploratory and limited, but it also appears to be unique in the literature on the pitch because it provides the first detailed glimpse into the pitch’s revision process” (Spinuzzi et al., 2014, p. 162). All documents collected for this phase of the research process were stored in Basecamp, an online repository for electronic files. The research team involved in this phase collected documents representing each of the stages of the GIP as outlined in the GIP Competition Specifics section of this dissertation.

Of the 25 finalists in the GIP competition, we selected 14 firms who represented relative success in interesting GIP personnel into their North American technology commercialization networks through their final business pitches. Further, these 14 firms

constituted a complete data set with regard to five types of genres selected for analysis. We (Spinuzzi et al., 2014) outlined these five types of documents selected for analysis reproduced in Table 3 below.

Table 3: K5 Investigated document genres in development of the pitch

| Genre | Description | Generated by | Approximate length (in pages or slides) |
|--------------------|---|---|---|
| Application | A GIP-supplied form filled out in English by Korean entrepreneurs applying to the program. Includes sections: contact information, technical description, intellectual property status, and development status | Entrepreneur team | 2 pages |
| Initial Decks | For describing entrepreneurs' technology to Deep Dive analysts. Usually based on a GIP-supplied template. Includes sections: technology description, development status, benefits, IP status, business model, markets, market interest, competition, risks and barriers, and team status. | Entrepreneur team | 20 slides |
| Deep Dive Comments | For determining whether the technology is ready to be commercialized. Responds to the initial deck. Often based on GIP-supplied template, but some are free-form notes. | GIP analysts with entrepreneur team input | 4 pages |

Table 3 (continued)

| | | | |
|--|--|--------------------------|------------------|
| <p>Quicklook® (Technology Assessment and Commercialization Report)</p> | <p>For determining whether this technology has a good chance of commercialization in the targeted market. Based on a GIP-supplied template, generated by contractors who had been trained in this genre.</p> <p>Includes sections: executive summary, technology description, potential benefits, development status, status of intellectual property, competitors and competing technologies, potential commercial markets, potential challenges, potential opportunities, recommendations, next step checklist, and interview notes (from interviews with people working in the target market), as well as research notes.</p> | <p>GIP contractors</p> | <p>20 pages</p> |
| <p>Final decks</p> | <p>For supporting presentations by entrepreneurs to potential US market partners. Based on the initial deck. Includes sections: technology description, development status, benefits, IP status, business model, markets, market interest, competition, risks and barriers, and team status.</p> | <p>Entrepreneur team</p> | <p>20 slides</p> |

The rationale for including the K5 data collection and analysis process in this dissertation is that the study of K5—with its orientation to grounded theory and the changing coding schemas throughout this process—illuminates the data culling process that occurred to narrow the scope of K6 to the final two firms discussed here in the Analysis

section. It was a long process that involved beginning with a framework for coding that evolved as more data was analyzed and more patterns in that data were discerned.

K5 Coding and Analysis

I coded the K5 data by first chunking the data into *stanzas*, as explained by Saldaña (2009). For written materials, sentences served as breaking points for stanzas. Other media such as photos, figures and graphs were summarized into text for their content and then chunked in similar ways to other written data. Table cells were broken into individual stanzas. From this data set of 14 firms across five genres, researchers created 8,645 stanzas.

The genres gathered in the K5 data collection process implied “particular types of arguments,” as we discussed elsewhere (Spinuzzi et al. 2014, p. 163). As I will explore in the Analysis section of this dissertation, each of these generic instantiations embodied a set of values—some consciously and some subconsciously—through its application of conventions such as format, sections included, instructions, and the like. In framing the starter codes for K5 analysis, we chose the terms of Toulmin argumentation, a system in which propositional arguments are laid out in claims, these claims are explained by reasons, and the reasons and claims are supported by evidence. Arguers qualify their arguments to narrow the scope of what is being addressed, and they also imagine conditions of rebuttal as well and provide counterarguments to those rebuttals. While the Toulmin system of argumentation and argument analysis was first developed as a framework for legal arguments, for the purposes of this study, it provided a window through which to first view the data. In practice, though, we found this window to be muddy and streaked with grime.

Thus, the starter codes for K5 data began with four categories—*claim*, *evidence*, *qualifiers*, and *rebuttals*—but changed over the course of investigation.

In practice, we discovered limitations to the Toulmin model of argumentation, concerns that echoed Freeman (1991): Toulmin terms such as *claim*, *grounds (reasons)*, *warrants*, and *backing*, in actual performed arguments, experience a “slippage in these terms’ applicability. Warrants tend to be unstated, and grounds can be claims that require further support; both would have required different data” (Spinuzzi et al., 2014, p. 165). Throughout the process of coding K5 data, however, we kept a detailed coding journal that explicated the process and difficulties encountered. The journal highlights some of those evolutions in coding schemes, and provides a record of the open coding process.

In a prior publication, we (Spinuzzi et al., 2014) point to another reason for the evolution of these codes: “argumentation often involves eliding explicit references to core values and beliefs” (p. 166). Argumentation is rarely entirely explicit. Assumptions are often unstated as they are perceived to be shared among arguer and stakeholders, and thus stating such arguments is unnecessary. In fact, in Toulmin argumentation frameworks, those shared assumptions typically should be left unsaid, as they belabor the argument as a whole, bogging it down in explicating aspects that are already agreed upon. For a cross-cultural study such as the current one, a danger lies in explicating these unstated, shared values. “As researchers,” we explain in Spinuzzi et al. (2014), “filling in those missing premises for our participants has the potential for ethnocentrism, as we would be interpreting the syllogistic gaps in Korean participants’ arguments” (p. 166). While some

cultural differences are addressed in the current study, we believe a more ethical approach is to only approach those cultural differences that are explicitly stated in the data.

In light of these limitations to our initial approach at coding the data, we developed an open coding schema that categorized only *stated* claims made by the participants through the genres outlined above. Thus, we “only catalogue explicit changes in those parts of arguments expected by US-based audiences to which the Korean entrepreneurs were pitching” (Spinuzzi et al., 2014, p. 166). Throughout the open coding process, we “inductively identified recurrent themes, defined codes based on them, [and] then checked these codes deductively based on these definitions” (Spinuzzi et al., 2014, p. 166). These codes were nonexclusive; a single stanza could be coded in multiple ways. Through the process of open coding, the initial starter codes evolved into around 100 different codes about the nature of claims being made and how those claims were reused throughout the data set.

Phase 3: K6 Data Collection

Building upon the insights gathered in Phase 2, we collected similar documents representing instantiated genres throughout the GIP process. However, Phase 3 allowed for on-site data collection in South Korea and was guided by a focus on the techniques used to problematize the market and interesse stakeholders (discussed at length in the Analysis section of this dissertation).

Collecting archives

Researchers selected the documents of 26 semifinalists in the competition’s sixth year (2013) (K6001, K6005, K6006, K6008, K6010, K6011, K6012, K6013, K6015,

K6017, K6018, K6020, K6022, K6029, K6031, K6032, K6033, K6034, K6038, K6041, K6042, K6043, K6046, K6047, K6049, K6050). The archives for these semifinalists contained five types of documents, the same types as those collected in Phase 2 for K5, outlined in Table 3 above: applications, initial decks, Deep Dive comments, Quicklook® reports, and final slide decks.

K6 Additions

For the sixth year of the GIP, we supplemented document collection with on-site observations, interviews with participants, and video recordings of the GIP process. This shift in data collection represented a shift in the study's scope and focus. Rather than being constrained by examining artifacts of genres enacted in the past, the research team was able to focus on the process of revision as it occurred throughout the program. In addition to observing the interactions of GIP personnel and participants, we were able to see how participants incorporated more nuanced techniques for bringing other actors into their technology commercialization networks. Whereas K5 data was limited to the slide decks themselves, the videorecordings captured the entirety of the pitch: oral, visual, and textual. Further, we were able to see the judges' deliberation processes, and thus were allowed a window into how the pitches were received by GIP stakeholders. Below is an explanation of the five new types of data collected in Phase 3.

Videorecordings of training pitches. Recording of a practice pitch done in front of presentation trainer (and research team). Pitches used slide decks to supplement oral presentations, and most followed a GIP-supplied template for pitches.

Videorecordings of trainer's feedback. The trainer reviewed the practice pitch with participants, highlighting areas to improve and suggesting revisions to content (based upon the Quicklook® report) or approach.

Videorecordings of final pitches. Recording of participants' final pitches, including oral and visual elements, performed in front of an audience of GIP judges. Participants incorporated the trainer's suggestions into a revised presentation.

Videorecording of judges' deliberations. Recording of collective meeting of GIP judges. Judges deliberated on merits of the innovation and innovators' presentations, along with roadblocks to commercialization.

Judges' scoresheets. Standardized form provided by the GIP, with multiple choice questions. Judges supplemented these questions with handwritten notes in spaces provided as well as the margins.

K6 Data Reduction

Out of the overall K6 data set, this dissertation selects two case studies: K6034 and K6010. These case studies were chosen based upon a number of factors. Both technologies represent relatively developed innovations, with both firms already doing some of the work of commercializing in domestic and regional markets. As such, they more closely represent the conditions under which technology startups would pitch their ideas, and thus findings from this study would be more applicable to scenarios outside of educational contexts. As pointed out in the Research Site section of this dissertation, the Gyeonggi-UT Innovation Program is not a completely accurate representation of market scenarios. It is a hybrid program, with stakeholders across education, government, and private industry sectors.

Though the GIP attempts to simulate conditions under which startups would pitch their ideas, ultimately, it is not a venture capital firm. However, because both firms behind K6034 and K6010 have already begun to commercialize in some markets, their pitches need not focus as much on developing arguments to interesse GIP personnel (though they must actually interesse these actors as well, as we will see below). Instead, K6034 and K6010 are pitching *through* the GIP to the imagined scenario of being in front of venture capital funders. In terms of the implications of this dissertation, the data analyzed from K6034 and K6010 can be extrapolated to broader applications in technology commercialization.

Secondly, both K6034 and K6010 began the GIP with at least some idea of the markets in which they wanted to commercialize. They were not entirely novices in this realm and thus brought with them *some* ideas about the concepts the GIP teaches participants throughout the program. This situation allows us to examine the way these firms refine their pitches, rather than construct them from scratch. In short, with K6034 and K6010, we cannot (and do not) assume a “blank slate” firm—they have some degree of knowledge about the value of their products in the market, and we can more granularly examine the nuanced changes they made throughout the program.

On the other hand, these firms are not so developed that the GIP’s instruction provided no assistance whatsoever. Some applicants are far along in their commercialization processes, and the GIP competition represents to them merely a way to develop contacts in foreign markets. This type of participant does not gain as much from the GIP training—they have already made moves toward North American

commercialization and are just searching for the right distributor. Both K6034 and K6010 are relatively small firms: K6034 reports a total of two employees and in the year before the competition, an annual revenue of around \$35,000. K6010, although employing ten times the number of individuals as K6034, had a revenue of only around \$50,000. These figures are probably much less with regard to the innovation K6010 is pitching, too: K6010's innovation is a new type of offering for the firm, whose prior technologies focused on parts for hydraulic systems.

Finally, K6034 and K6010 represent two ends of a technology spectrum: low tech and high tech. More accurately, K6034 is a mechanical technology, relying upon physical moving parts to function. K6010, in contrast, is an electronic device relying upon electromagnetic technologies to function. In terms of the field of technology commercialization, they adequately represent these two ends, while both still serving as disruptive technologies. Neither K6034 nor K6010 are “me, too” technologies, as GIP Director Lyle characterizes those technologies that are only improvements in cost, speed, or quality of production.

In summary, both K6034 and K6010 are disruptive technologies with relatively little funding and experience in commercializing in North American audiences. The complete data set this dissertation draws from, then, is collected in Table 4 below with length given in pages, slides, or minutes and seconds.

Table 4: K6034 and K6010 Data Collected, lengths in pages, slides, or minutes: seconds

| Firm number/ Pseudonym | Application | Initial Pitch Deck | Technology Evaluation Report | Quicklook® Report | Final Pitch Deck | Practice pitch video | Training pitch feedback | Final pitch video | Judges Score sheets |
|---------------------------|-------------|--------------------|------------------------------|-------------------|------------------|----------------------|-------------------------|-------------------|---------------------|
| K6034: Cut-o-Matic | 5 pages | 17 slides | 13 pages | 30 pages | 17 slides | 15:33 | 39:38 | 37:01 | 40 pages |
| K6010: Shake-o-Matic | 5 Pages | 20 slides | 12 pages | 35 pages | 28 slides | 13:10 | 59:52 | 45:08 | 32 pages |

Working through these two firms’ data, then, I intend to show the techniques both K6034 and K6010 used to convince judges that their technologies have potential in North American markets. These are processes of cocreation, whereby innovators and stakeholders negotiate meanings and value systems in the networks being constructed. Instead of a one-way argumentation framework, whereby innovators present claims backed by logical reasons as to why their technology is a good bet, the analysis will show a more nuanced approach in practice. We will see that negotiations in technology commercialization arguments are not about external objects and their merits, but instead the very identities of innovators, judges, and consumers. Through a close examination of both the beginning and the end of the GIP process, I will show how innovators craft narratives around and through their networks of actors, cocreating value through moments of translation. We will start at the beginning of the process, with K6034’s application.

Chapter 4: Cut-o-Matic

INTRODUCTION TO K6034

A knife is an extension of the human hand, allowing us to use our blunt fingers and thumbs to slice through a number of materials. While one blade can cut effectively, early Egyptians discovered that the intersection of two blades was much more precise in cutting through papyrus, cloth, and hide. These tools consisted of a single piece of metal, sharpened at both ends and bent until the edges slipped past one another. This innovation performed the task of cutting so well that it would be another 1500 years before the design was improved upon by separating the bent metal into two flat, sharpened pieces attached at a pivot. This new design would remain basically unchanged for nearly 2000 more years, still in use today.

Two pieces of sharpened metal connected at a pivot point—as human technologies go, it is one of the simplest forms of mechanical innovation, on par with the wheel, the lever, and the pulley. Technologies like these tend to stand the test of time because they are functional and easily operable. Sure, there are variations in materials used to make them and slight modifications to their secondary parts, but essentially, they stay the same because they work. They are so ingrained into a culture as to make some variations on the inventions “obvious,” and thus legally non-patentable. In fact, in explaining the “non-obviousness” requirement for patent law to university researchers, Baylor University’s Office of the Vice Provost for Research (2003) uses left-handed scissors as the illustrative example of an unpatenable technological “innovation”:

assume a person invents and patents a pair of scissors designed for a right-handed person. Later, someone else files a patent for the same scissors redesigned for left-

handers. Even if no left-handed scissors patent had existed and even if no one had ever thought of making left-handed scissors before, the Patent Office could well conclude that "knowing it was possible to make right-handed scissors, it would be obvious to one skilled in the art (e.g., a scissors-maker) that it would also be possible to make left-handed scissors," as such a modification is obvious to "a person with ordinary skill in the art."

Given that patent offices would reject most improvements to scissors, the proposed technology is economically impracticable. To improve on scissors would seem like an impossible feat, akin to making the wheel rounder or the pulley pullier. However, that is just what a duo of Korean innovators at Cut-o-Matic attempted to do.

COMPANY DESCRIPTION

K6034--Cut-o-Matic, Ltd.—produces an innovative alternative to scissors. The product itself is two circular blades contained in a plastic housing. Paper enters the housing and is cut where the two rotary blades meet. The design is similar to two pizza cutters facing each other, but all cutting edges are concealed by the hard plastic case. As GCG participants go, Cut-o-Matic is on the smaller end of the scale: it is composed of only two employees, and revenue for the previous year was only \$34,000. With some participants' revenue reaching the tens of millions, Cut-o-Matic was definitely in the "small" category of the Gyeonggi Small to Medium Business Center's (GSBC) clients. However, in terms of entrepreneurship, Cut-o-Matic is far from atypical. Numerous American technology companies began under similar circumstances: with two people and an idea. Microsoft began with Bill Gates and Steve Ballmer, Apple with Steve Jobs and Steve Wozniak, and Google with Sergey Brin and Larry Page. Cut-o-Matic is another such duo.

Though comprising just two employees, Cut-o-Matic was able to find a manufacturer and a few distributors for their product. By the time they participated in the GIP, their product had been through two distinct development phases and was available in stores in Germany, Japan, and South Korea. No doubt, some of these economic achievements persuaded GIP judges to at least entertain Cut-o-Matic as a contender for North American technology commercialization.

PROBLEMS FACED BY CUT-O-MATIC

As mentioned in the GIP overview of this dissertation, South Korean firms learning to commercialize in Western markets face a number of challenges. Many of these challenges arise from the cultural differences among varied stakeholders and spheres of influence. Innovators must learn to address these different stakeholders on the stakeholders' terms, and this process involves a shift in thinking, not only about their own products, but about the mechanisms of knowledge transfer and the aims of argument itself.

One model of knowledge transfer is *diffusion*: “good ideas spread by virtue of being self-evidently good” (Spinuzzi et al., 2016b, p. 5-6). This model assumes ideas (and inventions) themselves contain some *a priori* characteristics that cause them to proliferate among actants in a network. There are a number of problems with this line of thinking. First, the definition of a “good idea” itself is a tautology: good ideas are good because they are good. Such an approach elides the key aspect of such an investigation: *what*, exactly, makes ideas “good”? Drilling into this question further, we can see the original conceptualization assumes an arhetorical stance: good ideas exist independent of stakeholders, situations, or even a fundamental articulation of the idea itself. In practice,

we can see this approach gets us no closer to understanding what an idea is, much less how it is distributed among actors, nor how such ideas evolve.

Even assuming the invention itself must be explained through the same logical reasons to any and all stakeholders creates an arhetorical approach that focuses on the *product*, rather than the networks in which it moves. Pointing to the flaws in such an approach, Akrich, Callon, and Latour (2002a) lampoon “the ‘classical’ analyst[, who] proceeds directly to the inventory of [an invention’s] advantages and disadvantages: raw materials spent, increase in productivity and improving product quality” (p. 202). While this approach is certainly more sophisticated than declaring an invention “good” and moving on, it ignores the realities of network contingencies such as the aims and needs of a variety of stakeholders in the process.

Interestingly, this pseudo-sophisticated approach can be seen in experts of many fields, and presents itself as a hurdle for innovators in the Gyeonggi-UT Innovation Program (GIP). In their study of four innovators in previous years of the GIP, Noelle London, Gregory Pogue, and Clay Spinuzzi (2015) identify this problem as one with *value propositions*: “a kind of claim about the innovation [. . .] founded on assumptions about how the audience relates to the described innovation, and that assumed relationship changes at different parts of the entrepreneurship process” (p. 298). What is significant here is the idea that this claim *changes* in response to the *relationship* of the audience to the innovation. That is, the value of a good in a market is less a function of inherent properties of the invention, but instead a function of relationships in the networks in which it moves.

Stephen L. Vargo and Robert F. Lusch (2004) characterize this conceptual shift as one from *goods-dominant logic* to *service-dominant logic*. Vargo and Lusch see this shift following a level of abstraction of labor upon resources. For most of the history of civilization, they argue, humans worked to produce *operand resources*, finite material goods from “the land, animal life, plant life, minerals, and other natural resources” (p. 2). They contrast these resources with *operant resources*, “resources, which are employed to act on operand resources (and other operant resources)” (p. 2). As global markets moved toward producing goods and selling them at geographical distances, a goods-dominant logic prevailed, where operand resources were considered most important: “A firm (or nation) had factors of production (largely operand resources) and a technology (an operant resource), which had value to the extent that the firm could convert its operand resources into outputs at a low cost” (p. 2). However, the late 20th century saw a shift in this paradigm. Vargo and Lusch (2004) argue that this was when a goods-dominant logic started to give way to a services-dominant logic, whereby skills and knowledge (operant resources), rather than raw materials, became more important to global markets (p. 2).

As London, et al. (2015) point out, goods-dominant logic is focused on products, leading innovators to describe “them in generic market criteria: cost, quality, and speed” (p. 299). Such generic criteria equalize a varied and complex array of possible goods and make it possible for customers to easily measure goods against one another. However, goods-dominant logic also assumes value is a function of the product itself: how much it costs, how sturdy it is, how fast it can be produced. What follows from this logic is a one-

way communication process where innovators transmit information about a product *to* a customer (London et al., 2015, p. 300).

However, in service-dominant logic, the producer-consumer distinction is eliminated. Vargo and Lusch argue that in service-dominant logic markets, “all actors (e.g., business firms, nonprofit and government organizations, individuals, and households) have a common purpose: value cocreation through resource integration and service-for-service exchange” (as cited in London et al., 2015, p. 300). Since it is not goods being exchanged, but services, “This service-oriented interpretation focuses attention on the only resource the actors really possess to take to market: their own knowledge and skills” (Vargo and Lusch, as cited in London et al., 2015, p. 300). While entrepreneurs are still producing goods that are exchanged in markets, these goods are viewed more in terms of their use value for stakeholders, rather than their inherent qualities. Thus, effective ways of presenting those goods in a market is more a function of the relationships among actors in the network. What goods can do for stakeholders, in this context, is called the value proposition.

Value Proposition

In training innovators to become international entrepreneurs, the GIP seeks to shift the innovators’ approaches to a more service-dominant logic, starting with the innovators’ value propositions. The value proposition is a common marketing concept, first coined in 1984 by Michael J. Lanning and Edward G. Michaels (as cited in London et al., 2015, p. 299). London et al. (2015) write that the value proposition “usually helps to explain what a product is, who the target customer is, and what value the firm provides,” but even such

a seemingly simple and central concept has been understudied (p. 299). As outlined in our previous publications about the GIP (*cf.* Spinuzzi et al., 2014; Spinuzzi et al., 2015a; Spinuzzi et al., 2015b; Spinuzzi et al., 2016a; Spinuzzi, et al., 2016b), though, the value proposition tends to give innovators some trouble. One reason is explained above: the tendency of entrepreneurs to explain their products through goods-dominant logic versus service-dominant logic.

Shift from descriptive to proposal

Following London et al. (2015), then, this dissertation characterizes the value proposition as a rhetorical claim “that can alternately function under two different logics”:

Under [goods-dominant logic], the claim describes how a good’s characteristics, embedded by the producer, meet generic criteria. Under [service-dominant logic], the claim proposes how a service’s benefits, cocreated by the producer and customer, meet the customer’s unique needs. (p. 300)

Through participation in the GIP, innovators’ claims shift from *descriptive* claims to *proposal* claims (London et al., 2015). Goods-dominant logic claims are descriptive of the product itself: the cost, quality, and speed approach. Service-dominant logic claims, on the other hand, are proposals: what the good can *do* for a set of stakeholders. Further, these claims are not communicated to stakeholders through diffusion. Stakeholders are not passive recipients of reasons for a particular good’s adoption, but instead cocreate value along with the entrepreneur. Innovators learning to commercialize in broader markets, then, do not benefit from the one-way diffusion model of information exchange. Instead, a more accurate representation of the process of technology commercialization would be *translation*, as outlined in Chapter 2 and fully considered in this current analysis.

CUT-O-MATIC'S TRANSLATIONS

Recall from Chapter 2 that moments of translation are those that alter the nature of the actors and the network: identities and relationships are negotiated, circumscribed, and at least tentatively agreed-upon. To effectively compete in the GIP, Cut-o-Matic would need to *problematize*, defining actors in various roles throughout the process and *interesse* both the Cut-o-Matic and these stakeholders within the network. The stakeholders, should they accept those roles, would be *enrolled* in the network, orienting their efforts toward the commercialization of Cut-o-Matic in North American markets. Throughout the process, complex webs of actors would be *mobilized* into simpler, easier-to-manage spokespersons.

To further examine *how* Cut-o-Matic attempted these feats, we examine the *standing set of transformations* presented in the GIP's program. As we (Spinuzzi et al., 2016b) found in an earlier study, "Different stakeholders required different sets of criteria to be interested, and these criteria were activated at different points in the SST, constituting different trials" (p. 15). These trials and the SST are illustrated in Figure 1 below. The genres enacted throughout the process are represented in the three rows: the top for those genres produced by Cut-o-Matic, the middle for those produced by GIP and read by both GIP personnel and Cut-o-Matic, and the bottom for those produced and read by competition judges. Arrows represent the relationships among genres as information is reused and revised throughout the process. The bolded names at the bottom denote the actors being interested at each stage.

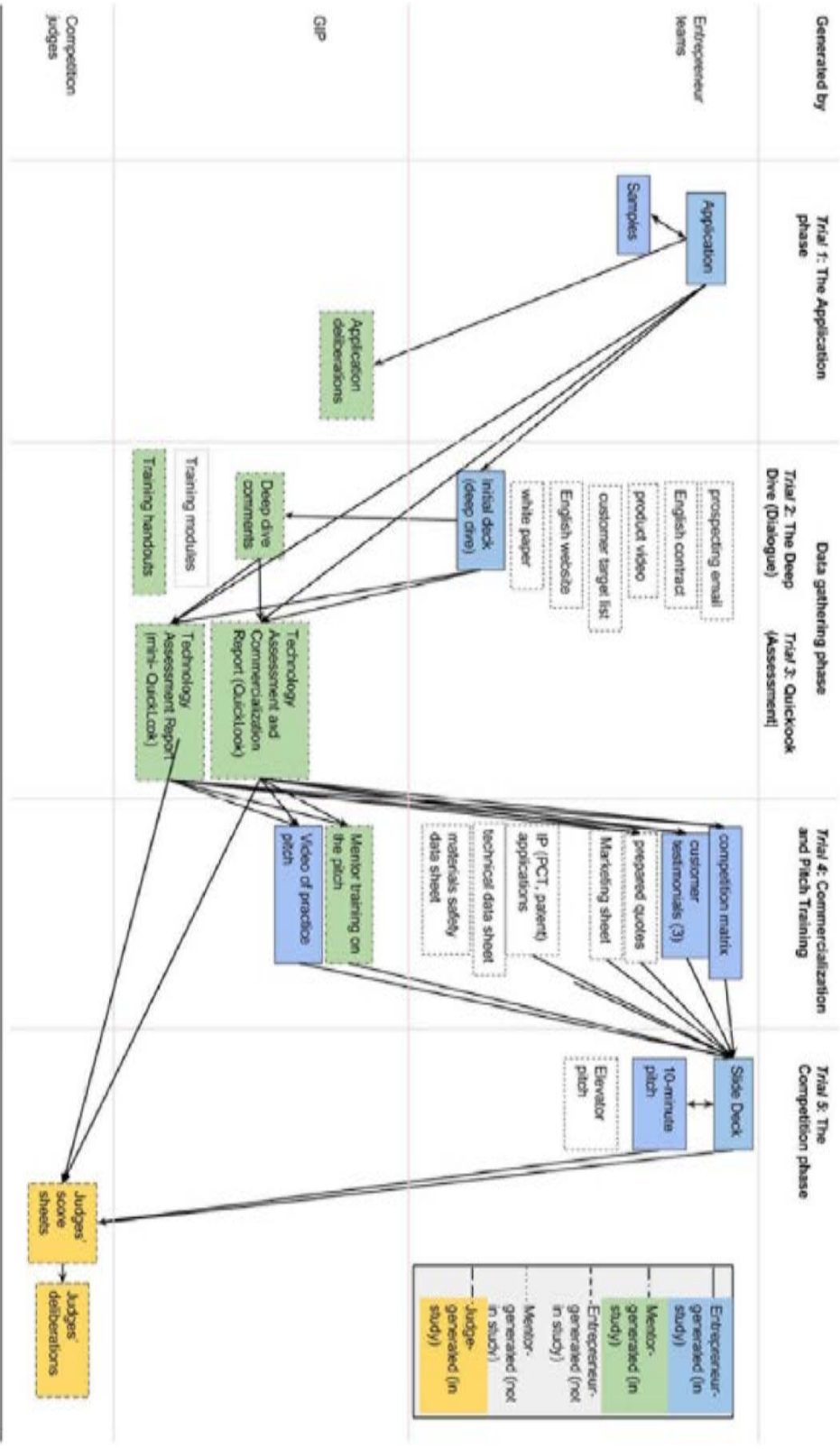


Figure 1: The Gyeonggi-UT Innovation Program's standing set of transformations. Boxes represent document genres. Arrows show how each genre informs the next. Reproduced from an earlier piece I coauthored (Spinuzzi, 2014, p. 159).

CUT-O-MATIC'S APPLICATION

In this section, we'll closely examine the genre that furnishes the entry point into this assemblage: the *application*. Though our previous work (Spinuzzi et al., 2014; Spinuzzi et al., 2015a; Spinuzzi et al., 2015b; Spinuzzi, et al., 2016a; Spinuzzi et al., 2016b) examined the changes occurring among different trials in the GIP process, this current dissertation hones in on the application. Through a close examination of how Cut-O-Matic handled this genre, we will see how the application functioned as a gatekeeper for the program, requiring firms to negotiate not only their own identities, but also the potential identities of a group of judges whom they had yet to meet, and in a foreign language as well.

While the application phase is not normally considered as part of the pitch, it is a vital part of the pitch network, and thus contributes to the technology commercialization network these innovators are attempting to construct. It is Cut-o-Matic's first foray into establishing identities for not only themselves, but also for potential investors. Recall that the GIP process began with over 200 applicants to the program. Over the course of the program, this number was reduced to 50 program participants, to 25 who were selected to present a final pitch, to 12 winners who were selected for business development. The initial application represents the largest culling phase, whereby first impressions are used to determine whether these innovators receive GIP training. Innovators in this initial application phase are creating identities, but have yet to learn how to *cocreate* value with other actors in the network.

This is not to say that there is *no* cocreation of value in the application phase. The constraints presented by the application itself, as we will see, represent the GIP's contributions to this cocreated value. Questions must be answered, and the genre conventions of the application limit the innovators' talking points. That is, innovators are not given free rein to discuss any and all aspects of their business and invention. As we will see in the following section, those genre conventions shape the identities available for the innovators to construct.

However, the application phase—in contrast to the final pitch—represents the stage in which the innovators are most “on their own” to weave a network oriented to commercializing their product in North America. The application is a “dead” genre in this respect: while there are constraints given to the innovators in constructing identities, these constraints do not change in real-time nor in relation to potential investors' input beyond the initial form. At this stage, innovators may take their time responding to the application and craft identities most favorable to inhabit. As we will see, given that the Cut-o-Matic was attempting to unseat a technology used effectively over millennia, they applied their GIP training to change their claims in a particular way. Instead of *switching* the identities offered in their application, Cut-o-Matic *intensified* the initial identities offered in their application.

The application phase of the GIP, as mentioned above, consists of a five-page questionnaire designed to gather basic information both about the company and about the invention. Following some common genre conventions, the GIP application limits the responses of applicants through such features as text boxes, multiple-choice questions, and

explicit instructions for answering. The questions are categorized into four types: Contact Information, Intellectual Property Status, Development Status, and Technical Description.

English Requirement

During the application trial, as we have reported elsewhere (Spinuzzi et al., 2016b), innovators had to interesse members of the GIP “by demonstrating that (a) the innovation had characteristics that would work for this program and (b) the innovators themselves had characteristics that would enhance the program” (p. 21). Right away, the application trial conducts a number of “tests” for prospective companies to either pass or fail. In reviewing these applications, GIP personnel are looking for criteria by which to judge both innovation and innovator, and those criteria are not only found in *what* is being answered in the application, but also *how* the innovators answered those questions.

For one, the application requires that applicants fill it out in English, and their responses are used by GIP personnel to judge English proficiency among the firms’ representatives. Though not explicitly stated as a selection criterion, English proficiency is a requirement for all GIP participants: all training throughout the GIP is conducted in English, as are the written genres produced by and for the GIP. Further, all pitches made throughout the competition are done in English, and the majority of competition judges are native English speakers. According to Program Director Lyle, this English requirement served as a limitation for the GIP.

In semi-structured interviews conducted throughout the nine-month process, Lyle admitted that the GIP could have up to three times the number of current applicants were it not for the English language requirement. Even with the requirement in place, GIP

participants still struggled with some of the training provided. Lyle estimates that about a third of the participants possess the English language skills to really grasp the material being presented, as in his words, it is “pretty sophisticated.” He believes another third struggles but can understand a large portion of the material, and the final third struggles to discern even bits and pieces of the training from GIP personnel. This language barrier among participants leads to two major problems: there are firms with a strong innovation that could possibly do well in North American markets, but lack the English skills to compete in the GIP, or conversely, the innovators will interpose an English speaker between the firm’s decision-makers and the program.

In this latter scenario, a firm sends a representative with the best English skills and not necessarily the best expertise on the product. For larger firms, this sometimes means that the presenter is a salesperson for an entirely different product rather than someone familiar with the invention. Some firms even hire surrogates to pitch their products—essentially actors (in the theatrical, not actor-network sense) who learn about the product days or sometimes even hours before the presentation. In the case of Cut-o-Matic, for example, the presenter was a relative of one of the inventors. During the final pitch, a middle-aged gentleman entered the room and silently sat in the audience. It was learned through semi-structured interviews conducted after the pitch that this man was the uncle and a mentor of the presenter. While Cut-o-Matic’s presenter during the GIP was not one of the innovators themselves, he did possess a better grasp of English language skills than the inventors, and thus he was selected to pitch the innovation to the judges. For Lyle, this English speaker interposed between decision-makers and the GIP is a negative: it creates

problems with the criterion that innovators must work well within the confines of the GIP program.

Contact Information

Beyond the English the application was written and filled out in, there are other features of the genre that serve as interestment devices. On one level, the contact information serves a practical purpose. After all, if the GIP could not get into contact with the innovators, then how would they communicate vital program information—information often as simple as when and where the training would take place? However, the contact information on the application form served as another aspect of the trials of Cut-o-Matic. While contact information on applications can take many forms, the values of the network are baked into the instantiation of this genre. The application provided spaces for the name of the inventor, the name of the company, an email address, a telephone number, a fax number, a website, and a mailing address. The genre itself, using conventions of text boxes, invite the innovator to fill in the blanks, and empty space can represent a lack of one or more important criteria by which the application will be judged.

The inclusion of some types of contact information and the exclusion of others belies deeper values entrenched in the genre of the application. In a technologically advanced country such as South Korea, the fax number seems like an anachronism, a holdover from earlier communication technologies embedded in the genres of business communication. However, fax machines are still used in established corporations worldwide, and thus even possessing a fax number brings with it associations of older, more established businesses. Perhaps less anachronistic, but no less associated with a level

of economic success, are both the physical and virtual addresses of the innovators. It is assumed an established firm will certainly have offices, and a residential address on an application form would signal to judges that the company may not be developed enough for a competition such as the GIP. In the 21st century, however, a physical address is not enough to establish a credible economic presence—thus, the inclusion of the website field.

The GIP is concerned with small- to medium-sized businesses for the program. In global economies, the aspect of the company website lends credibility to an innovation. Merely possessing a website for a product is seen as advantageous in the GIP selection process, but any small- to medium-sized business would not only need a website for consideration, but at least an adequately designed website as well. In this case, the genre of the application lends itself to other genres in the assemblage by including a virtual address for the Cut-o-Matic. More established companies have reinvested some of their profits in the company, and one way to demonstrate this reinvestment is a well-designed website. While a full analysis of the website's features is beyond the scope of this dissertation, the mere inclusion of this information indicates to judges that Cut-o-Matic is serious about commercializing their product. That the website is a dot-com address of the company's name further served to interesse GIP personnel in the Cut-o-Matic commercialization network, as it signaled the company had a somewhat unique standing in the market. Again, interessement requires cutting ties with other, competing networks, and a unique name serves to set Cut-o-Matic apart from the competition. Once a novelty in the world of commerce, a website has become so ingrained as a genre of commercialization that a lack of a unique dot-com—easily remembered and readily

associated with a specific product—has become a key device in interesting actors, and the GIP personnel are no exception in this regard.

Hence, in even a seemingly innocuous contact information section of the GIP application, we can discern the values of the network being expressed in the genre. In the strictest sense, the contact information fixes the identities of some of the actors in the network, interesses them into roles oriented toward commercialization of the Cut-o-Matic. Innovators have a name, and those names establish them as physical beings capable of negotiation and participation in the GIP. Companies, too, are actors interested into this network, enrolled into position by names and geographic and virtual locations. These devices simultaneously interesse other actors in the network, namely the GIP personnel who judge the English writing proficiency and relative credibility of the company's size and economic successes—all before the innovation has even been introduced.

It is important to note here that at least in the case of South Korean technology commercialization, the moments of translation are occurring simultaneously or even seemingly out of a logical order. However, that is a bit of an illusion caused by our depth of field thus far. As mentioned above, the moments of translation known as interessement imply a form of competition: as actors are interested into one network, they are simultaneously prevented from interesting in other networks. Though a useful lens through which to view how genres are used to cocreate networks, Callon (1986) points out that translations, in practice, are “never so clear cut. [. . .]It would be absurd for the observer to describe entities as formulating their identity and goals in a totally independent manner. They are formed and are adjusted only during action” (p. 30). Yet, that is seemingly what

has just been done: actors and identities are forming independent of any sort of problematization. In reality, that problematization has already been performed: by the GIP, by the University of Texas, by the Gyeonggi-do provincial government, by the Gyeonggi Small to Medium Business Center. Just outside the scope of this dissertation is another, often competing network, one that interests innovators, personnel, government officials, academics, private investors, students, and the like in a network of the GIP. At the scope of this dissertation, we see innovators interesting many of the same actors in a different network, one with aims more in line with *their specific innovation's* North American commercialization. That is, while working through the standing set of transformations laid out by the GIP process, innovators are interesting actors *away* from other networks and turning them toward their own. GIP personnel, on the other hand, are interesting actors (including innovators) into their own network, turning those actors toward the aims of their program and away from others. Luckily for both the GIP and innovators, their aims happen to have significant overlap: a firm's success in the GIP means they are chosen to receive training in commercializing in North America, and thus increase their chances at economic success. However, this overlap is not a guarantee, and success as defined for one actor can be failure as defined by another actor.

Intellectual Property/Development Status

Though comprising only four questions in the GIP application, intellectual property (IP) protections are paramount in determining GIP participants. In order to effectively commercialize in North American markets, a particular innovation must have some form of IP protection in place. In an interview with Barry, a GIP business development specialist,

these IP protections were second only to how the invention itself worked in determining which innovations made the cut to participate in the GIP. For Barry, IP protections already in place for an invention exhibit that “the company had some forethought about entering US markets”—that is, the innovators not only understand the systems of IP protection necessary to commercialize a technology, but also understand the relative importance of IP protections in a North American market.

Such an understanding represents a cultural shift for many South Korean innovators. As GIP director Lyle pointed out in a preliminary interview, “for the last 50 years Korea has been a fast follower economy or has aspired to be a fast follower economy, which means that most of the innovation is not truly innovation; it’s reverse engineering or catching up to the technological base of the West.” Fast follower economies, as Lyle explains them, rely upon producing technologies that have already been established in other, foreign markets—a situation IP protections are attempting to address. IP protections such as copyright and patents ostensibly prevent fast follower technologies from succeeding in a market: if a copycat technology is being sold, IP protections allow the original inventor to sue for damages or to halt production of the knockoff. Intellectual property itself, however, is not a universal concept.

Intellectual property rights were developed over hundreds of years, and first arose in European countries. Authors such as Mark Rose (1993) have traced intellectual property to 15th century Italy, where “the practice of protecting mechanical inventions with privileges had become common in Venice” (p. 10). These privileges were granted by the state to individuals as rewards to encourage similar actions for the technological and

intellectual advancement of society. Such privileges did not assume the grantee “owned” an idea simply by virtue of coming up with it first. Instead, this ownership was based upon a right granted from a ruling body. According to Rose (1993), such rights on producing material goods made their way into producing books as material objects as well, and eventually (through complex social and legal turns), made their way into protections on ideas, rather than just the material instantiation of such ideas. Rose’s work is a much more in-depth look at the process, but for the purposes of this dissertation, it is important to note that such ideas are cultural constructions, and more importantly, Western cultural constructions.

Western colonialism brought with it the concept of intellectual property, and such concepts as the individual ownership of ideas were inconsequential until Western and Eastern markets intermingled. South Korea, as a relative newcomer on the globalization scene, has a much younger history of IP protections than countries like the United States. As Lyle hinted at with his characterization of South Korea’s economy as a “fast follower,” IP protections in rapidly developing economies may actually hinder economic growth. It is only when a relatively developed global economy forms that IP protections for innovations become more important. As noted above, South Korea’s global economy reached into the trillions only around 12 years before the writing of this dissertation. Much of that growth was spurred, as Lyle contends, by a zeitgeist of “cheaper and better or as good”—producing goods that were technologically the same as contemporary innovations, but made according to goods-dominant logic. He continues to say that around 15 years ago, “Korea started to shift at that point from, ‘We don’t want to invent anything here; we just

want to make a cheaper, better car or make a cheaper, better this or that” to focusing on exporting new inventions. This shift in economic zeitgeist meant a move toward more IP protections. New inventions required legal protections in the market to prevent unfair competition.

The GIP application reflects these Western IP values through not only including the questions in the application itself, but also by listing the types of IP protections it deems important, presented as a multiple-choice list for applicants to indicate which types of IP the firm has applied for or has already been granted. Figure 2 is an image of Cut-o-Matic’s application choices with identifying information redacted.

INTELLECTUAL PROPERTY STATUS

| | |
|--|------------------------------|
| 13. Who owns the intellectual property? (Please list all owners and their % of ownership) | |
| 100 % of intellectual property for this new scissor will be owned by [REDACTED] who is the CEO of [REDACTED] that developed this product | |
| 14. What IP protection does the technology currently have? (Use an select) | |
| <input checked="" type="checkbox"/> [X] | Patents |
| <input type="checkbox"/> [] | Copyrights |
| <input type="checkbox"/> [] | Trade Secrets |
| <input type="checkbox"/> [] | Don't know |
| <input type="checkbox"/> [] | None |
| 15. Has this innovation been granted any patents in its originating country? (Use an select) | |
| <input type="checkbox"/> [] | No patents have been granted |
| <input type="checkbox"/> [] | A patent is pending |
| <input checked="" type="checkbox"/> [X] | A patent has been granted |
| 16. Have PCT applications been filed? (Yes or No, if Yes When and in Which countries?) | |
| <input checked="" type="checkbox"/> [X] | Yes (including US) |
| <input type="checkbox"/> [] | Yes (exculuding US) |
| <input type="checkbox"/> [] | No, but planning to file |
| <input type="checkbox"/> [] | No and no plan |
| 17. Please list the patents that have been granted or are pending for this innovation: | |
| Patent Name : | [REDACTED] |
| Patent Number : | [REDACTED] |
| Patent File/Grant Date : | [REDACTED] |

Figure 4: Cut-o-Matic GIP Application, Intellectual Property section

In the case of Cut-o-Matic, the firm had applied for and received a South Korean patent in 2012, only a year before applying for the GIP. There are no such things as truly international patents; no governing body rules over all nations to ensure compliance with another nation's intellectual property laws. However, international treaties set standards by which signatories abide. One such international treaty is the Patent Cooperation Treaty, signed in 1970 [World Intellectual Property Organization (WIPO), 2015, p. 2]. As of 2016, 150 countries around the world are signatories to the Patent Cooperation Treaty (PCT)

(WIPO, 2016), and given the collective economic power of the organization, PCT applications are seen as the standard for commercializing in foreign markets. Applicants for a PCT patent file in their home countries, an international search for prior art is performed, and a patent may be granted in the home country and a number of other signatory countries, each with its own filing fees. So, a firm wishing to receive patent protections in a foreign country (such as the United States, Mexico, or Canada for GIP participants) must file PCT applications first in its home country and then in any countries where the firm anticipates it will do business.

A number of interestment devices are being employed in this 5-question section of the GIP application. Applicants are first asked about who owns the intellectual property, and additional text guides the applicants to fill in responses containing names and percentages of ownership for each entity. The GIP personnel inspect the answers to this question intently. As revealed in interviews, GIP personnel are using this question to gauge applicant interest in the program. In preliminary interviews with Barry, a business development professional and direct judge of both the initial application and final pitches, a major red flag he identified with applications is the level of involvement of the inventor herself. Discussing the applications, he says “you see a lot of them that say, ‘I don’t want anything to do with this.’ They want to just focus on research. And you know, ‘I just want you guys to go get me’” a business deal. For Barry, this red flag could mean disqualifying an applicant from consideration. The GIP wants innovators who are involved in not only the invention process, but its commercialization as well. Lyle confirmed as much in his

own interviews, conducted separately. He mentioned the learning process the GIP itself went through over the first couple years of the program:

When we started the program, our entire emphasis was on evaluating the innovation, but as the program evolved, it became clear, especially after the first couple cycles, that we needed to start looking at some of the factors that traditional [venture capital firms] looked at—like size of market and, um, ability to execute, . . . so we had some experiences with some really good innovations with some innovators that simply couldn't get out of their own way and get their product to the market.

What resulted from these early lessons was that the GIP changed tack, widening their scope to include not only the viability of the technology itself, but the “likelihood that a specific innovator that's applied to the program is actually gonna follow through with the program and is actually gonna allocate the resources needed to succeed” (Lyle). As such, there are wrong answers when it comes to a response about the ownership of the invention's intellectual property. To effectively interesse the GIP stakeholders at this moment of translation, the actors identified in this response ideally match up with those in the contact information section. The line of thinking is that if the person with the largest stake in the IP (usually the inventor) is also the person who is participating in the program, then this person will work better with GIP personnel. She has more to lose in the process and more interest in the product itself, and thus the GIP views her as committed to bringing this technology to North America.

The second question about intellectual property—question number 14 in Figure 2—concerns what types of IP protections the innovation currently possesses. Through the application genre convention of multiple choice, the GIP signals some embedded values. The five choices are patents, copyrights, trade secrets, don't know, and none. Interestingly,

the choices are not in the same order of the GIP's preferred answers. The GIP personnel judging applications want some form of IP protection in place before GIP participants begin the program. These protections make it easier to commercialize a technology in North American markets, but more importantly, the innovator understanding *what these IP protections are* goes a long way to interesting GIP personnel into the network of the innovation's further commercialization. As Barry mentioned, having some form of IP protections show that "the company had some forethought about entering US markets," as these protections are important concepts in North American economic systems. What is most significant here, though, is while possessing the patents themselves is the ideal answer the GIP is looking for, just possessing *knowledge about* these concepts of property is a *interessement device* in use. Thus, in this case, the worst answer an applicant could give is not "none," but "I don't know." For the applicants to demonstrate that forethought Barry is searching for, they must possess enough knowledge about the systems of intellectual property. An applicant who knows enough about the concepts to even know she does not have any IP protections knows more than the applicant who doesn't understand the concepts at all.

The subsequent questions regarding what kinds of IP protections the firm has applied for and received are examples of the firm mobilizing chains of actors in support of interesting the more immediate actors of the GIP. These questions narrow focus to one type of IP protection—patents—and differentiate both patent applications and granted patents, as well as differentiate among patent protections within South Korea, the U.S., and other foreign countries. The conspicuous absence of any follow-up questions on copyrights

or trade secrets is telling: patents are the kind of IP protection the GIP personnel want the participants to possess, and interviews with GIP personnel confirmed this hierarchy. GIP personnel rank patents as the most credible IP protections for applicants to have, and different types of patents are more credible than others. Thus, GIP judges were looking for applicants who had some form of patent protection for their inventions, with US patents ranking highest on the list of preferred protections, with PCT patents and South Korean patents following.

Cut-o-Matic, as Figure 2 shows, had patent protections. Not only had they applied for PCT patent protection in the United States, but they had already been granted a South Korean patent. This patent is an example class of objects that Bruno Latour (1986) has called “immutable mobiles,” which serve to interesse actors into networks by mobilizing long chains of other actors toward your cause:

If you wish to go out of your way and come back heavily equipped so as to force others to go out of their ways, the main problem to solve is that of *mobilization*. You have to go and to come back with the “things” if your moves are not to be wasted. But the “things” have to be able to withstand the return trip without withering away. Further requirements: the “things” you gathered and displaced have to be presentable all at once to those you want to convince and who did not go there. (p. 7)

The GIP knows little about Cut-o-Matic’s invention. The patent number given in the GIP application (redacted) points to a record *somewhere* that remains immutable. No matter where that record travels, it says the same things about the innovation itself. The patent reference number ensures that this patent is mobile: it travels to whatever document, whatever context Cut-o-Matic wishes to use it in. It serves as a spokesperson for the innumerable actors in the South Korean patent office, the government that regulates that

office, and all of the other South Korean inventors who have applied for and received a South Korean patent. The GIP accepts this surrogate for the South Korean patent system, and sees that Cut-o-Matic has a very long, very strong chain of actors oriented toward the commercialization of its invention.

The South Korean patent number lends credibility to Cut-o-Matic's commercialization network, but it is also significant that Cut-o-Matic has only *proposed* to have applied for GIP's preferred types of IP protection: US PCT patents. There are no immutable mobiles to stand in for the US PCT patent. It is assumed by the GIP judges that a firm knowledgeable enough to apply for and receive a patent in South Korea is a firm knowledgeable *enough* about the patent process to participate in the GIP. Merely stating that they have applied for a US PCT patent is enough at this point to interesse GIP personnel. Not only did Cut-o-Matic avoid saying they did not know what types of IP protection they had, but they provided evidence in the form of an immutable mobile—a patent number—and this mobilization is itself an interessement device.

Development Status

Similar interessement devices are at work in the Development Status section of Cut-o-Matic's application. Like the Intellectual Property section, the GIP's application uses genre conventions to constrain responses by applicants and interesse these applicants into their own network of technology commercialization. Through those responses, Cut-o-Matic, in turn, interesses GIP actors into their network of North American commercialization.

Recall that the GIP is a *competition whose prize is assistance* in commercializing in North American markets. Compare that prize with venture capital (VC) pitch competitions' rewards: investment capital used to commercialize. Because the GIP differs from VC pitch competitions in its final goals, interestment devices for orienting participants toward these goals differ as well. In semi-structured interviews with the GIP director, Lyle, some of these differences were highlighted. As mentioned above, the GIP is at the intersection of government, education, and private industry. Venture capital, on the other hand, is firmly in the private industry sector. As Lyle points out, the GIP's "deliverables are not defined by a financial return on investment like a venture capital evaluation process, and yet the evaluation process we use is very similar." For VC, "everything is geared towards that financial goal rather than the education goal" the GIP has. The contradictions between these aims create situations whereby VC criteria are used, but adjusted for the GIP's unique constraints. We can see this most clearly in the Development Status section of the GIP application: generic categories of development from VC are used, but the GIP judges use the constrained responses of applicants in those categories for different purposes.

The Development Status section is divided into 7 questions. Like in the Intellectual Property section above, in each of these questions, the GIP application constrains responses through employing the genre convention of multiple choice. These choices range from 2 to 7 in number, with the shortest list of choices being between "yes" or "no," and the longest a selection of monetary ranges. Each question includes text to further constrain the responses: "Choose with an X the single best answer." Thus, for Cut-o-Matic to even

attempt to interesse GIP personnel, the firm must work within the GIP's chosen genres and thus within the GIP's values as instantiated in these genres.

Rather than move question-by-question through the GIP's application, it is sufficient to categorize some of the questions. Above, I have established that the GIP participants must meet a number of criteria to be considered a good fit for the program. The Development Status section uses its questions to ensure the applicants are not only involved in the commercialization process, but also that the innovation has a development cycle that meshes with the public-sector development cycle by which the GIP is itself constrained. The public-sector funding cycle, remember, is annual: the government sector influences of the GIP require that the development status of the product must be far enough along to already be somewhat successful in domestic markets. Applicants must have already developed some sort of infrastructure for packaging and delivery, as well as some level of customer support. The GIP application answer choices speak to these values: the innovation can be classified as a concept, in testing, or fully developed; the applicants can choose timeframes for full development from 0 to 18 months; and the cost to fully develop can be \$0 to \$1,000,000. All of these choices point to the GIP's ideal technology: an innovation that is ready to go with no further monetary investment needed.

Of course, the GIP accepts a range of answers for this section. However, those innovations that are only a concept will certainly be rejected. And the GIP, though a recipient of some funds from the Gyeonggi provincial government and the University of Texas, does not have the overhead to invest a million dollars in an innovation. Venture capital, in contrast, may just have this kind of capital to invest, though VC funders would

certainly need a guaranteed return on investment. Lyle contrasts the GIP with VC in an environment like Silicon Valley, where “everyone talks about a 40x return in 4 years, and that’s not necessarily what we’re looking for here [in the GIP]. We’re looking for somebody that has actually figured out how to build a better feature on a mouse trap and get that in the market.” Notice that the GIP’s aims affect both what can be invested and also what types of technologies they should interesse in their network. In his interviews, Lyle admits that he thinks the GIP “lose[s] sight of the fact that incremental improvements in innovation are perfectly legitimate . . . commercial opportunities for what [they are] doing [at the GIP].”

Lyle’s observations about the history of the GIP and its larger network associated with IC² illuminate ways in which genres are mobilized and moved throughout networks. In their presentations, GIP participants work from a slide template that has been passed around various subsidiaries of IC² (and across various media) over a period of over 30 years. In interviews conducted with Lyle, he traced the connections between the Master of Science and Technology Commercialization degree at the University of Texas at Austin, the Austin Technology Incubator (a spinoff from IC²) and the pitch competition templates that originated in MOOT CORP®, an international entrepreneurial pitch competition that originated at the University of Texas at Austin’s McCombs School of Business. In this competition, teams “conceive the idea for a new business, develop the idea into a written business plan, and present the plan to panel of judges” (Center for Business Planning, 2016). As Lyle contends, these templates “evolved in the context of small investors trying to get money from somebody [. . .] and we took that and adapted it to the space we’re in

now.” During the interview, Lyle observes that “when we import the language [of venture capital], sometimes we import unintended implications from that language that don’t have the same definition in a different context.”

Thus, the GIP’s adoption of VC criteria is a double-edged sword for Cut-o-Matic. The GIP reuses VC genres for its own purposes, but in doing so, VC values are transferred along with these genres—often without the GIP or its participants being aware this transfer is occurring. The Cut-o-Matic is not an “incremental improvement in innovation”—it is a disruptive technology that seeks to unseat a competitor. As we’ll see in the next section, that competitor has interested a millennia-old chain of hundreds of millions of actors. To examine *how* Cut-o-Matic attempts to sever these formidable chains while building its own, we shift the focus from how the GIP is interesting applicants into the GIP network. Instead, our focus is how Cut-o-Matic addresses a potential market to interesse the GIP into its own commercialization network.

Technical Description/Problematization

Compounding the challenges faced by Cut-o-Matic as a company were the challenges posed by the innovation itself. As touched upon in the introduction to K6034, the Cut-o-Matic is an attempt at improving upon a technology that can be traced to at least 3,000 to 4,000 years ago, one that is still in daily use all over the world. Cut-o-Matic faced an uphill battle convincing stakeholders that their new product could compete with one so firmly entrenched across human cultures. In actor-network theory terms, the spliced network of scissors as a useful tool is a strong one. Each successive use of scissors over millennia—each individual instance of effectively cutting through some material—spliced

the original invention into a long chain of allies. Actors were interested hour by hour, day by day, year by year, as scissors were used to address the problem of material that needed to be rendered into more than one piece. And the physical instantiations of scissors were not the only actors being interested into this massive network.

Images, artwork, songs, gestures, dances, texts—any conceivable form of human communication had represented and re-represented scissors performing a vital function upon the material world. Entire domains seemingly unrelated to the function of scissors had been interested into this network, forming new genres from aspects of the invention: the scissor-kick in swimming, the scissor-lift in warehousing and manufacturing, the scissor-move in soccer. Repeated material and metaphorical uses of scissors served to create a “spliced assemblage of sociopolitically aligned humans and nonhumans” (Spinuzzi, 2008, p. 33), “lead[ing] to juxtapositions and connections among previously unconnected activities, strengthening the network as more actants are brought in to make the network solid and durable” (p. 35). Each time scissors are brought to work upon a material or concept, the network of scissors as a viable technology is strengthened.

Against these durable and established chains of scissor allies we have Cut-o-Matic’s two founders, rising against the odds to challenge the primacy of this long-standing tool. Remember that interessement involves not only positioning the innovation between a goal and potential allies, but also weakening the positions of other possible actors. As Callon (1986) explains it, “these allies are tentatively implicated in the problematizations of other actors. Their identities are consequently defined in other competitive ways,” and thus “A interests B by cutting or weakening all the links between B and the invisible (or at

times quite visible) group of other entities C, D, E, etc. who may want to link themselves to B” (p. 9). To strengthen the ties among actors in Cut-o-Matic’s network, the ties that link scissors to actors throughout human history must be cut as well. Cut-o-Matic truly had to live up to its name, both literally and metaphorically.

However, the duo of Cut-o-Matic did not stand alone against the tyranny of scissors. They, too, brought an arsenal of allies, spokespersons mobilized from networks far and old. While scissors had withstood the test of time as a useful tool for cutting, they are not by far the *only* tool for cutting. I above mention the immutable mobile of the South Korean patent applied for and received by Cut-o-Matic. In the genre of the patent itself are other immutable mobiles, interested actors in long chains that support the idea of intellectual property, and that idea, in turn, is interested into Cut-o-Matic’s network oriented toward North American commercialization. Cut-o-Matic had seen a modicum of success in not only the domestic market of South Korea, but in foreign European markets, too.

It is important to note that Cut-o-Matic is not a brand-new firm proposing an innovation still in conceptual stages. Cut-o-Matic indicated in their application that they already conducted a “successful laboratory model/test” and further development of the product would only require “1-3 months” and “\$500,000 or less” to be “completely developed and ready for the market.” In other responses, as we’ll see below, Cut-o-Matic used evidence to indicate they were already on their way to commercializing, and that assistance in North American markets would *supplement* their success, rather than define it. In this sense, Cut-o-Matic was a good fit for the GIP. Lyle had indicated in his interviews that the GIP’s strengths were with firms already somewhat on their way to commercializing

in foreign markets: “Generally speaking, we want to not be taking them to the market for the first time. We do best with innovations that have had some traction and some success domestically before we start taking them out.”

However, the cultural conditions under which Cut-o-Matic had made it thus far were different from those of markets in which they wished to expand. With regard to GIP criteria for a winning technology, Cut-o-Matic may have even suffered from some of their earlier successes. Recall that Lyle, in discussing some of the cultural challenges of the GIP, mentioned the dependencies created by a system in which failure was highly stigmatized: many Korean SMEs were protected from market pressures through government funding—a form of capitalism that was far from *laissez faire*. Cut-o-Matic, as a domestically successful SME, had already received 80 million won (around \$72,500) from the Korea Technology & Information Promotion Agency—a governmental organization supporting Korean SMEs—before even applying to the GIP. From Lyle’s perspective, such assistance put Cut-o-Matic at a disadvantage, as they were “artificially” supported by forces outside the domestic market.

So, while Cut-o-Matic was relatively developed as a firm and its invention had at least some market validation, the innovators still faced a number of extreme challenges. They first had to interesse actors by demonstrating that innovators were easy to work with. Further, they had to demonstrate that the innovation itself has a market. More specifically, they had to demonstrate that their innovation has a North American market. Cut-o-Matic’s interressement devices were working directly against the interressement devices of other

actors. Their dual tasks were to show that the Cut-o-Matic is a good tool for severing materials and to show why *other* solutions were not as good.

Thus far, we have examined ways that the GIP application constrained the responses of applicants through genre conventions such as multiple choices, text boxes, and instructions that limited answers to only one choice. In this section, we focus on ways Cut-o-Matic leveraged some of those same genre conventions to problematize and interesse actors toward their own aims. The Technical Description section of the GIP application is the most lenient in terms of constraining responses. While other sections are composed mainly of multiple choice answers, the Technical Description section provides space for applicants to elaborate on their innovation. And Cut-o-Matic skillfully used this space to problematize the market—in the terms of business, Cut-o-Matic addressed a market pain and created a value proposition.

The Technical Description section consists of 12 questions with text boxes for responses. Only one of these questions is a multiple choice, where a “yes” or “no” response is required. All other questions allow for longer text responses. Given that the application itself is an electronic document, the genre convention of the text box is less limiting than it would be were it a physical document: the text boxes expand to fit the entered text. However, the GIP attempted to constrain responses through instructing applicants to limit their responses to 100 words or less. In addition to the Technical Description section, the final question of the application asks “Is there anything else you would like us to know regarding this technology?” Given that Cut-o-Matic used this “free-for-all” space to further argue for its innovation’s place in the market, I include this response in the set of Technical

Description responses. For the first two questions limited to 100 words or less, Cut-o-Matic followed the rules, responding with 63 and 65 words, respectively. However, in the final question limited to 100 words or less, Cut-o-Matic bent the application constraints a little, responding in 149 words. Fortunately, the GIP was not a stickler for these word limits; instead, the limits were used to suggest a range of what length they expected in a response. Similarly, for question #8—“What specific improvements or benefits are available in this innovation that are not available in other existing solutions? Why is this innovation better than the existing solutions? How much better is it?—the GIP instructed respondents to include quantitative measures in their response about how much better the proposed innovation is over the market: “%, multiple or other measure.”

We now turn to the specific ways Cut-o-Matic problematized the market, interested and enrolled actors into their network, and mobilized a number of resources—simultaneously performing a number of functions to orient stakeholders toward commercializing the Cut-o-Matic in North America.

To effectively build a network oriented toward commercializing Cut-o-Matic in North America, the innovators must position their innovation between stakeholders and a problem. These moments of translation are varied, and skillful construction of this network for commercializing the Cut-o-Matic in North American markets requires a number of creative moves:

1. Cut-o-Matic must create a problem; they must *problematize*. There must be some market pain that needs to be addressed. Stakeholders are most often not

aware that this pain even exists, or if they are aware, their attention must be drawn to the problem.

2. Cut-o-Matic must *interesse* stakeholders as actors into their various categories. Cut-o-Matic must create roles for these stakeholders, and these roles must be positioned in the network in such a way that Cut-o-Matic's value proposition is a believable and preferred method of alleviating that market pain.
3. Cut-o-Matic must *enroll* these newly interested actors by positioning the Cut-o-Matic as an obligatory passage point. If the actors in their newly established roles want to "do the right thing," Cut-o-Matic must be how these actors earn the role.
4. To perform all the moments of translation above, Cut-o-Matic must *mobilize* allies—it must provide evidence, and the actors in these chains of evidence must be mobilized for Cut-o-Matic's ultimate goal of commercializing in North American markets.

Problematization by mobilization: Scissors as brutal instruments of destruction

Cut-o-Matic's moves to problematize the market had to first begin severing ties in the network that oriented toward scissors as a preferred tool. Scissors have worked for thousands of years; they get the job done. Cut-o-Matic knew that this technology is ubiquitous because it works. Instead of attacking the *efficacy* of scissors, then, Cut-o-Matic addressed the *safety* of using scissors. That is, the market pain that Cut-o-Matic established

is not that scissors do not cut *things*, but that they unintentionally cut *people*. In a way, Cut-o-Matic's task was to show that scissors are *too* good at cutting.

For this aim, Cut-o-Matic mobilized two main groups of people: left-handed people and children. I will address each in turn, highlighting the mobilized chains of evidence that Cut-o-Matic used.

Left-handed victims

At first, handedness many seem like a simple category, so much so that explanations can tend toward tautologies: some people prefer using one hand over the other. It is an experience that anyone with the option of one hand or another or even both hands has experienced: growing up, we learn that we are right-handed, left-handed, or ambidextrous. However, digging deeper into the phenomenon highlights the mobilization that occurs whenever Cut-o-Matic refers to the problems scissors impose on lefthanders. Most contemporary Western cultures assume a genetic cause for handedness: we are born with some preference coded into our genes. However, studies of handedness confound this perception.

For one, as hinted at above, the perceived causes of handedness are cultural. Across various cultures throughout recorded human history, left handers have been characterized as anomalies, and as with many human characteristics that present themselves in minority populations, there are wildly divergent explanations. As Perelle and Ehrman (2005) note in their thorough study of perceptions and causes of handedness, attempts at explaining the minority phenomenon of left-handedness “have evoked fear, hostility, suspicion, vitriol, and the reputation of being deficient in almost every human skill and virtue” (p. 343). In

one extreme example, Perelle and Ehrman (2005) present the discredited research of Cyril Burt, conducted in the 1940s on twin populations. Burt concluded about left-handers that “They squint, they stammer, they shuffle and shamle, they flounder like seals out of water. Awkward in the house, and clumsy in their games, they are fumlbers and bunglers in everything they do” (as cited in Perelle and Ehrman, 2005, p. 343). Other researchers have attributed left-handedness to neuroses, developmental disabilities, and even demonic possession. Relatively recent research (in the late 1980s) about the average lifespans of left-handers versus right-handers (concluding that right-handers live an average of 9 years longer) have been drawn into question due to faulty methodologies and fabricated data. One researcher in 1993 “discovered” that children who were exposed to *in vitro* ultrasound were more likely to be right-handed (Perelle and Ehrman, 2005, p. 344). The point here in reporting these studies is not to pin down some cause of left-handedness, but to draw attention to the *cultural* influences of these explanations. It is doubtful that left-handers are possessed by demons, but it is equally as doubtful that right-handedness is caused by ultrasound imaging of fetuses: each carries with it invisible causes, one no less “magical” than the other.

It is in this context we consider Cut-o-Matic’s mobilization of the concept of left-handedness. The complex, myriad explanations for left-handedness, the murky definitions of what even constitutes handedness in humans (as humans favor different hands for different activities and forced instruction in using one hand over the other results in vague outcomes)—all of the contingencies of these human phenomena are black-boxed into spokespersons: right-handers and left-handers. Cut-o-Matic mobilizes these invented

actors for its purposes in problematizing the market. Their first response in the Technical Description reads, in part, “A conventional scissors has its weakness [in that they can . . .] be used only for right-handed person.”

Interestingly, in taking this tack, Cut-o-Matic is drawing upon a mobilization already performed for them by one of their major competitors, Fiskars. As reported in the technology and business publication *Fast Company*, “Fiskars, a 365-year-old company, tackled the obvious variations of what would eventually become its flagship product decades ago, making a pair of left-handed scissors, for instance, back in 1972” (Kessler, 2015). Problematization, then, for Cut-o-Matic involves mobilizing the concepts of both *handedness* and *left-handed scissors*. In doing so, they leverage the chains of actors black-boxed into these concepts, appropriating the strength of those networks as well. Cut-o-Matic has to ensure that stakeholders accept these mobilizations, accept that the black boxes contain at least similar concepts. Imagine, for example, if Cut-o-Matic wanted to commercialize in a culture where left-handedness is “caused” by demonic possession or some sort of character deficiency. In this case, their mobilization of left-handedness would involve black-boxing an entirely different set of actors, and the stakeholders would see accommodating left-handers with an innovation that is ambidextrous as reason to avoid being interested into Cut-o-Matic’s network.

Instead, though, Cut-o-Matic problematizes the market by creating a sympathetic situation for left-handers. They are an underserved population, forced to buy a second set of the same utensil engineered for their particular proclivities. Cut-o-Matic cocreates this problem with stakeholders. For this mobilization to be accepted, Cut-o-Matic must work

from a set of shared assumptions with the stakeholders. Both Cut-o-Matic and stakeholders accept this mobilization because they share similar values with regard to handedness: not only do they accept that *handedness* as a concept exists, but also that this condition is a result of factors outside of these consumers' control. They are not to blame for their handedness, and thus are deserving of service. Or, more accurately in the terms of business, they *deserve* relief from this *market pain*.

In rhetorical terms, the mobilizations brought to bear upon Cut-o-Matic's network for North American commercialization are based on shared values among writer and audience. These pathetic appeals draw upon emotions of sympathy (or empathy, should the audience be left-handed), a shared sense of helping others. Again, though, this is not pure altruism. There are conditions for defining the market pain as worthy of relief. As we see in the case of left-handedness, cultural assumptions about the root causes of this phenomenon must be shared in order for this mobilization to work. That is, in order for the mobilization to be accepted by stakeholders, these stakeholders must also accept their own roles in the network as *moral* beings. This moral system is one co-constructed by Cut-o-Matic and stakeholders: Cut-o-Matic establishes roles that stakeholders *want* to inhabit; stakeholders can either accept (enrollment occurs) or reject (enrollment does not occur) those roles in the network.

The skill for Cut-o-Matic in constructing these roles is to make them preferable roles to take on and to position Cut-o-Matic as the only way to gain this identity. Cut-o-Matic must interesse itself in the network as well position its product as an obligatory passage point stakeholders must move through if they want to inhabit these preferred moral

roles. Thus far, Cut-o-Matic has cocreated a value proposition whereby left-handed consumers are saved from having to purchase two sets of scissors. Stakeholders, if successfully interested into the network, are enrolled into the positions of the saviors here: they save lefthanders from unnecessary purchases. Such an enrollment may be enough in different contexts, where the goods-dominant logic of “cheaper” in the “cheaper, faster, better quality” triad may be enough to commercialize a product. However, recall that the GIP is attempting to cultivate a service-dominant logic paradigm and are reusing genres from VC that carry along with them the values of disruptive technologies. As such, saving left-handers from a financial inconvenience is not enough. To excise scissors from the network, Cut-o-Matic must take a different route.

Maimed children

In terms of text devoted to problematizing the market, Cut-o-Matic spends much more time on children. More specifically, Cut-o-Matic spends more time mobilizing *hurt* children for their cause. As Cut-o-Matic writes in their GIP application, “A conventional scissors has its weakness that may cause several safety accidents from use of lever mechanism and cutting papers with 2 straight blades crossed.” Beyond the Contact Information discussed above, these words create the GIP judges’ first impressions of Cut-o-Matic as a company. More importantly, these are the first words encountered by the GIP that address *what* the innovation *does*. Already, we can discern some skill in Cut-o-Matic’s approach.

Note the question that Cut-o-Matic is answering: “1. What does the technology do? Please explain (in simple terms) the problem/situation that this innovation was created to

address or solve.” In constructing the GIP application, GIP personnel are instantiating the values of the program through the genre of an application, in the artifact of the specific GIP application. Were the question “What does the technology do?” presented alone, the application would leave the responses open to goods-dominant logic: “do” here could be interpreted as “how the technology works.” Instead, the addition of further instructions on how to answer constrains the responses to service-dominant logic: “Please explain (in simple terms) *the problem/situation* that this innovation was created *to address*” (emphasis added). The GIP application is explicitly instructing respondents to *problematize* the market, to describe the *market pain*.

Cut-o-Matic rises to the challenge. In addition to problematizing the market, they make moves to interesse by cutting the ties of their major competitor, scissors. Notice that the first words “about” the innovation are not about the innovation at all. Instead, they are about the market and the problems Cut-o-Matic’s competitor causes. The innovation cannot make an appearance just yet. First, the firm must cut scissors out of the picture. The situation that Cut-o-Matic is approaching is thus: stakeholders are already interested into a network that sees scissors as a useful tool, one that humanity has relied upon for millennia. How to get them to disassociate from this network? Cut-o-Matic does this by mobilizing scissors into an instrument of destruction—but not just any type of destruction. Scissors, according to the narrative used by Cut-o-Matic, maim children.

Cut-o-Matic problematizes the market by describing scissors as the culprit: “two straight blades open caused lots of safety accidents such as personal injuries due to its sharp blades.” They acknowledge that scissors are helpful tools, but add on the price of injury.

The effect is one of “sure, scissors are great for cutting things—including yourself.” Then, Cut-o-Matic ups the ante: “Moreover, conventional scissors are limited to be used for children under age of 10s due to worries of accidents and autistic child or [developmentally disabled] people can't use them.” Cut-o-Matic mobilizes vulnerable populations: children under 10, autistic children, and developmentally disabled people. Note, too, that Cut-o-Matic is already mobilizing a moral position for stakeholders to inhabit: that of protector. The mobilized concept of “protective society” is already invoked, readymade, a category to not only accept, but also to attempt to join. In a way, Cut-o-Matic does not have to establish that scissors are dangerous tools. By mobilizing a responsible society toward their aims, Cut-o-Matic is black-boxing a number of shared values.

For one, the moral position that vulnerable populations should be protected is mobilized by this statement. Children under 10, autistic children, and developmentally disabled people are all equalized here: they are vulnerable populations when it comes to Cut-o-Matic’s purposes, and thus the individual characteristics of each population are elided. For Cut-o-Matic’s commercialization network, all that matters is each cannot be trusted with scissors. To do so constitutes an amoral position in this network: what kind of monster would hand a child under 10 two sharp blades connected by a pivot? Certainly not the stakeholders. If these stakeholders are still skeptical about the immoral network to which they are already a party, Cut-o-Matic provides even more incentive to see the status quo as a problem.

Later in the Technological Description section, the GIP application asks “What specific improvements or benefits are available in this innovation that are not available in

other existing solutions? Why is this innovation better than the existing solutions? How much better is it?” This question points specifically to moves required in interessement, in that the GIP application is explicitly asking innovators to address competitors—to attempt to cut the ties that stakeholders have in other networks, such as the networks that use scissors. Cut-o-Matic mobilizes a number of actors for this task: “According to a survey from Korea Consumer Agency, approximately 60% of accidents occurred in 2009 is reported to occur within houses. Among those accidents, around 45% of accidents are reported to be caused by cutting off, getting pricked and other injuries by furniture, cutters and scissors.” Here, we see the dangerous world in which scissor users live. Cut-o-Matic mobilizes the credibility of a consumer agency for its purposes. The Korea Consumer Agency is cited to lend the strength of government agencies, experts, and years of research to the network. Long chains of researchers, reports, accidents, individual children maimed, parents affected—all are mobilized into the statistic Cut-o-Matic presents. If stakeholders before could not accept that children were being injured by evil scissors, this evidence is designed to get them to accept the role that scissors play—and stakeholders’ culpability in remaining in such a network.

No longer do stakeholders have to take only Cut-o-Matic’s word for the destruction that scissors cause. Now, the network is supported by the force of the Korean Consumer Agency. Going against the network of Cut-o-Matic’s North American commercialization means going against the cadre of researchers who selflessly collect data to protect South Korea’s consumers. More importantly, refusing to be interested in Cut-o-Matic’s network means you are okay with children getting hurt by evil scissors. If we look at the statistic

closer, it becomes clear that the numbers themselves do not really matter. Logic is not the aim here. So, 60% of accidents occur in the home. Of those accidents, 45% are from “cutting off, getting pricked, and other injuries.” So, 27% of all accidents involve the action of cutting, pricking, and whatever actions fall under “other injuries.” However, those 27% are caused by “furniture, cutters, and scissors.” “Furniture” is pretty broad, and even if we equally distribute the injuries by their causes, those evil scissors are responsible for around 8% of accidents. But those actual numbers are not what matters. The numbers are there to mobilize the concept of *numbers as true*.

There is no guarantee that any of these statistics were vetted by anyone in the GIP process, nor that the innovators were accurately reporting a study. In terms of the technology commercialization of Cut-o-Matic in North American markets, though, the accuracy of the numbers is inconsequential. What matters more is if the stakeholders *accept* this mobilization of concepts into actors in this new network. Like handedness above, accident statistics are messy. They involve long series of decisions, points of data collection, interpretations, reinterpretations—innumerable points of contact and potential sites of corruption. What matters more for Cut-o-Matic here are the roles being established by their application, the moments of translation whereby Cut-o-Matic and the GIP stakeholders cocreate market pain, value propositions, shared systems of morals in which all agree to participate, to be enrolled into the network.

And one child—one single, injured child—is enough to establish that shared moral system. In fact, Cut-o-Matic does this in responding to the question “Why did the inventor create this technology?” Cut-o-Matic responds: “One day, I saw a small child to do paper

crafts by chance, the child was injured getting his hands pricked while he was cutting paper by scissors. As these kinds accidents are always lurking around us, we developed this product to prevent these safety accidents.” This child—whether he has an objective, single, real-world referent or not—is mobilized to stand in for all children being hurt by scissors. To accept this mobilization means to accept a type of moral system as well: it is immoral to allow a child to be hurt.

Stakeholders, then, have a choice: they may reject the interessement attempts of Cut-o-Matic (rejecting their roles in this new network), or they can acquiesce to Cut-o-Matic’s attempt to interesse them (be enrolled in this new network). Cut-o-Matic, however, has created a system whereby this is a moral choice. They have constructed a narrative through which stakeholders can be heroes or villains. In problematizing the market as one where children are being injured, where “these kinds of accidents are always lurking around us,” Cut-o-Matic has offered the role of protagonist to the stakeholders. Inaction is no longer an option. Those who stand by and let children get maimed are immoral individuals. However, this action, accepting this role as protagonist, requires a special tool—one without which the quest will fail. To save these poor children (and developmentally disabled people), stakeholders *must* use the Cut-o-Matic.

In enacting these moments of translation, Cut-o-Matic has interested itself into the network as an *obligatory passage point*. Cut-o-Matic has *not* created a narrative in which people cease to cut things. Materials *must* be rendered asunder, and stakeholders *must* act. If stakeholders allow scissors to retain their position in this network, children and developmentally disabled people will continue to be hurt. There are no other moral actions

other than enrolling in the Cut-o-Matic's commercialization network. To protect children (and more importantly, to inhabit the identity of "one who protects children"), stakeholders have no other choice embark on the quest, to take the Cut-o-Matic to the masses to protect them from themselves.

CUT-O-MATIC'S PITCHES

Thus far, we have seen how the genre of the application has interested actors on either side of the GIP process: those seeking to interesse innovators into the GIP's process or those seeking to interesse GIP personnel into their network of technology commercialization. Genres instantiated in standing sets of transformations can carry with them unintended values which constrain interactions in a network in often unanticipated ways. However, those same genres can be used to create value systems, narratives whereby stakeholders can be interested into preferable roles. We now turn to an examination of Cut-o-Matic's pitches and the ways their claims changed over the course of the GIP program.

As evidenced by Cut-o-Matic's participation in the GIP, the moves made by Cut-o-Matic in their application served to interesse GIP personnel into their technology commercialization network, and the GIP successfully interested Cut-o-Matic into the network comprising the GIP program. Throughout the GIP program, participants gave a total of three pitches: one in the Deep Dive stage of the program, one to the GIP pitch coach Tamara, and one to GIP judges in the final competition. For the purposes of this dissertation, I will be focusing on changes made to Cut-o-Matic's claims from the initial Deep Dive pitch to the final competition pitch. The reasoning here is that the Deep Dive pitch represents the beginning of Cut-o-Matic's learning process in the GIP: the pitchers

are given a standard slide deck template to follow in this stage, and much like the application discussed above, this template constrains Cut-o-Matic's attempts to interesse stakeholders.

The Deep Dive template consists of around 15-20 slides, and the titles of these slides mirrors topics discussed in the application: Technology Description, Development Status, IP Status, Business Model, Markets, Market Interest, Competition, Risks and Barriers, and Team Status. As such, many of the GIP participants recycled claims made in their applications for use in the Deep Dive pitch. Cut-o-Matic was no exception. Above, I have discussed how the application genre constraints transfer GIP values to applicants, and thus I will avoid rehashing similar constraints offered by the Deep Dive pitch.

Instead, I want to focus in on one particular set of claims made by Cut-o-Matic and highlight the strategies employed by the firm to interesse stakeholders. By far, the most prominent claim made by Cut-o-Matic is with regard to safety. In fact, Cut-o-Matic deftly avoids any mention of their product's ability to cut. In placing their product in opposition to the vast network regarding scissors as an implement of choice, Cut-o-Matic never compares their product's functionality to that of scissors. As we'll see, that is with good reason.

Cut-o-Matic's Deep Dive slide deck is 17 slides long. It includes the aforementioned topics, with an additional two slides. One is a title slide containing the Presenter's Name (left blank), Presenter's Company, Date and Product Name. along with Cut-o-Matic's logo. The second additional slide is an outline of the presentation, listing the topics I mention above. Interestingly, it was common among GIP participants to leave in

the instructive elements of the Deep Dive template, the sections of text intended to explain to the presenters each slide's function. For example, the first line in Cut-o-Matic Presentation Outline slide reads "This slide is optional, but you may provide a list of the topics you will be presenting. In your presentation, tell us the story of your innovation in this order." Notice that the GIP frames the presentation in a term I have already invoked in this dissertation: story. Simply put, storytelling is connecting events of lived experience into cause-and-effect relationships. It is the "currency of sense-making," as Boje (1991) put it: "Bits and pieces of organization experience are recounted socially throughout the firm to formulate recognizable, cogent, defensible, and seemingly rational collective accounts that will serve as precedent for individual assumption, decision, and action" (p. 106). Thus, the GIP is requesting that participants craft a coherent, logical arc for the development of their product.

As mentioned above in the discussion of Cut-o-Matic's application, the firm has already begun to craft this narrative: the inventor witnessed a child making papercrafts injure herself with a pair of scissors. This is presented as the impetus of the idea, the spark that defined a market pain for the innovator. We can imagine a number of reasons for the child's injury: dull scissors, attempting to cut too much material, or other mitigating factors such as being distracted or interference by other children. However, the narrative stakeholders are presented with is that scissors, by their very design, are dangerous implements. A complete re-engineering of the cutting tool is necessary.

In the Deep Dive presentation, Cut-o-Matic continues the same tack from their application. In fact, the Technology Description of Cut-o-Matic's Deep Dive is a verbatim

reproduction of their application answer about why the technology was invented. The only addition to the Deep Dive presentation is the inclusion of an image of a pair of scissors. The rest of the Deep Dive pitch proceeds similarly. Direct quotations from the application are reproduced on Cut-o-Matic's slides.

The claim reproductions in Cut-o-Matic's Deep Dive pitch follow a pattern. All of the services-dominant logics of Cut-o-Matic's application are repeated: scissors are dangerous implements of destruction that maim children. The only claims developed further between the application and the Deep Dive pitch are goods-dominant logics: In the Development Status section of the pitch, Cut-o-Matic meticulously outlines *how* to use their product, with step-by-step instructions and diagrams. Thus, Cut-o-Matic develops *how* the product works, but not *what* the product *does* for a market. Throughout the program, however, Cut-o-Matic learned to shift to a more service-dominant logic, and their final pitch reflected this learning in a particular way.

Remember that to effectively interesse stakeholders into its own network, Cut-o-Matic must sever stakeholders' ties with the network of scissors-as-preferred-tools. One approach to doing so could be to address the efficacy of scissors as cutting tools. However, Cut-o-Matic avoids this tactic throughout all of their presentations, something that turns up in the GIP judges' comments after Cut-o-Matic's final pitch. In the Q&A session immediately following Cut-o-Matic's pitch, the judges' questions turn to the efficacy of the product—how well the Cut-o-Matic actually cuts. The results are mixed. While the presenter effectively demonstrates how to make curved cuts in paper, he must admit that the Cut-o-Matic is limited to cutting four sheets of standard office paper at a time. The

strength of Cut-o-Matic's pitch, then, is not in the functioning of the product itself, but in the identities it provides for stakeholders to inhabit.

With regard to strategies of interestment, Cut-o-Matic does not *change* their claims, but instead uses the pitch to *intensify* their initial claims. The Cut-o-Matic is a particular type of disruptive technology: rather than presenting an entirely new experience for consumers, Cut-o-Matic is attempting to unseat a well-established technology. As we have seen, the Cut-o-Matic does not perform better than its competitor. Thus, the firm must focus their efforts on showing why the previous technology is the *immoral* choice. The disruptive nature of their product is such that to present preferable identities to stakeholders, Cut-o-Matic must first present the current identities as reprehensible.

In the previous section, I give a complete account of how Cut-o-Matic positioned scissors as the immoral choice for stakeholders. In their final pitch, Cut-o-Matic doubles down on their initial claims by presenting further evidence of scissors' destructive capabilities. Less than a minute into Cut-o-Matic's final pitch, the presenter begins painting scissors as dangerous. The claim is identical to Cut-o-Matic's approach since the application, but this time, Cut-o-Matic brings in multimedia to supplement this claim. The fourth slide in Cut-o-Matic's final pitch deck is a collage of six images designed to portray the carnage that scissors can wreak. The bottom three images are of people's hands: a thumb wrapped in a bloodied adhesive bandage, a child's small hands playing with a pair of scissors too large for her fingers, and another close-up of fingers with a cut, this time unbandaged. Though not all of the bottom images are of children's hands, the top images are designed to reinforce that stakeholders should be the protectors of children. The upper-

middle and upper-right images depict children's faces, one uninjured, and one with a bandage over her nose. Perhaps the most gruesome image, however, is in the upper left. The image is a radiological image of a child's skull with scissors embedded in the forehead. The message is jarring and clear: scissors hurt children in horrible ways.

In this instance, we see Cut-o-Matic applying lessons from the GIP in focusing on service-dominant logic, using a rather sophisticated technique. Because of Cut-o-Matic's unique position as a newcomer competing with a millennia-old technology, they take a tack of intensifying their initial claims, using media to reinforce the horror stakeholders participate in. Recall, too, that not only actively supporting scissors as the better technology makes stakeholders culpable in these injuries; inaction in this case is just as bad. In order to inhabit the preferred identity as protector of children, stakeholders *must* invest in the Cut-o-Matic.

Ultimately, the tactic of providing first an unfavorable identity for stakeholders and then a more favorable identity works. Cut-o-Matic is one of the winners of the GIP competition selected for further business development. Out of the five judges, in answer to the question "Would you recommend the Program move forward with this technology?" one judge indicated "Yes, definitely," three judges indicated "Yes, but with reservations," and the final judge voted against pursuing the technology further. While there are many factors involved in the selection process, and thus reducing the judges' decisions to one factor is unlikely, there is evidence in the data that points to the efficacy of providing this identity to inhabit. During the Q&A session immediately following Cut-o-Matic's final pitch, one of the judges' lines of questioning points to his adoption of the identity of

protector of children. “If this product is used mainly by children,” the judge begins, “probably you may have to get some approval from some consumer testing lab for safety features of this product.” He goes on to describe children putting the product in their mouths and the necessity of testing not only the safety of its operation, but its materials as well. This judge adopts the role as protector of children, and even takes the role further to suggest testing for harmful chemicals in the plastic that houses the Cut-o-Matic.

Cut-o-Matic, therefore, rises to the challenge of unseating a technology used around the world for millennia. For the GIP judges, at least, Cut-o-Matic has effectively positioned their product as an obligatory passage point necessary to adopting a preferable identity. With regard to the training provided by the GIP, Cut-o-Matic succeeds by focusing on the services-dominant logic of potential markets, while downplaying the goods-dominant logic that paints their product as functionally inferior. Cut-o-Matic—like the Shake-o-Matic, as we will see—is a disruptive technology. However, my focus in this case study has highlighted the individual characteristics of this disruption—the need to unseat an established technology—as an important aspect to consider when crafting effective pitches.

Thus far, I have discussed the dual interessement occurring through both the genres of pitch competition applications and the entrepreneurial pitch itself: the GIP interesses innovators into a value system through genre conventions that constrain applicant responses, and Cut-o-Matic’s sophisticated techniques of presenting preferable roles for stakeholders to inhabit. For the next case study, I will focus mainly on the end of the GIP process—the final pitch—to examine how these roles are not formed entirely by the innovators, but cocreated by actors within the network. While the Cut-o-Matic addressed

its disruptive nature through offering preferred roles to stakeholders to move them away from established networks, different types of disruptive technologies may benefit from alternative approaches.

Chapter 5: Shake-o-Matic

The lights slowly dim on a crowded theater. Patrons shift in their seats, balancing buckets of popcorn on their knees while finding a comfortable position. As the screen comes to life, it shows a young, blonde woman running toward the ocean at dusk, shedding articles of clothing along the way. She splashes into the waves, calling back to a companion to “come on in the water!” Her head is just a silhouette on the screen, a rounded dark point on the glittering waves. Yejun, sitting in the theater, does not hear her, though he reads the unlabeled captions on the screen and knows it is she who has spoken. Yejun is Deaf, yet he can tell it is a woman’s voice the others in the theater are hearing. He is using a Shake-o-Matic.

As the actress splashes around in the water, Yejun feels light vibrations on his wrist, where the Shake-o-Matic is worn. It curves around his arm like a clamshell of glossy plastic and brushed steel. Yejun’s model is the bright orange one, and the neon and silver match his smartphone case. The Shake-o-Matic is sleek and high-tech and fits well among Yejun’s collection of gadgets and gaming accessories. The Shake-o-Matic can pair with his smartphone through a number of apps, and Yejun uses it to augment his media experiences. On the screen, the camera switches to an underwater shot. The Shake-o-Matic begins to vibrate softly against Yejun’s wrist—then, slightly more intensely as the camera approaches the actress’s silhouette. The hair on Yejun’s arm begins to stand on end. The Shake-o-Matic vibrates harder, and Yejun anticipates what is coming. By the time the shark has the actress in its jaws, Yejun is gripping the arms of his chair.

K6010 COMPANY DESCRIPTION

K6010, Shake-o-Matic, is a technology company that produces a new consumer device. This device does only one thing—vibrate—but the technological advancements it presents makes it a disruptive technology. Meant to be worn on the wrist or forearm or grasped in the palm, the Shake-o-Matic turns soundwaves into vibrations. It is a haptic feedback device similar to those in gaming controllers, but the technology behind it makes the Shake-o-Matic more sensitive. As the company describes it in their GIP application, the Shake-o-Matic is “a new-concept sound product to feel tangible feeling sound added to existing sound system in order to realize 3D feeling sound according to the development of smart phone technology.”

As mentioned above, relative to the applications received by the GIP, the Shake-o-Matic is high-tech. Whereas the Cut-o-Matic is more low-tech, given that it works through mechanical principles, the Shake-o-Matic improves upon existing electromechanical technologies and introduces a new form of haptic feedback that does not require an eccentric motor to operate. Eccentric motors are made by offsetting an axle from a circular disc’s center. This disc rotates, and the motor turns rotary motion into linear motion. In the case of existing vibrating devices (Shake-o-Matic’s competitors), this approach makes for vibrating mechanisms with not much sensitivity: “a vibrating effect [. . .] more suitable for simple sound[s] such as [an] alarm or announcement,” according to Shake-o-Matic’s application. Shake-o-Matic vibrates at a wider range of sound frequencies, and thus allows for vibrations of varying intensities to represent sounds of different frequencies. In

summary, the Shake-o-Matic can shake to represent a larger range of sounds than any of its competitors.

Recall above that Lyle pointed to some of the values inadvertently transferred from VC funding situations to the GIP process through the reuse of VC genres for commercialization—namely the business pitch and the various templates provided by the GIP. One of the GIP’s remote goals is to teach South Korean innovators a new kind of economic zeitgeist, one where incremental improvements in technology are eschewed for disruptive technologies. At first glance, the Shake-o-Matic seems like one of these incremental improvements on an existing technology. As we will see, though, the ways the innovators at Shake-o-Matic have problematized the invention make it a disruptive technology. This, in turn, means that the Shake-o-Matic’s moments of translation in forming a network for its North American commercialization tend toward VC criteria for evaluating the technology’s appropriateness for the market. This orientation to VC criteria ensure K6010 is a good case study for examining how innovators problematize a market and interesse stakeholders. More specifically, though, we will see how Shake-o-Matic’s pitch moved from a goods-dominant logic about the product itself to a services-dominant logic, whereby both innovators and stakeholders cocreated market pain and value propositions. In fact, the Shake-o-Matic ended up perhaps solving problems in an industry it had never even envisioned.

K6010’S SOPHISTICATED GOODS-DOMINANT LOGIC

As defined by London et al. (2015), goods-dominant logics in business pitches tend toward describing products “in generic market criteria: cost, quality, and speed” (p. 255).

While these generic criteria may seem unsophisticated, recall that goods-dominant logics have dominated for thousands of years, up through the 20th century. These logics have been in play throughout the rise of the entire field of marketing, including its development into a separate discipline and the complexities that come from this differentiation. Thus, while it is tempting to see service-dominant logic as an evolutionary step toward greater complexity, the reality of goods-dominant logics is that they are just as sophisticated, if not more in some instances, than service-dominant logics. Instead, the differentiator is the focus of each logic: goods-dominant logics focus on value propositions as functions of the product itself, whereas service-dominant logics focus on value propositions as functions of the relations in the market.

In actor-network terms, goods-dominant logics focus on the nodes of the product, whereas service-dominant logics focus on the networks in which the product is an actor. As Spinuzzi (2008) has noted, though, “Each node has its own logic, its own connections, its own texts, and its own scales of space and time” (p. 49). That is, each node is a network itself, and we can view the moments of translation for goods-dominant logic and service-dominant logic in different ways: “different media, different activities, different groups with different social languages” (Spinuzzi, 2008, p. 49). Using actor-network terms, we can see that goods-dominant logic opens a black box, while service-dominant logic mobilizes the product into a black box to focus on its *place in the network*.

Opening the goods-dominant black boxes

As mentioned in the analysis of Cut-o-Matic, goods-dominant logic presents a value proposition as a function of the product itself. That is, the product is released from

its black box of “Shake-o-Matic” or “vibrating device” to look at the complex networks that constitute this entity that serves as a node in other networks. As we can see in Shake-o-Matic’s early enactment of genres within the GIP, their goods-dominant logic is no less sophisticated than later approaches in other genres. In fact, Shake-o-Matic was performing moments of translation by interesting actors into its network—even excising the ties that bind their stakeholders to other networks—but their acts of interessement ignored the problematization of the market that would orient stakeholders to commercializing the Shake-o-Matic in North American markets.

Shake-o-Matic’s GIP Application

As discussed at length above, the GIP uses the genre of the application to limit respondents’ answers. These genres carry with them values about the GIP, yet these genres are enacted in ad hoc activities, deeply interpenetrated with one another (Spinuzzi, 2008, p. 49). The ad hoc nature of genre use means that each employs “standing sets of transformations, but their complex interpenetrations mean that their transformations can be idiosyncratic and unpredictable” (Spinuzzi, 2008, p. 49). One such unpredictable, idiosyncratic use of the application occurs with a single, yet very important word: *problem*.

K6010 filled out the same application as K6034, and thus responded to the same questions posed by the GIP. In the Technology Description section of the application, the GIP asks “What does the technology do? Please explain (in simple terms) the problem / situation that this innovation was created to address or solve.” As we saw with K6034, the GIP intends for this problem to be one in a market, a *market pain* for the innovation to alleviate. Thus, the GIP expects the innovators to answer with an orientation toward

service-dominant logic, where the market has a problem. However, Shake-o-Matic addresses the problem with *products*, not *markets*:

[Shake-o-Matic] is an ergonomically designed new-concept sound equipment, and it is developed as a product to realize a fine feeling by applying to mobile device such as smart phones, and it is a new-concept sound product to feel tangible feeling sound added to existing sound system in order to realize 3D feeling sound according to the development of smart phone technology.

Shake-o-Matic is using devices for interesting stakeholders, but the network these interestment devices are oriented to are the network of the *product*, not the *market*. In essence, Shake-o-Matic is interesting stakeholders into the complex network that is the product itself. They have opened the black box of the product, and are enrolling actors toward that network—which is also a node in the network that the GIP expects them to be oriented toward.

Thus, Shake-o-Matic proceeds to interesse actors through a description of what the product *does*—which is exactly what the genre of the application was asking them to do. However, the GIP intended for the application’s genre conventions to limit the responses to what the innovation *does for the market*. In terms of translations, Shake-o-Matic’s application is problematizing the product: there are products out there that function like the Shake-o-Matic (they vibrate). In this scenario, stakeholders would be interested in a network oriented to making better quality things that shake.

We can trace the development of Shake-o-Matic’s approach across a number of the GIP’s genres. The intention of the GIP is to transfer GIP values through standing sets of transformations (SST) throughout the program, but as we have seen about SST, they operate by “Each genre reus[ing] and rerepresent[ing] arguments from previous genres [. . .

.] but reorient[ing] those arguments within the action to which the current genre is oriented” (Spinuzzi et al., 2016b, p. 6). The aim is for this reorientation to bring Shake-o-Matic closer to a service-dominant logic, but because these SST are reused genres, the value transfer is not a simple one-way affair. That is, it is not a transfer of values from GIP to innovator, but instead an exchange of values as genres are used, reused, split, redefined, and revised.

More evidence: The Deep Dive

As outlined in the GIP Overview and Cut-o-Matic discussion, the Deep Dive stage of the program is a chance for GIP personnel to gather information. They do this through a variety of methods, and a number of genres are produced in this stage, both by GIP personnel and GIP participants (see Figure 1). One genre produced is the Initial Deck. This deck accompanies an oral presentation by the innovator and often follows a GIP-supplied template of around 20 slides. Thus, this genre represents a cocreated artifact much like the application, in that the template is provided by the GIP (and thus through genre conventions, transfers values from the GIP) and is filled in and revised by the innovators (who then alter that genre in ad hoc and idiosyncratic ways toward their own purposes). As we will see below, the result is an amalgam of goods-dominant and service-dominant logics.

Initial Deck

The Initial Deck is a slide deck to accompany an oral presentation by the participant firm. The template consists of 17 to 20 slides (17 for K6034; 20 for K6010), and the innovator is encouraged to “tell us the story of your innovation in this order: 1. Technology Description; 2. Development Status; 3. IP Status; 4. Business Model; 5. Markets; 6. Market

Interest; 7. Competition; 8. Risks and Barriers; 9. Team Status.” A couple of genre conventions here are worth noting.

First, as discussed briefly above, the template asks the innovators to “tell us the *story of your innovation*” (emphasis added). The GIP is attempting to orient the innovators to a service-dominant logic, but already, we can see the tension between the two logics at play here. Asking for a story certainly points toward service-dominant logics. As outlined above in K6034’s application, intersement of stakeholders into networks for technology commercialization involves a definition of *roles*. In essence, business pitchers create a narrative with identities worth adopting. The ultimate aim is to create a role that stakeholders would want to inhabit, and to position the innovation as an obligatory passage point to inhabiting this preferred role. In goods-dominant logics, those identities are less important. Instead, description rules the day: descriptions of how the product work are not narratives. They lack the stakeholder identities necessary for a service-dominant logic network.

However, the GIP instructions are asking that the innovators tell the story of the innovation. Such a move can be contrary to service-dominant logic. Telling a story of how your product was developed does not necessarily leave any identities for stakeholders to inhabit. In fact, this is exactly what Shake-o-Matic did in its Initial Deck. Shake-o-Matic veered from the template by adding a Company Description to the beginning of its deck, focusing on the narrative of how the company itself came into being. While such a move establishes innovators’ identities, the narrative given is not one that leaves positions open

for potential stakeholders. Instead, it focuses on the steps in the product's development that led to the present competition.

What the GIP expected to occur was a narrative of the product in a network that included identities for various, yet interested stakeholders. Shake-o-Matic, on the other hand, avoided mobilizing its firm into a black box, and instead focused on the complex network that led Shake-o-Matic to the GIP competition: company founding, various funding milestones for different products, awards won for innovations, and the like. The Initial Deck does tell a story, but it is a story of the network of the product itself, not a story of a larger network the product is attempting to be part of. Instead of telling the story of the product in a problematized market, they described a network of company funding.

Shutting the Box: Service-Dominant Narratives

Thus, what we have seen so far is that Shake-o-Matic seemingly had begun the process of creating a network but that network was oriented toward their product, not the market, much less a North American market. They had begun interestment techniques of placing their technology between stakeholders and a goal. However, that goal was not the same as a network oriented toward North American technology commercialization. Their created network's orientation can be seen in the narrative they told: one of a company founding, being funded, winning awards, gaining more employees and one of *how a product functions*, instead of *what the product can do for the market*.

Remember from our analysis of Cut-o-Matic's application that the translation moves for creating a network oriented toward North American commercialization were *problematizing the market*, *interesting stakeholders toward this problem*, and *enrolling*

them into these roles within the network. A number of mobilizations must occur throughout the process, and the stakeholders have to want to inhabit their roles. The crux, then, is to interesse the Shake-o-Matic between stakeholders and the identities they want to adopt.

In enacting a goods-dominant logic, the focus of the network was the Shake-o-Matic itself: *how* the product worked. In creating this network, stakeholders were not allowed any roles that appealed to them. They were not allowed protagonist identities in the quest. In Shake-o-Matic's network, no children were being protected from injury. No sufficiently moral position was afforded to stakeholders to make them want to adopt the identities in their network.

To be fair to Shake-o-Matic, they did attempt a number of moves toward these stakeholder roles, even in early genres of the GIP process. However, Shake-o-Matic lacked sufficient information to *problematize* in such a way that stakeholders saw no other options but to enroll in their North American commercialization market. For this aim, Shake-o-Matic must "zoom out," from the network they are describing, and mobilize their technology into a black box. In mobilizing their technology, "Shake-o-Matic" becomes a spokesperson for the complex network of how the technology works as well as how the company got to where it is in development. This concept of "Shake-o-Matic" can then be translated in the service of orienting stakeholders toward the larger network of North American commercialization. In narrative terms, Shake-o-Matic had to become the tool by which their stakeholders could complete their moral quest. The aims of that quest, as we will see, were cocreated by both Shake-o-Matic and market stakeholders, even to the point of Shake-o-Matic giving up control over defining the quest altogether.

What Shake-o-Matic had

Shake-o-Matic needed a number of elements to create their service-dominant narrative. First and foremost, this narrative had to be oriented to the market, not the product. Secondly, Shake-o-Matic had to interesse stakeholders by placing their product not between the problem and stakeholders, but instead by placing their product between a *preferred identity* and stakeholders. The Shake-o-Matic had to be an obligatory passage point to that *role*, not an obligatory passage point to relieving the market pain. The difference here is nuanced, but represents the central contribution of this dissertation. Current theories of business pitches place the product (and by proxy, the company making the product) as the savior here. There is pain, and the product relieves that pain. However, effective interessement involves *enrollment*, with the root *role* here as an indicator: There is a market pain, and stakeholders can inhabit the role of pain reliever, but only if they move through the product to get there.

As mentioned above, Shake-o-Matic had made moves toward problematizing the market. Through the application and initial deck, Shake-o-Matic had defined a market pain. They had problematized the market by focusing on a set of potential consumers. Like Cut-o-Matic, Shake-o-Matic focused on a “vulnerable” population: the Deaf community. Note, the Deaf community here is not vulnerable in the same way that children or developmentally disabled adults are presented as vulnerable in Cut-o-Matic’s problematization of the market. Instead, the Deaf community in Shake-o-Matic’s problematization were an example of a community whose media experiences could be enriched by the product, not a community who needed protection from harm.

Thus, in Shake-o-Matic's application, they problematized the market through describing why the innovation was developed:

[T]o meet the demand to satisfy feeling through vibration in addition to vision and hearing sense according to increase of demand for media contents such as games and movies and increase of demand as in 3D TV, 3D movies, etc. as in increasing demand for media contents such as game and movie and according to spread of smart phones, and such product to be used by hearing handicapped persons is demanded to be developed due to extended application range through this product.

In this description, Shake-o-Matic defined the pain as a need to feel media, in addition to seeing and hearing it. According to this problematization, there is a gap in the market for another perceptive sense in media. Shake-o-Matic even provides evidence for this market pain by referring to solutions already on the market: their competition. As they mention in their application, there are products that vibrate, providing this other sense to media, but "those products are made of eccentric motor system[;] therefore[,] they are clearly different from our product in structure." In addressing the competition, Shake-o-Matic was engaging in *interessement*, which again, involves severing the ties that bind stakeholders to other networks. In this case, Shake-o-Matic is making moves toward severing ties to other haptic devices.

But severing ties with other networks is not enough. Shake-o-Matic had to provide *better roles* for these newly freed stakeholders. Presenting the competition as inadequate is a move in the right direction, but without an alternative—a sufficiently attractive position for the stakeholders to inhabit. As we have seen, Cut-o-Matic made these *interessement* moves in two ways. They first painted the current networks the stakeholders were in as morally reprehensible: to remain in these networks meant that stakeholders would be

complacent in a system that tolerated children being maimed. Secondly, Cut-o-Matic presented a morally superior position for its stakeholders, a possible route to becoming the protagonists in a quest to save these poor children. Inaction was immoral, and action in any other way that did not include commercializing the Cut-o-Matic in North American markets was insufficient to inhabit this coveted role. Shake-O-Matic had to make a similar move.

What Shake-o-Matic didn't have

If Shake-o-Matic had problematized the market and, like Cut-o-Matic, had begun to sever ties with other networks involving other haptic devices, what did they lack? First, let us address the latter: the ties binding stakeholders to other haptic devices. Looking closer at *how* these ties were being severed gives a clue as to the orientation of the network Shake-o-Matic was creating. As they put it in their initial deck, “Unlike delivering the simple and ordinary vibration to the user, it can deliver rich and delicate vibration that the sound creates.” Here, and in other genres enacted early in the GIP process by Shake-o-Matic, the focus is on the *quality* of the technology. In the “cutting move” of interessement, Shake-o-Matic is not addressing any roles of significance. Compare their cutting move with that of Cut-o-Matic: Cut-o-Matic severed stakeholder ties to a *harmful* technology (as they defined it); Shake-o-Matic is severing ties to an *inefficient* technology.

If we view these interessement translations through the roles they are creating, we can see that Cut-o-Matic orients their stakeholders to a network in which these stakeholders can be heroes of some sort. Shake-o-Matic, on the other hand, denies their stakeholders that role, instead opting for a less laudable role for their stakeholders: quality assurance.

Of course, technologies will vary, and not all technologies will allow for a dramatically heroic role for stakeholders. However, as we will see, heroes come in many forms. This particular position offered by Shake-o-Matic's network is one oriented toward a goods-dominant logic: faster, cheaper, or better *quality*. In the narratives of a service-dominant logic market, the role of QA inspector is an unsatisfying one.

Further, though Shake-o-Matic made moves toward problematizing the market, they lacked enough context to provide the aforementioned prime roles to its stakeholders. In the way that Shake-o-Matic problematized the market, the Shake-o-Matic itself was positioned between consumers and the pain, rather than between stakeholders and alleviating that pain. What Shake-o-Matic needed was more market information to black box itself into a *tool* the stakeholders needed to inhabit a preferred *role*.

To summarize, it seems like Shake-o-Matic was making all the right moves: they defined a market pain and they offered a value proposition. However, what Shake-o-Matic lacked was roles for stakeholders to inhabit. More accurately, Shake-o-Matic offered *insignificant* roles to their stakeholders, ones that were not enough to entice these stakeholders from their roles in other networks. In the next sections, we will turn to ways that the later GIP genres provided the context that Shake-o-Matic needed to reorient their network toward North American technology commercialization. What I will demonstrate is that successful pitches are not about what roles you want your *product* to inhabit, but what roles you create for your *stakeholders* to inhabit.

SHAKE-O-MATIC'S CHANGES

As mentioned above, the GIP training process involves a practice presentation, performed in front of the presentation trainer, Tamara. In this stage, Tamara focuses on a number of factors in the presentation, giving suggestions to the presenter to adjust the pitch for the final competition. In the case of Shake-o-Matic, Tamara focused on three areas that could be adjusted: structure, argument, and engagement. We have already discussed these patterns of revision in Spinuzzi et al. (2016a); however, the focus of that study was different from the focus of this dissertation. Here, we look at these patterns of revision as evidence of cocreation of the value proposition for Shake-o-Matic.

As we (Spinuzzi et al., 2016b) found in an earlier analysis of Shake-o-Matic's enacting of GIP genres, a number of changes occurred throughout the process. Shake-o-Matic began with a value proposition oriented toward their company and their product: early genres in the GIP (the application and the initial deck) exhibited this orientation toward the Shake-o-Matic as a successful company and as an improvement over previous haptic feedback technologies. Throughout the data-gathering stages of the GIP, though, GIP personnel researched the markets in which Shake-o-Matic could participate. This research, however, was not a one-way street. Both the GIP and Shake-o-Matic contributed to the cocreation of value.

Shake-o-Matic began the GIP process with some idea of market applications because the Shake-o-Matic was a relatively successful consumer product before even applying for the GIP. For example, in their application and initial deck, Shake-o-Matic offered potential markets for their innovation, outlining this possible consumer base in their

initial deck: “From the teenagers to the thirties are the main target market for IT sector, and, they always seek for a new technologies and has the purchasing power.” They had defined a potential market as young adults, supporting this assertion with other claims about the group’s affinities for high-tech gadgets and their purchasing power as well.

It is worth noting that this potential consumer base did not change throughout the entire GIP process. In their final pitch, Shake-o-Matic again reiterated their potential consumers as “teenagers to the thirty-year-old persons,” along with musicians, gamers, and Deaf people. However, through the assistance of GIP personnel, Shake-o-Matic refocused their pitch on creating roles for stakeholders to inhabit.

Working from the coding done on Shake-o-Matic’s standing sets of transformations to the GIP genres, we can trace the specific changes that occurred across Shake-O-Matic’s SST. Specifically, we’ll look at changes between their practice pitch deck and the final deck they presented two weeks later. These changes were in structure, in claims and evidence, and in engagement. Between the practice pitch in front of Tamara and the final pitch in front of GIP judges, Shake-o-Matic added 6 slides. Table 5 below outlines the *structural* changes made between these two genres.

Table 5: Shake-o-Matic changes from practice pitch to final pitch

| Added | Deleted | Altered |
|--|------------------------------|--|
| Movie Clip | Technical difficulties slide | Moved 2 slides on product design from “Business Design” to earlier in the presentation |
| Quicklook® Report slide, listing people interviewed for the report | | |
| Added “Competitors comparison chart” slide | | |
| Added quotes from potential user (from Quicklook® report) | | |

It is important to note that although the final decision on what was changed was up to Shake-o-Matic, these changes came about as the result of a negotiation of values among Shake-o-Matic and GIP personnel. The changes in structure, wording, and information in these slides represent changes made to the types of claims and evidence Shake-o-Matic presented after consulting with both the Quicklook® report and the presentation trainer, Tamara. This negotiation is an example of the cocreation of Shake-o-Matic’s value proposition, a hallmark of service-dominant logic markets, according to London et al. (2015).

In addition to these structural changes, Shake-o-Matic made a number of changes to the *claims and evidence* they presented. Table 6 presents a comparison of Shake-o-Matic’s practice slide deck and their final pitch deck.

Table 6: Shake-o-Matic's changes in claims and evidence

| Practice Slides | Final Slides |
|---|---|
| <p>Slide named “Development and IP” covers:</p> <ul style="list-style-type: none"> • Difference • Advancement • Marketability | <p>Slide named “Results” covers:</p> <ul style="list-style-type: none"> • Difference • Advancement • Marketability |
| <p>“Competitors” slide shows three photos of products and a sentence explaining that these products were the most similar they could find, but not a close match.</p> | <p>“Competitors” slide shows four photos of products without text. A second slide, “Competitors Comparison Chart,” compares the technology to five others in a matrix. (evidence)</p> |

With regard to the first row of Table 6 above, we see a shift in the type of claim being made. After their practice presentation, Tamara suggested that Shake-o-Matic change the wording of their “Development and IP” slide to clarify the claim being made. In both the practice presentation and the final pitch, the rest of the slide remained the same:

Difference: Sensitive and delicate vibration (nearly 100% of sounds transform to vibration) not only simple base [i.e., basic] and attack sound[s].

Advancement: Advance new 4D Sound released firstly on the world market. (It perfectly materializes the sound emotionally which the 4D theaters cannot express.)

Marketability: Wearable 4D sound device that suits the portable computers and smart phones. (Emotionally sensuous product that fits perfectly with the new generations demands.)

At first glance, changing the slide’s title from “Development and IP” to “Results” does not seem to do much for Shake-o-Matic’s presentation. However, looking closer at each claim, we can see that contextualizing the information shifts the claims being made.

In the first instance, the claims are being made by Shake-o-Matic. In the second instance, they are claims being made by a third party *about* the Shake-o-Matic. As presented by Shake-o-Matic, these are claims about the product itself. As presented by a third party, these claims become claims about the market, not about the Shake-o-Matic. They are the “Results” of a study of markets, not just claims offered by the innovator without evidence.

The second row in Table 6 above represents a shift in evidence provided for claims about Shake-o-Matic’s superiority over competition. In the practice presentation, Shake-o-Matic provides visual evidence for two claims: competition exists and the competition is not the same. Given that the images are pictures of existing products, it is visual evidence referring to an existing object. The picture of the product is sufficient to support the claim that competition does exist. The second claim is “a sentence explaining that these products were the most similar they could find, but not a close match.” Therefore, Shake-o-Matic is arguing the competition is not the same as their product. The pictures can provide some form of evidence for this claim, as the products in the images do not *look* like the Shake-o-Matic. In a very literal sense, these products are not the same as the Shake-o-Matic. However, beyond appearance, these images cannot provide evidence one way or another as to the similarity of the competition’s products to the Shake-o-Matic.

In the final pitch, Shake-o-Matic supplements this visual evidence with oral arguments and a competition matrix. First, Shake-o-Matic’s presenter points to each technology in turn, explaining how these competitors’ products function. In doing so, he is comparing these functions to the ways the Shake-o-Matic works. He follows this part of the presentation with a slide comparing the Shake-o-Matic to competitors across a number

of criteria: Vibration Frequency, Portability, Compatibility, Bluetooth functionality, and Retail Price. Beyond the physical appearance, then, Shake-o-Matic shows that their product is superior to their competitors.

For these shifts in claims and evidence, though, you may have noticed that the majority of these claims are still about *how the product works*. Granted, Shake-o-Matic is comparing how their product works in relation to how other products work, and thus their arguments are moving toward an orientation with the market in mind. However, these claims are still a function of the product itself, or at best, claims about what the product does for consumers. Remember that this process is one of cocreation: Shake-o-Matic is not a passive recipient of values from the GIP. These values are being negotiated in a network, with some values being afforded more importance than others. Thus, Shake-o-Matic's claims about what their product does for consumers is not *wrong*, per se, but their approach still lacks the aforementioned preferred roles for stakeholders to inhabit.

We can think of this approach as an intermediate one. Shake-o-Matic is still preponderantly focused on the network of their product: it is better quality than their competitors (and in the Retail Price category of the competition matrix, cheaper than most of its competitors, too). The network they are creating is still functioning mainly through goods-dominant logic. With the help of GIP personnel thus far, Shake-o-Matic is leaning toward a network oriented to service-dominant logic. It is only when the Shake-o-Matic is mobilized into a black box for a larger network, though, that they truly begin orienting toward a network in which stakeholders can choose preferable roles. In terms of the GIP process, Shake-o-Matic does this with its changes in engagement.

SHAKE-O-MATIC ENGAGES STAKEHOLDERS

One way that Shake-o-Matic stood out among GIP participants was its willingness to engage in narrative. As we saw in the application, these narratives for Shake-o-Matic tended to be focused around themselves: how they got to the point in their development as a company to be applying for the GIP. This was in line with what the GIP was asking, remember. As the explicit instructions in the initial deck template read, “tell us the story of your invention.” Further, this focus on narrative was reiterated throughout the GIP training: Tamara’s section on World-Class Presentation Skills, recall, touched upon storytelling as one of the world-class skills effective presenters should possess.

Shake-o-Matic excelled in this respect. Throughout their practice presentation, Shake-o-Matic engaged their audience with a number of narratives, with the first immediately beginning the presentation. The innovator’s first slide in the practice presentation was an image of a promotional poster for *Transformers: Dark of the Moon*. The innovator began by telling of his experience with the film: “Maybe it was three years ago, I went to the cinema to watch this movie, *Transformers 3*” He recounts how the movie was “amazing” and he “got inspiration from the movie” to create the Shake-o-Matic because he noticed that “everything is 3D.” But what was missing from the market was that “so many manufacturers focused only upon vision.” So, he “began making a new product focused on sound.”

By telling a story here, the Shake-o-Matic’s inventor is joining a long tradition in pitching. Much of the popular literature on pitches exhorts its readers to find a story in their product or service and to tell that story to audiences. However, Shake-o-Matic is still

focused on goods-dominant logic, and thus goods-dominant narrative: the story being told in this instance is about the experiences that led to the *product*. Granted, Shake-o-Matic is making moves toward problematizing the market. The story highlights a market pain: 3D entertainment technology focuses mainly on the visual. There is a gap here, a space for commercialization that Shake-o-Matic hopes to occupy. Further, the innovator is interesting the Shake-o-Matic between a problem and consumers.

So, Shake-o-Matic has described a gap—one between consumers and 3D sound technologies—and has placed itself in that gap. If consumers want an enriched media experience, one focused on sound as well as vision, then they must go through the Shake-o-Matic. There is a value proposition being made. From the perspective of the literature on business pitches, Shake-o-Matic is effectively problematizing and interesting. However, Shake-o-Matic is doing so in a network oriented toward the product itself, rather than a network oriented toward *commercializing* its product in North American markets. To make this shift, then, Shake-o-Matic must alter its approach slightly, yet significantly. It must black box the technology itself and focus on the roles it offers to stakeholders.

To illustrate how Shake-o-Matic approached this change, we have to focus on a different narrative told, one that occurred later in the presentation. When defining potential consumers, Shake-o-Matic draws upon another film, the one referred to in this dissertation's introduction to K6010: *Jaws*. First, recall that there are three pitches total given by each GIP participant: the initial pitch (represented by the initial deck in the data set), the practice pitch given in front of Tamara (represented by a videorecording in the data set), and the final pitch in front of GIP judges (represented by a videorecording in the

data set). In Shake-o-Matic's very first pitch, *Jaws* makes no appearance whatsoever. Any and all narratives are about how the product came into being or how it operates. For the practice pitch, *Jaws* appears for the first time. The presenter shows a static image of a *Jaws* movie poster, much like he did with the *Transformers* movie poster. The speaker then “**describes** how music adds tension to a scene, but that tension is not accessible to deaf people” (emphasis in original, Spinuzzi et al., 2016b, p. 10). When *Jaws* makes an appearance in the final pitch, however, the static image is now a movie clip with no audio. For the final pitch, the speaker is “**showing** how lack of music means no tension in the scene” (emphasis in original, Spinuzzi et al., 2016b, p. 10).

We (Spinuzzi et al., 2016b) previously characterize the shift between Shake-o-Matic's practice presentation and Shake-o-Matic's final pitch as a shift in *engagement*. However, this dissertation characterizes the shift as an instance where many moments of translation are occurring simultaneously. To be sure, stakeholders viewing Shake-o-Matic's final presentation *were* engaged:

Feedback was significantly higher, with all judges rating it either 1 or 2. Judges were engaged during the Q&A, [. . . and] described the technology as either ‘significant’ or ‘revolutionary’ and agreed that it had a chance of a transaction within the next 9 months.” (Spinuzzi et al., 2016b, p. 11).

If we view this engagement, however, in terms of the network being constructed, we can pull apart the simultaneous moments of translation. Judges were *engaged* because they were being *interested* in the network of commercializing the Shake-o-Matic in North American markets.

This is not to say that the Shake-o-Matic’s North American commercialization hinged entirely upon a simple change from a static image to a silent movie. Instead, this dissertation posits that the shift in media use here represents a shift in the network being cocreated, a shift from focusing on the product to focusing on the stakeholders’ roles in the network. Stakeholders were no longer being told about a gap in the market that needed to be filled; they were experiencing a role in that market, one of the deaf consumer. Further evidence of this shift in the market was that the Shake-o-Matic itself—instead of being the focus of the network being cocreated—became mobilized in the service of another network, one that offered preferred roles for the stakeholders. Stakeholders, then, became enrolled into this network (a successful *interessement*, you will remember) and mobilized to stand in as spokespersons for consumers. One hearing judge in his response went so far to say that the “Deaf community will buy this product TODAY” (Spinuzzi et al., 2016b, p. 11). This certainly shows a significant effect of this new network, given that there were no members of the Deaf community present for the pitch—this judge adopted the role of Deaf consumers and presumed to speak for them. Much like Callon’s (1986) scientists stood in as spokespersons for mussels who could not speak, the judges are mobilized in this network to speak for millions of potential consumers.

BLACK BOXES IN NONDESCRIPT PACKAGING

So, in its final pitch, Shake-o-Matic moved from creating a network centered around the product to one oriented toward the *product’s commercialization*. This shift was seen in the judges’ *interessement* into the network, *enrolled* into the network through the cocreation of preferred roles. In one instance, stakeholders were mobilized into

spokespersons for the Deaf community. More significantly for the trajectory of this dissertation, though, the network of the Shake-o-Matic as a product was mobilized into a black box in the service of the larger network of its commercialization in North American markets. This mobilization meant that all of the long chains of actors that Shake-o-Matic spent time explicating—the awards, the previous company milestones, the trade show appearances, the government certifications, the proposed target demographics—were collapsed into a tightly-bound concept to be used by the network. This mobilization also meant that Shake-o-Matic, the company, no longer was in control of Shake-o-Matic, the black-boxed product. As we will see, Shake-o-Matic was put into a nondescript package of another kind, one not for sale to minors.

During the Q&A session immediately following Shake-o-Matic's final pitch, the judges asked a number of questions about the company and product. The vast majority of these questions were similar to those asked of other GIP participants. They covered the usual business questions regarding intellectual property, development status, and reported revenue dips. However, when the questions turned to potential customers, one judge made a very interesting observation:

Seems to me, if you make a unique 4D sound system, you may have a lot more potential customers. Particularly, for a guy like me. I am very old, but if I have a very sexy 4D sound, I may be sexually very much aroused. I would buy it, and my wife would love it.

Shake-o-Matic's inventor deftly avoided the judge's line of reasoning, focusing more on the judge's age. Shake-o-Matic, he explained, had been demonstrated at consumer electronics expositions, and older consumers couldn't see the value in wearing one. The

GIP judge, however, would not be deterred: “This particular product. . . if you have a very nice, soft, delicate melody, can you, uh, make such that there is a vibration? So that you can feel very soft and nice?” His implications were clear: The Shake-o-Matic would be a successful sex toy.

Given the inventor’s exhibited embarrassment, this particular use probably had not been considered before. As the judge put it, however, “it may make some more people interested in the product.” Once the network orientation was switched from the goods-dominant narratives focused on the *product*, the services-dominant narratives of the *market* determined just how the Shake-o-Matic would be used. The significance of the Shake-o-Matic was no longer a function of *qualities* of the product, but instead its *use* in the network. The stakeholders were enrolled into this North American commercialization network, and as such, the value proposition of the Shake-o-Matic was a cocreated argument, one where the inventor’s input was important, but less consequential than it was in a network focused on qualities of the product itself.

Granted, providing sexual gratification is a far cry from saving children from being maimed. However, it is not within the scope of this dissertation to debate the relative moral positions of either commercialization network of the Cut-o-Matic or Shake-o-Matic. What is significant in both instances, though, is that a rhetorical approach was needed for both participants in the GIP. Rhetoric, here, highlights the cocreated nature of the networks themselves. Successful propositions are not one-way arguments from speaker to audience, but instead a negotiation of shared values (even if those values may be less shared on one side than another). What matters in a creating a technology commercialization network,

then, is that stakeholders are given preferred roles to inhabit. In the case of Cut-o-Matic, stakeholders were allowed to be saviors of maimed children. In the case of Shake-o-Matic, the stakeholders could occupy the role of deliverers of sensual pleasure—whether that pleasure was for Deaf consumers searching for a broader media experience or for adults seeking a broader sexual experience. In both cases, though, the task necessary for the pitch is to make their products the obligatory passage point that stakeholders must pass through to get to their preferred roles.

One explanation of the difference in the roles offered by each firm can be related to the relative difficulty of their interessement moves. Whereas the Cut-o-Matic is disruptive by unseating a previous technology that performed a vital function, the Shake-o-Matic is disruptive in that it provides an *entirely new* experience for consumers. As such, the functions of the roles provided to stakeholders are different, and thus the techniques used for establishing these roles vary as well. The Cut-o-Matic faced the challenge of severing ties to a very strong network of scissors-users. They had to first establish why the identities offered by the scissors network were not preferable. Given the age and strength of such a network, Cut-o-Matic chose a tactic that portrayed inaction as an immoral choice. Because Shake-o-Matic is disruptive by presenting an entirely new experience for consumers, the ties that bound stakeholders to other networks were weaker. Thus, the alternative roles presented to stakeholders did not require an intensity equal to saving children from harm. Both Cut-o-Matic and Shake-o-Matic had to sever stakeholders' existing ties to other networks, but as I have shown above, the tactics taken by one firm had to be more extreme than the other.

Chapter 6: Implications

This dissertation, then, began with a premise, one found in popular conceptions of entrepreneurs, especially in highly capitalist societies: the entrepreneur is a protagonist who defies odds, brings relief to suffering populations through her efforts. In the narratives that shape our perception of our world, this protagonist is often presented as a hero, eliding the vast and complex networks that function to commercialize a product. Through the case studies of Cut-o-Matic and Shake-o-Matic, I have attempted to view these heroes' tales slightly askew and examine how innovators cocreate networks for technology commercialization. Narrative is still the common approach to creating these networks among various actors across temporal and geographical divides. While the sample size for this study means that it is exploratory in nature, the cases outlined above highlight a number of implications for technology commercialization programs and for entrepreneurial studies.

IMPLICATIONS FOR TECHNOLOGY COMMERCIALIZATION

The vast majority of technology commercialization education programs cover the business pitch as an important genre. They teach innovators sets of skills to pitch their ideas to potential investors, yet the preponderance of these programs teach them how to *present* their products or services instead of how to *develop* the arguments surrounding those products. This lack presents a prime place for contributions from rhetorical genre studies and professional communication studies. Entrepreneurial education programs centered in business schools can (and do) help innovators develop business plans and sound strategies for pursuing intellectual property protections. They can help define markets and conduct valuable research into how those markets operate. To effectively develop ways to argue

their products or services' positions in those markets, however, these programs can benefit from rhetoric.

The GIP, for example, has already benefitted from the implications of the K5 and K6 studies as a whole. There are a number of insights—some reinforced by this current dissertation—that have already guided changes in the GIP's approaches to teaching entrepreneurship. Due to these studies, the GIP has been able to articulate the transformations they are seeking in program participants. Participants must transform the invention into a commercialized product, they must transform themselves into entrepreneurs, and they must transform their cultural understanding to appeal to foreign stakeholders (Spinuzzi, et al. 2016a, p. 3). This dissertation adds a fourth area of transformation that the GIP must focus on: transforming potential investors into protagonists. As both the Cut-o-Matic and Shake-o-Matic have shown, it is not enough to position a product between a market pain and consumers. To increase their chances of securing funding, the potential investors must be included in the network of commercialization. Beyond passive observers of a market situation, potential investors must be given preferred roles to inhabit.

The two cases chosen for this exploratory study highlight different approaches to offering these roles for potential investors. When interesting actors into a network, dual actions must be performed: severing ties to other networks and offering preferred identities to stakeholders in the new network. The degree to which entrepreneurs must focus on either move seems to hinge upon the nature of the disruption the technology enacts. Unseating established technologies leans toward strategies of intensifying claims, whereas offering

an entirely new experience must leave more room for stakeholder cocreation of values. The data set for this conjecture is too small to fix it with any certainty, but further study that focuses on rhetorical strategies as functions of technology disruption could prove fruitful.

As we (Spinuzzi et al., 2016b) have written elsewhere, by the time innovators reach a point where they can pitch their products or services, they are limited in how they can alter their pitches. As we put it, potential entrepreneurs are “limited in their ability to change their Design and Use, so they must focus on their Argument instead” (p. 11). However, we continue, “Choices of Design and Use are also rhetorical” (p. 12). We are referring here to research and development phases of product development, where innovators make choices about how their product will function and how it will be used. Conceived thus, these rhetorical choices are made earlier in the product or service’s life cycle. However, as this dissertation has shown with Cut-o-Matic and Shake-o-Matic, the Argument aspect of their business pitch creates a situation whereby Use is renegotiated among actors in the commercialization network.

Use, as cocreated by the actors in the technology commercialization network, is constantly in flux. In the goods-dominant logics of earlier capitalism, use was defined as a function of the network that makes up the product. Both Cut-o-Matic and Shake-o-Matic show, however, that Use is a cocreated construct of the commercialization network—of which the product network is only a part. In the case of Shake-o-Matic, we see that the product network is less significant than the ways in which this network can be mobilized in the service of the larger network oriented toward commercialization.

Further study would be necessary to focus on if (and if so, how) Design may be renegotiated through the rhetorical moves of network-building. In relation to the pitch, design of the product is temporally prior to the argument. A study of reiterative design principles in 21st century product development, however, could illuminate the ways in which the network shapes and is shaped by the product's design.

Actor-network theory, as applied to the genres of the pitch, provides a novel approach for entrepreneurial education. Highlighting moments of translation in the network of technology commercialization gives new insight into how a market is problematized and stakeholders can be interested. Defining the aim of technology commercialization as an enrollment of stakeholders into desired roles is a significant contribution to approaches in the pitch. The major implication is that entrepreneurial education should shift its focus from products to roles. This is in line with service-dominant logics of 21st-century capitalism. However, up until now, the focus has been interesting investors by placing the product between consumers and a problem. By making room for investors and placing the product between those investors and potential, preferred roles in the commercialization network, the hope is that business pitches will succeed in gaining funding for the entrepreneur. The shift to service-dominant logics of contemporary markets has refocused attention to roles in those markets, but that attention has been on the roles afforded to *consumers* through the *product*, not the roles afforded to *potential investors* through the solutions offered by the entrepreneur. This study reveals the need for technology commercialization education to zoom out and examine the various stakeholder

networks from different angles, and to pay closer attention to potential investors' roles within these networks.

IMPLICATIONS FOR ENTREPRENEURIAL STUDIES

The implications of this study for entrepreneurial education, then, are that a new room has been opened for further investigation. Much research has been done on consumer roles and the identities that marketing can provide through the product or service being offered. In fact, this research makes up the brunt of the entire discipline of marketing. However, there is opportunity in researching offered *investor* roles in these complex networks of technology commercialization. If the products or services of innovators become the tools to complete the identities of these investors, what types of identities are the most effective for securing funding? These identities will certainly vary among different types of investors, such as venture capitalists, angel investors, and granting organizations. Further investigation may yield helpful typologies for entrepreneurial education and critical discourse studies.

An area only briefly touched upon in this study, but rife with possibility is that of multimedia's role in the business pitch. It is standard procedure for entrepreneurial pitches to be accompanied by some form of slide deck, most often in PowerPoint or Keynote. Both Cut-o-Matic and Shake-o-Matic altered their multimedia to achieve the aims highlighted here, and a further investigation of media's role in entrepreneurial pitches is needed. The groundwork for such investigations has been laid across a variety of disciplines, from sports (cf. Guadagno, Muscanell, Sundie, Hardison, & Cialdini, 2013) to science (cf. Bucher & Niemann, 2012) to law (cf. Park & Feigenson, 2012). The ubiquity of these

presentation technologies has been studied in the context of business organizations (cf. Schoeneborn, 2013), and the use of these programs to supplement entrepreneurial pitches shows no signs of slowing. Though outside the scope of this particular study, the data set collected from two years of the GIP could provide a valuable contribution toward understanding the impact multimedia has on investors' decisions.

The implications for the study of narrative in technology commercialization are similar. In investigating the roles offered to potential investors, narrative is a key component. Narrative humanizes abstract business concepts, but more importantly, as we've seen with Shake-o-Matic, describing a scenario to someone and telling a story are different approaches with different results. This study highlights the importance of positioning identities in a narrative: it is not enough to "lead with a story" about a product (as many popular pieces on business pitches advise). Instead, attention must be given to how identities are constructed *in relation to other actors* and *in relation to the network as a whole*. Creating a protagonist is not enough; the service or product must be incorporated in such a way that the protagonist cannot remain a protagonist without it. Products and services must be positioned as not only relief from market pain, but also as integral items and actions that define preferable roles for investors. Entrepreneurial narratives that downplay entrepreneurs' roles in favor of potential investors' roles may be more effective in securing funding.

Cut-o-Matic and Shake-o-Matic, then—as representatives of typical entrepreneurial pitches—show that approaches to securing funding must take into account a number of previously hidden factors. Conceptualizing the entrepreneurial pitch as both a

destructive and creative act, one which severs ties and forms new sociotechnical networks through persuasion, requires a shift in perspective for both aspiring entrepreneurs and for entrepreneurial educators. When begging for money, one must weave an intricate tale focused on identities rather than products and cede some authorial control to stakeholders as well. Though established organizations may find benefit in retroactively designating a protagonist who fights against the odds, budding entrepreneurs would do well to remove their winged shoes, set free their golden goose, lay down their enchanted sword, or hand over their magic beans. Investors are waiting to take up the quest.

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Vita

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