

RESOURCES, INNOVATIVE OUTCOMES, AND THE SYMBOLIC
AND SUBSTANTIVE PERFORMANCE OF ENTREPRENEURIAL
FIRMS: AN EXAMINATION OF INDEPENDENT
POPULAR MUSIC ARTISTS

by

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To my father, Juan De Leon.
Dad, I am forever grateful for all you have done.

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Abstract

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The importance of innovation to the success of entrepreneurial firms has been well established in prior work. Yet, important gaps still remain. I draw from the innovation literature, the resource-based view, and institutional theory in order to address how entrepreneurial firms are able to find success through innovation in competitive environments. Specifically, following Penrose's (1959) approach to the resource-based view, I argue that two resource categories, creativity-related resources and management-related resources, form antecedent conditions for innovative outcomes. I divide these innovative outcomes into two separate components, innovative output and innovative uniqueness. Further, I argue that innovative output and innovative uniqueness have opposing effects on the symbolic and substantive performance of an entrepreneurial firm. Finally, I consider the moderating impact of institutional environments on the relationship between innovative uniqueness and the symbolic and substantive

performance of an entrepreneurial firm. Empirical analysis of 800 popular music artists provides evidence to support the role of creativity-related resources and management-related resources in driving innovative outcomes. However, contrary to my predictions, I failed to find strong support for the opposing effects of innovative output and innovative uniqueness on the entrepreneurial firm's symbolic and substantive performance. Strong support was found for the positive impact of innovative output on symbolic and substantive performance, while only mixed support was found for a negative relationship between innovative uniqueness and symbolic performance. Although I used independent recording artists in the popular music industry as a context, my arguments are likely generalizable to entrepreneurial firms that face strong pressure to innovate. Overall, this study provides clarity to the dilemma of entrepreneurial firms that are called to be both distinctive and conventional in order to find success in competitive markets.

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Chapter 1

Statement of Purpose

There is a long history of studies that examine multiple aspects of innovation such as the different roles of managers and technical employees, the importance of organizational structures, the impact of slack resources, the process of innovating, and the industry impact of innovative outcomes (Daft, 1978; Damanpour, 1991; Dosi, 1988; Hargadon & Sutton, 1997; Henderson & Clark, 1990). The literature has shown that resources, processes, and capabilities affect a firm's ability to innovate (Herold, Jayaraman, & Narayanaswamy, 2006; Hoonsopon & Ruenrom, 2012; Keupp, Palmié, & Gassmann, 2012). Additionally, the literature has also provided evidence that innovation increases firm performance (Christensen, 1997; Damanpour, Walker, & Avellaneda, 2009; Damanpour, 1991; Sapprasert & Clausen, 2012). Yet, prior studies tend to focus on either the antecedents or the outcomes of innovation exclusively (Damanpour, 1991; Keupp et al., 2012; Sapprasert & Clausen, 2012). Focusing on either the antecedent conditions or the ultimate impact of innovations exclusively potentially fails to capture important conditions of success for firms. For instance, do all resources that increase the number of innovations generated also increase the financial success of those organizations? Or, are there some resources that increase the number of innovations generated by a firm and that at the same time lower the overall financial impact of an innovation? Thus, in this dissertation, I consider both the antecedent conditions and subsequent impact of innovative outcomes in order to provide a better understanding of how resources impact firm performance through innovative outcomes. Specifically, I

examine how both creativity-related resources and management-related resources independently and jointly affect a firm's ability to generate innovative outcomes, which include both the number of innovations (innovative output) and their novelty (innovative uniqueness), and how innovative outcomes in turn affect the symbolic and substantive performance of the firm. In addition, using institutional theory, I address the role institutions have in affecting the innovative outcome-performance relationship. Further, since prior studies on innovation have focused on traditional organizations, I focus on entrepreneurial firms. Testing my hypotheses in context of entrepreneurial firms enables me to emphasize the impact of different resource types and the institutional environment since entrepreneurial firms tend to lack both resources and legitimacy.

This study makes several contributions to the literature. First, by studying the antecedents and outcomes of innovation simultaneously, a better understanding of how specific types of resources affect the characteristics of innovative outcomes and ultimately affect key measures of social and financial performance should become clearer. For instance, do all resources positively impact firm performance through their positive impact on innovative outcomes or are some resources harmful to entrepreneurial organizations? If a firm's financial performance is the primary concern, can entrepreneurial firms seek to increase financial performance by focusing on innovating as opposed to changing resource allocations? Along these lines, my study should help resolve the dilemma of entrepreneurial firms having to choose between conformity and distinction (Tan, Shao, & Li, 2013). In answer to Tan et al. (2013), I suggest that entrepreneurial firms can conform and yet be distinctive in their innovative outcomes.

Since I separate innovative outcomes into two components, innovative output and innovative uniqueness, the cause of any performance gains or losses should become evident. That is to say, in the context of entrepreneurial firms, do markets reward innovative output, innovative uniqueness, both, or neither? I argue that consumers reward innovative output while penalizing innovative uniqueness. In other words, and contrary to the current preoccupation with innovation, I suggest that certain innovative outcomes may not necessarily lead to improvements in firm performance.

Second, I also seek to clarify the role of symbolic performance for entrepreneurial firms and provide clarity on how entrepreneurial firms may increase symbolic and substantive performance through the nature of their innovative outcomes. My emphasis on how entrepreneurial firms may gain social acceptance through their innovative outcomes is a perspective that is often overlooked in the entrepreneurship literature. I argue that innovation is more than a route to simply increase financial performance through better and more varied product offerings. I suggest that innovation also represents an expression by which firms signal their conformity and allegiance to existing institutions thereby gaining legitimacy for the firm. While the entrepreneurship literature has largely focused on how to increase symbolic performance through language (Allison, McKenny, & Short, 2013; Clarke & Cornelissen, 2011), I turn the attention to how innovative outcomes might also declare conformity. In the process, I argue that the characteristics of innovative outcomes have different and possibly offsetting effects. Specifically, I argue that while the number of innovative outputs should increase the symbolic and substantive performance of a firm, innovative uniqueness should decrease

the symbolic and substantive performance of an entrepreneurial firm. This would suggest for the entrepreneurial firm that a portfolio of innovations which includes a large number of highly unique innovations might actually reduce firm performance. My focus on innovative characteristics is intended to provide a deeper understanding of the role of social evaluations on firm performance.

Third, I also provide clarity to the role of institutions in understanding and rewarding characteristics of innovative outcomes for entrepreneurial firms in cultural industries. I argue specifically that the liberty entrepreneurial firms have in abiding by dominant discourses is a function of their participation in institutional environments. As a result, entrepreneurial firms that seek to create highly unique innovations must do so in environments with weak institutions.

In order to fulfill the above contributions, I examine independent recording artists in the popular music industry. The popular music industry is an appropriate context to study innovation and entrepreneurship for several reasons. First, the popular music industry is a highly turbulent industry with dramatically shifting consumer patterns and short product life cycles (Anand & Peterson, 2000; Klein & Slonaker, 2010; Peterson & Berger, 1971). Therefore, in this industry it is essential to develop new songs on a frequent and almost continuous basis in order to be successful. Second, entrepreneurship in its truest and simplest form involves the transformation of existing resources into novel combinations (McGrath, 1999; Schumpeter, 1934). The creation of music is in essence an innovative process that emphasizes the ability of artists to create new sounds and experiences by recombining existing components such as pitches and rhythms into new

music (Pasmore, 1998; Tschmuck, 2006). Furthermore, independent popular music artists have defined their roles as entrepreneurs (Coulson, 2012; Jensen, 2014; Klickstein, 2010) and have been recognized by several sources as entrepreneurs (Economist, 2012; Lunden, 2011; Miller, 2007). Third, success in the popular music industry has historically required small groups of individuals that were willing to go against industry norms and incumbent dominant firms in order to introduce new categories of products (Mol, Chiu, & Wijnberg, 2012). As a result, it can be said that successful independent recording artists require a strong entrepreneurial orientation, “a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities” (Lumpkin & Dess, 1996: 137). Fourth, several technological improvements have reduced barriers to entry and made it possible for small independent artists to compete successfully against major recording labels (Hracs, 2012; Mol et al., 2012; Wikström, 2009). For instance, YouTube can enable an artist to reach out to a global market and create a fanatic (fan for short). Fifth, the examination of entrepreneurship in the context of the popular music industry is a common approach. For instance, Peterson and Berger (1971), in studying how firms responded to turbulent environments with entrepreneurial strategies, focused on the popular music industry over four decades ago. Today, this approach continues as Anand and Peterson (2000), Oliver (2010), and Mol, Chiu, and Wijnberg (2012), among others, have continued to examine entrepreneurial phenomena in the context of the popular music industry. Finally, the popular music industry is a cultural industry (DiMaggio, 1977; Montanari & Mizzau, 2007; Negus, 1998) that is subject to strong institutional pressures.

This makes it an especially well suited context for this study (Anand & Peterson, 2000; Anand & Watson, 2004; DiMaggio, 1977). A cultural industry is one where the products and services produced serve primarily an artistic or expressive purpose as opposed to a primarily utilitarian one (Hirsch, 1972). Yet, despite having a strong emphasis on artistic or expressive characteristics, the popular music industry has also placed a monetary value on musical products and developed a market for their exchange (Adorno, 1990; Toynbee, 2000). This unique mix of cultural and commercial components highlights the importance of the institutional context. When considering the institutional context, DiMaggio and Powell (1983) argued that firms were subject to institutional forces from within their organizational field; these forces derive from powerful consumer groups, legitimating agencies, and other larger organizations. In the popular music industry, the role of consumer groups is especially pronounced and their ability to impact the success of firms as well as shape the direction of products has been well established (Anand & Peterson, 2000; Anand & Watson, 2004; Mol et al., 2012). For example, after the release of the Manny O Production's documentary "Blackfish" in 2013 – which suggests animal cruelty practices by SeaWorld – many major popular music artists cancelled concerts at the amusement park after outraged fans expressed how appalled they were by these practices (Liston, 2013). By functioning in a cultural industry, popular music artists become especially sensitive to the beliefs and values of audiences and must be responsive to them when creating products (Toynbee, 2000; Wikström, 2009). Similarly, as noted by Anand and Peterson (2000), multiple studies have established the role that prior belief structures and key performance charts play in shading the understanding of products and how they

impact future performance (Anand & Peterson, 2000; Elsbach & Kramer, 1996; Feldman & March, 1981). In addition to the pressures exerted by audiences, the popular music industry has been dominated by a few powerful record labels known as the majors that have shaped the structure of the industry as well as the expectations of consumers (Baskerville, 2006). In 2015, and for the last decade, four major labels have been dominant: Universal Music Group (UMG), Sony Music Entertainment (SONY), Warner Music Group (WMG), and Electric and Musical Industries (EMI). UMG, SONY, and WMG are collectively referred to as the Big Three as EMI has been absorbed by WMG. In 2013, approximately 65.4% of all recorded music sales were attributable to artists controlled by the Big Three (A2IM, 2014). The power of the Big Three has allowed them to shape expectations of appropriate actions for recording artists and impact the expectations of consumers (Baskerville, 2006).

The remainder of this dissertation will flow as follows. In Chapter 2, I review the literature that creates the basis for my dissertation model. I review the creativity and innovation literature in order to provide a foundation for understanding how firms create innovative outcomes, followed by a review of the resource-based view literature to establish the general framework for analysis. I then review the institutional theory literature to establish how innovative outcomes are evaluated. In Chapter 3, I describe the popular music industry to highlight the reasons presented earlier in this Chapter that make this industry a promising context for my study. In Chapter 4, I present specific hypotheses related to resources, innovative outcomes, and firm performance. In Chapter 5, I review my research methodology in terms of data collection, sampling, and construct

measurement. In Chapter 6, I describe my data analysis and provide my empirical results.

Finally, in Chapter 7, I discuss my findings and their implications for theory and practice.

Chapter 2

Literature Review

Increasing interest in understanding the role of entrepreneurship in strategic management has led to an interesting dilemma (Tan et al., 2013). On the one hand, institutional theorists have tended to argue that conformity, or isomorphism, to existing structures, strategies, and practices should lead to enhanced organizational performance (Deephouse, 1996). Accordingly, entrepreneurial firms that want to succeed must fit their institutional environments. This view suggests that organizations require more than material resources and technical ability to thrive in institutional environments; they require the endorsement of powerful social actors (Scott, 2008). This view argues that as organizations conform to the prescriptions of social actors within their organizational field they are likely to obtain this endorsement and gain access to social support and resources (Glynn & Lounsbury, 2005). Additionally, the adherence to common prescriptions results in isomorphic forms that helps insulate the firm from sanctions (Greenwood, Suddaby, & Hinings, 2002; Powell & DiMaggio, 1991). All in all, firms that conform should outperform those that do not. For instance, in a study of the commercial banking industry, Deephouse (1999) found that firms that exhibited greater strategic conformity outperformed firms with less strategic similarity. In a similar vein, Oliver (1997) found that in highly stringent regulatory environments, institutional relationships had strong positive performance impacts. More closely related to this dissertation, there is also evidence to suggest that even in entrepreneurial industries, characterized by rapid change and a strong focus on innovation, the relationship between

institutional conformity, or isomorphism, and performance exists. For instance, Pattit, Raj, and Wilemon (2012) found that the rise, fall, and return of US technology markets could be explained by examining the impact of formal and informal institutions during each period.

On the other side of the dilemma are the resource-based view theorists. These theorists have argued that it is the idiosyncratic differences between firms that enable competitive advantages to emerge (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). Accordingly, entrepreneurial firms that want to succeed require creating differences that enable them to create value and stand out from competition. Under this perspective heterogeneity enables firms to generate above normal Ricardian rents, monopoly rents, entrepreneurial rents, and quasi-rents due to possessing superior resources and/or engaging in superior resource deployments (Mahoney & Pandian, 1992; Peteraf, 1993). For example, research by Newbert (2008) found support for the role of valuable and rare resources in driving firm performance. Similarly, Schroeder, Bates, and Junttila (2002) found support for the role of superior resources in driving performance when led by external and internal learning. For the entrepreneurial firm more specifically, resource heterogeneity and its potential advantages manifest in a variety of ways. As an example of priority access due to resource heterogeneity, Hsu and Ziedonis (2013) found that firms whose founding teams had prior initial public offering experience and those who were headquartered in silicon valley – both can be considered idiosyncratic resources – were more likely to obtain venture capital funding. In addition, these new ventures were also more likely to have access to superior legal counsel and sources of financial capital.

In terms of resource deployments, and in the tradition of Penrose (1959), Dunkelber, Moore, Scott, and Stull (2013) found that entrepreneurs adjusted labor and capital allocations within their firm in order to pursue particular types of goals. In fact, a key determinant of entrepreneurial success is the ability to selectively deploy resources towards their most productive end (Penrose, 1959).

Based on these two schools of thought, the entrepreneurial firm is then left with two contradictory recommendations (Tan et al., 2013). Institutional theorists argue that entrepreneurial firms must conform to standard forms and practices in order to increase their chances of success and ensure long term survival (DiMaggio & Powell, 1983; Greenwood et al., 2002; Heugens & Lander, 2009; Powell & DiMaggio, 1991). On the contrary, resource-based view scholars call entrepreneurial firms to embrace resource heterogeneity in order to implement difficult to follow strategies in order to increase their performance (Barney, Ketchen, & Wright, 2011; Barney, 1991, 1994; Mahoney & Pandian, 1992; Prahalad & Hamel, 1990). These opposing views would suggest that entrepreneurial firms must balance the need to appear legitimate by conforming to existing standards in order to be isomorphic, with the need to engage in distinctive competitive actions (Jennings, Jennings, & Greenwood, 2009; Navis & Glynn, 2010, 2011). In this dissertation, I bring together these opposing views to suggest how successful entrepreneurial firms adjust in order to be both distinctive and isomorphic. Specifically, I examine how firms manipulate the uniqueness and quantity of innovative outcomes to differentiate themselves while at the same time demonstrating conformity to existing standards and expectations.

In this Chapter, I review the literature on innovation, the resource-based view, and institutional theory in order to build my research model proposed in Chapter 4. I begin with a review of the innovation literature in order to establish how individual and organizational resources result in the innovative outcomes that are vital to the success of entrepreneurial firms. I then review the resource-based view of the firm in order to establish the general framework for my model. This literature sets the stage for the antecedent portion of my model. Finally, I review institutional theory with a focus on the pressure faced by entrepreneurial firms to adopt similar structures, processes, or practices in order to appear isomorphic and the process by which social actors evaluate the actions and products of an organization to determine their legitimacy. I do this, in order to develop the outcome portion of my model and establish a distinction between the two different types of performance relevant to the entrepreneurial firm.

Innovation

Although the terms creativity and innovation are often used interchangeably or in tandem, there is a significant and substantial difference between the two terms. Adding to the tendency to confound the two is the ability of both terms to refer to both processes and outcomes (Crossan & Apaydin, 2010; Kanter, 1983). Strictly speaking, creativity is the generation of new and useful ideas (Amabile, 1996a; Woodman, Sawyer, & Griffin, 1993), while innovation is the application and commercialization of those ideas (Cohen & Levinthal, 1990; Ganter & Hecker, 2013; Yuan & Woodman, 2010). Both creativity and innovation focus on a process, either generating as in the former case, or commercializing as in the latter. Separate from, though intertwined with, the generation

and ultimate commercialization of an idea is the actual idea, product, or process itself. I will refer to the idea or product itself as an innovative outcome to reduce the potential for confusion. I begin my review by briefly highlighting the central role innovation has played in entrepreneurship. I then move to a discussion of creativity since it forms an antecedent condition for innovative outcomes. Lastly, I will move back to a more lengthy discussion on how innovative outcomes are used to define the behavior of entrepreneurial firms.

Of special importance for the field of entrepreneurship is the work of Schumpeter (1934, 1939). He introduced the idea of creative destruction, where a brand new innovation was capable of making an existing industry obsolete. Nelson and Winter (1982) built upon the work of Schumpeter (1934) arguing that innovation represented a primary means through which firms were able to break from routine and drive economic growth. Schumpeter defined innovation as the commercial application or adoption of an invention, where there was an emphasis on providing something new or doing something differently within the context of an industry but with an impact on the structure of the larger economy. Schumpeter was critical in establishing innovation as the primary differentiator between entrepreneurial firms and firms in general (Carland, Hoy, Boulton, & Carland, 1984; Schumpeter, 1934, 1939; Vesper, 1980) and the characterization has remained until today. While Schumpeter's (1934) emphasis on innovation tended to focus on creating innovations that were new to an industry and impacted the economy as a whole, other researchers have argued that it is sufficient for entrepreneurial firms to create innovations that are new to the firm (Baumol, 1990; Kor, Mahoney, & Michael,

2007; Vesper, 1980). From both perspectives, at the core of every entrepreneurial firm is the generation and ultimate commercialization of creative ideas (Amabile, Conti, Coon, Lazenby, & Herron, 1996). As such, it becomes important to review how creative ideas are generated and their role in the generation of innovative outcomes.

Kanter (1983: 20) defined innovation as "the generation, acceptance, and implementation of new ideas, processes, products, or services." While Amabile (1988: 126) defined creativity as "the production of novel and useful ideas by an individual or small group of individuals working together." Thus, Kanter's (1983) definition of innovation subsumes creativity since creativity is the production or generation of novel ideas. As such creativity needs to be included in a discussion of innovation. Under Amabile's (1988) componential model of creativity, individual creativity is driven by an individual's intrinsic motivation, skills in the task domain, and skills in creative thinking. Amabile argues that an individual's knowledge, skills, and talents in a particular domain serve as cognitive pathways for solving problems and provide the raw materials necessary for "creative productivity" (Amabile, 1988: 131). Although an individual's domain-relevant skills may be high, the individual may not produce highly creative ideas unless they also possess creativity-relevant skills. Creativity-relevant skills are those that drive an individual towards exploration and the examination of new information, and the cognitive heuristics that favor such inclination. Lastly, the individual must have the motivation to pursue a solution. While this motivation maybe intrinsic or extrinsic, it must be present. Amabile goes so far as to argue that strong motivation may make-up for a lack of domain-relevant skills or lack of creativity-relevant skills, but no matter how

strong the other components, a lack of motivation will be detrimental to creativity. It is at the individual level that entrepreneurial firms begin to generate ideas that can later be expanded into innovative outcomes for the organization (Gemmell, Boland, & Kolb, 2012).

For the organization, innovation is closely linked to individual creativity (Amabile et al., 1996). Individual creativity is a necessary but not sufficient condition for organizational innovation to take place. Organizations provide motivation to innovate, resources in the task domain, and skills in innovation management that enable successful creativity to move forward into innovative outcomes (Amabile, 1988; Gemmell et al., 2012). Here Amabile (1988: 154) broadly defines resources in the task domain as “people with knowledge of the feasibility of implementing particular innovations, people who have familiarity with relevant markets, people with other types of relevant experience in the domain, funds allocated to this work domain, material resources (such as existing means of production within the organization), systems of production, market research resources, databases of relevant information, and the availability of personnel training in relevant areas.”

This perspective, that individual creativity is closely linked to organizational innovation and ultimately innovative outcomes, is extended by Woodman et al. (1993). Expanding upon an earlier model of individual creativity, they develop a model of organizational creativity where organizational creativity is defined as a subset of innovation that involves the creation of valuable and useful new products, services, ideas, procedures, or processes (Woodman & Schoenfeldt, 1989, 1990). Under the model

proposed by Woodman et al. (1993), organizational creativity is a function of individual and group creative factors. While the general tendency is to emphasize how individuals affect group creativity and how groups affect organizational creativity, Woodman et al. (1993) argue several feedback loops, where group creativity affects individual creativity through social influences such as pressures for conformity or evaluations of image and performance and where organizational creativity affects group and individual creativity through contextual influences such as reward systems. This echoes Amabile's (1988) view in that autonomy, resources, and encouragement are primary organizational qualities that enhance creativity and are the basis for the organization's innovative outcomes.

While I separate the process of innovating (innovation) from the outcomes produced, a review of organizational innovation by Crossan and Apaydin (2010) identified that the term innovation is commonly used by researchers to refer to both the process and the outcome. They go on to specifically define innovation broadly as the “production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome.” (Crossan & Apaydin, 2010: 1155)

Although this definition parallels Yuan and Woodman's (2010), who defined innovative behavior as consisting of the generation and introduction of new ideas as well as the implementation of those ideas, I argue that combining both the process with the outcome within the term innovation confounds two separate constructs. As a result, in this dissertation, I separate the process of producing ideas, which I refer to strictly as

creativity (Amabile, 1996b; Woodman et al., 1993), from the implementation and commercialization of that idea, which I refer to strictly as innovation (Cohen & Levinthal, 1990). Thus, while I may use creativity arguments in the development of my hypotheses, since creativity is an essential part of the innovation process, my focus is on the outcomes of innovation, which I refer to as innovative outcomes. I assess innovative outcomes through two distinct dimensions. I consider separately the ideas produced and ultimately commercialized, innovative output, from the amount of novel content included in that output, innovative uniqueness. The separation of the quantity of innovations generated from their unique content is in line with prior research. For instance, Jiang, Tan, and Thursby (2011) examined the innovative activity of incumbent firms in emerging fields in the semiconductor industry. In their study, Jiang et al. (2011) examined innovative activity by focusing on inventive performance and novelty. They measured inventive performance as a sum of patent applications. Similarly, in this dissertation, I use innovative output. They measured novelty as a sum of new patent classes represented within the firm's portfolio of patents. In a similar vein, in this dissertation, I use innovative uniqueness. This approach fits well with my dissertation due to the similarities between the semiconductor industry and entrepreneurial industries in general.

Despite significant overlap between the fields of entrepreneurship and innovation (Crossan & Apaydin, 2010), both fields have developed largely independently of one another (Bhupatiraju, Nomaler, Triulzi, & Verspagen, 2012). A comparison of the knowledge bases of innovation research with that of entrepreneurship research reveals

that only two works can be found within a listing of the top 20 most influential works for both areas, Nelson and Winter's (1982) *An Evolutionary Theory of Economic Change* and Schumpeter's (1934) *The Theory of Economic Development* (Fagerberg, Fosaas, & Sapprasert, 2012; Landström, Harirchi, & Åström, 2012). Nelson and Winter (1982) developed a model of change that included innovation as a way to recombine existing routines in order to drive competitiveness and economic growth. They built upon the work of Schumpeter (1934) who saw innovation as means for firms to disrupt existing industries. In the entrepreneurship literature, innovation has been identified as the defining characteristic of an entrepreneur and entrepreneurial firms (Brockhaus, 1980; Schumpeter, 1934; Vesper, 1980). Both Schumpeter (1934) and Vesper (1980) viewed innovation within the entrepreneurial firm as falling within five categories: the introduction of new goods, the introduction of new methods of production, opening of new markets, opening of new sources of supply, and industrial reorganization. Further Gartner's (1990) effort to analyze the field of entrepreneurship identified innovation as one of seven different primary themes. More recently, Shane and Venkatraman (2000) define entrepreneurship as a field of scholarly research that

"involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them." (Shane & Venkataraman, 2000: 218)

This definition of entrepreneurship corresponds with the definition of organizational innovation suggested by Crossan and Apaydin (2010). Both definitions have similar components that involve the identification and exploitation of opportunities.

In fact, Shane and Venkatraman (2000) define opportunities to include the discovery and exploitation of an innovation.

In recent entrepreneurship research, innovation has taken one of two perspectives (Garud, Gehman, & Giuliani, 2014): an actor-centric perspective that examines the process of ideation, how entrepreneurs generate, develop, and communicate ideas (Gemmell et al., 2012; Gielnik, Frese, Graf, & Kampschulte, 2012), and a context-centric perspective that examines the social and institutional context in which ideas are generated and capitalized upon (e.g., Jennings, Greenwood, Lounsbury, & Suddaby, 2013; van Burg & Romme, 2014). Separating the generation of ideas from the context in which they are commercialized fails to address how entrepreneurial firms are able to manage the need to conform to expectations with the need to be distinctive (Tan et al., 2013). I attempt to integrate both aspects by considering how resources are used to generate innovative outcomes and then examining how innovative outcomes establish conformity and distinction to negatively or positively impact symbolic and substantive firm performance.

Resource-Based View

The resource-based view (RBV) of the firm has a long history beginning with ideas proposed by Penrose (1959), taking form with Wernerfelt (1984), becoming extremely popular with Barney (1991), and continuing today in multiple forms (Barney et al., 2011; Bridoux, Smith, & Grimm, 2011; Sirmon, Hitt, Ireland, & Gilbert, 2011). The most common view of RBV is that in order for firms to achieve and sustain a competitive advantage they must contain resource bundles that are valuable, rare, inimitable, and non-

substitutable (Barney, 1991; Kraaijenbrink, Spender, & Groen, 2010). I begin my review of RBV by discussing how bundles of resources lead to a competitive advantage. I then discuss the distinction between two broad resource classes, productive and administrative resources, and how they form the basis for my proposed research model. Finally, I review the role of resource-based theory in the entrepreneurship literature.

The resource-based view of the firm confronted models of competitive advantage that focused primarily on the environmental conditions that surrounded a firm (Hoskisson, Hitt, Wan, & Yiu, 1999). Jay Barney (1991) challenged two primary underlying assumptions of the predominant environmental models in order to turn the focus towards the ability of a firm's idiosyncratic resources to drive a sustained competitive advantage. Barney (1991) argued that external models assumed that firms are homogenous in terms of their strategically relevant resource allocations (Porter, 1981; Rumelt, 1984) and that resources are highly mobile making any advantages short lived (Porter, 1980). In contrast, Barney (1991) argued that firms were heterogeneous in their resource allocations and that some resources are immobile. Resource heterogeneity and immobility present conditions necessary for firms to be able to generate above normal profits or economic rents (Peteraf, 1993). Under Barney's (1991) perspective the ability of resource bundles to lead to obtaining and sustaining a competitive advantage required resources to be valuable, rare, inimitable, and non-substitutable (VRIN). Resource bundles that are VRIN allow the firm to generate economic rents since they safeguard the firm from the competitive actions of other firms that would normally eliminate economic rents (Schoemaker, 1990). These rents can be broadly classified into three broad

categories: Ricardian rents, monopoly rents, and entrepreneurial rents (Mahoney & Pandian, 1992). Ricardian rents rely upon the scarcity of strategic resources in order to lead to above normal profits (Ricardo, 1817). Scarcity leads to resource heterogeneity and as a result allows some firms to acquire superior resources. Firms with superior resources have lower average costs compared to firms with inferior resources when considering production (Peteraf, 1993). Monopoly rents are generated when there are limits placed upon competition that provide competitive advantages to one firm compared to another (Mahoney & Pandian, 1992; Peteraf, 1993). Finally, entrepreneurial or Schumpeterian rents, are generated by entrepreneurial skills or managerial insights that allow firms to choose the best allocation of firm resources (Schumpeter, 1934).

Of special consideration for this dissertation are Ricardian rents and entrepreneurial rents. Penrose's (1959) view of resources and the services they provide parallels the discussion on economic rents. Penrose (1959) argued that resources could be classified into two major categories: productive resources and administrative resources. Productive resources are resources that are used to provide a service while administrative resources were those resources that chose which services to provide (Penrose, 1959). Productive resources offer primarily Ricardian rents for the firm while administrative resources exemplify entrepreneurial rents.

Despite the central role that administrative and productive resources play in enabling a firm to obtain and sustain a competitive advantage, research has primarily emphasized productive resources while neglecting administrative resources (Hansen, Perry, & Reese, 2004). An issue that arises from an emphasis on resource bundles is that

resource endowments only present a partial picture of the performance of the firm (Hansen et al., 2004; Huesch, 2013; Penrose, 1959). While specific resources themselves, such as free cash flow, may directly impact firm performance, resources are often combined with some type of action, such as the allocation of free cash flow towards specific projects. Part of the capacity of firms to achieve a competitive advantage revolves around the ability of managers to utilize the resources available to them to extract profits at a higher rate than competing firms. This line of thinking was revisited by Hansen et al. (2004) who specifically called for a return to the framework of RBV established by Penrose (1959). Hansen et al. (2004) examined the impact of decisions made by newly appointed CEO's and found support for the idea that even with the same resource bundles differences in firm performance can be realized. Bridoux, Smith, and Grimm (2011) agree with this line of thinking. Bridoux et al. (2011) draw upon the resource orchestration literature and conclude that specific classes of actions have a time-sensitive effect on performance. Further, they suggest that managers must be actively aware of and engaged with the disparate performance effects of actions to create positive sustained performance for the organization. The focus of the resource orchestration literature is the role of managers in effectively structuring, bundling, and leveraging firm resources (Sirmon, Gove, & Hitt, 2008; Sirmon, Hitt, & Ireland, 2007; Sirmon et al., 2011; Sirmon & Hitt, 2003). A manager's structuring activities affect the firm's resource portfolio by bringing in, taking out, or developing resources (Sirmon et al., 2007). A manager's bundling activities affect the integration of resources into the firm to create or alter capabilities (Sirmon et al., 2007). Finally, the leveraging activities of managers

consists of applying firm resources and capabilities to create value for consumers and owners through the effective and efficient exploitation of opportunities in markets and by enabling the exercise of a firm's chosen strategies (Sirmon et al., 2007). Leveraging activities specifically can take place in product markets or in institutional environments (Bridoux et al., 2011).

Considering the historical basis for classifying the firm as containing administrative and productive resources (Penrose, 1959), the recent return to focusing upon both resources endowments and managerial actions (Bridoux et al., 2011; Hansen et al., 2004), and empirical findings supporting the direct role of productive resources (Crook, Ketchen, Combs, & Todd, 2008) and administrative resources (Huesch, 2013) in traditional firms, I form my research model around administrative and productive resources. Penrose defined a productive resource as a resource that could be used to offer a service. She goes on to argue that it is the services, or productive opportunities, that make productive resources useful for a firm (Penrose, 1959). In this regard, productive resources are productive towards a particular objective. Empirical research has supported this view. For instance, in the context of diversification, Chatterjee and Wernerfelt (1991) found that firms that had excess physical capacity were more likely to engage in related diversification. Further, they found that firms that engaged in related diversification due to excess physical capacity were more likely to have higher levels of financial performance (Chatterjee & Wernerfelt, 1991). Since my dissertation is an examination of entrepreneurial firms whose success depends upon the ability to innovate (Peterson & Berger, 1971), I choose to focus on productive resources that are likely to lead to

innovative outcomes. I label this set of resources likely to lead to innovative outcomes as creativity-related resources given the close linkages between creativity and innovation (Amabile, 1988; Woodman et al., 1993; Woodman & Schoenfeldt, 1989, 1990) mentioned in the previous section. I examine three separate creativity-related resources, which I discuss more fully in developing my hypotheses in Chapter 4: knowledge breadth, knowledge depth, and industry tenure. In addition to productive resources, Penrose (1959) highlighted the impact of administrative resources. She defined administrative resources as those that govern the use of productive resources (Penrose, 1959). Alongside deciding what to do with current productive resources, Penrose (1959) argued that administrative resources determine how the firm should interact with their current resource endowments. Stated differently, she argued administrative resources determine what resources to add to the firm, remove from the firm, and how they should be bundled to produce particular services. This discussion parallels the resource orchestration literature that focuses on the structuring, bundling, and leveraging activities of managers (Bridoux et al., 2011). In order to highlight this parallel, I examine a set administrative resources and label them management-related resources in order to avoid confusion concerning the original intention of Penrose, and to more closely align them with the resource orchestration literature. Specifically, I look at three components of management-related resources: management experience, interorganizational relationships, and time-related competencies. With respect to entrepreneurial firms, management-related resources take on a special importance. The field of entrepreneurship has been defined in light of the ability of individuals to discover and

exploit unrecognized opportunities (Kirzner, 1997; Shane & Venkataraman, 2000).

Successful entrepreneurs must make choices that enable their firms to combine and allocate productive resources in such a way as to capitalize on previously unrecognized opportunities, or generate innovative outcomes.

RBV and entrepreneurship have been considered together ever since Penrose (1959) linked the two in examining how entrepreneurs took an active role in maximizing performance outcomes for a particular resource set (Alvarez, 2001; Kor et al., 2007). In the entrepreneurship literature more specifically, RBV has been used as a starting point of entrepreneurial activity (Fisher, 2012; Wiklund & Shepherd, 2003). For instance, Shane (2000) theorizes that prior knowledge is a form of human capital (Ployhart, Moliterno, & Carolina, 2011) and an essential resource for the firm (Huesch, 2013). An entrepreneur's prior knowledge both influences the discovery of entrepreneurial opportunities and impacts the competitive path that an entrepreneur pursues. Similarly, essential to Kirzner's (1997) view of entrepreneurship is the ability of the entrepreneur to identify potential uses for resources in order to exploit them to their most productive end. Researchers have been successful in finding support for the role resources play in entrepreneurial actions. For instance, Borch, Huse, and Senneseth (1999) using RBV found that resource configurations impacted the competitive strategies of entrepreneurial firms. Additionally, Zahra, Hayton, and Salvato (2004), using RBV arguments, found a positive relationship between several aspects of culture and entrepreneurial actions.

Later developments in the resource orchestration literature, a derivative of RBV, have paralleled developments in entrepreneurship research. Resource orchestration

research has focused on the role managers have in structuring, bundling, and leveraging firm resources (Sirmon et al., 2008, 2007, 2011; Sirmon & Hitt, 2003). In the entrepreneurship literature, attention has turned to entrepreneurial bricolage, the ability of entrepreneurs to "make do" with current resource allocations by creating new resource combinations to address problems and opportunities (Baker & Nelson, 2005; Desa, 2012; Fisher, 2012). In both streams of literature, the focus is the heterogeneous ability of individuals, either managers or entrepreneurs, to find optimal resource configurations to increase the performance of the firm. Both streams merge when attempting to explain the ability of resource constrained firms to engage in entrepreneurial activity, specifically innovation (Senyard, Baker, Steffens, & Davidsson, 2014; Sirmon et al., 2011).

As previously noted, and in line with Hansen et al. (2004) and Bridoux et al. (2011), I return to the perspective of the RBV taken by Penrose. That is, I consider the role of both productive and administrative resources in affecting innovative outcomes, which in turn affect the symbolic and substantive firm performance. In this regard, RBV provides the framework through which I build my theoretical model and hypotheses. While the role of the entrepreneur (administrative resource) in combining resources (productive resources) in order to bring about innovative outcomes is at the heart of the growing body of entrepreneurship literature concerning bricolage (Fisher, 2012), the role of productive and administrative resources together in affecting innovation and performance has not been specifically examined. Additionally, prior work has not considered concurrently the institutional context in which administrative and productive resources come together. While the leveraging of activities by a firm's managers can take

into account institutional environments (Bridoux et al., 2011), research concerning bricolage has not begun to address the impact of the institutional context in which bricolage occurs. In order to address the vital role of the institutional context in which managers and entrepreneurs operate, I draw upon institutional theory. I move to that area of research next.

Institutional Theory

Institutional theory provides a strong framework for examining the role of the environment in affecting entrepreneurial firms and their actions (Cuervo, Ribeiro, & Roig, 2007; Valdez & Richardson, 2013). Historically, institutional theory has been concerned with the mechanisms through which firms adopt similar forms, a process known as institutional isomorphism, in order to become legitimate in competitive environments (Hawley, 1986). Firms that are legitimate are said to be given priority access to social support and resources (Aldrich & Fiol, 1994; Glynn & Lounsbury, 2005; Lounsbury & Glynn, 2001) and are more likely to experience positive financial performance (Deephouse, 1996). For the entrepreneurial firm, access to resources and social support is vital to organizational survival since they tend to be resource deficient (Navis & Glynn, 2010) and suffer from liabilities associated with smallness and newness (Stinchcombe, 1965).

The primary way that entrepreneurial firms gain legitimacy and ultimately resources is by appearing to conform to existing standards (Valdez & Richardson, 2013; Zott & Huy, 2007). It is important to note that appearing to conform may not be representative of actual conformity. Firms may choose to decouple, or separate, formal

and informal structures to remain commercially competitive (Meyer & Rowan, 1977). However, for the entrepreneurial firm, decoupling may not be possible due to resource constraints and may actually result in a loss of legitimacy (Maclean & Behnam, 2010). Conformity to standards and expectations, or isomorphism, can be driven by several underlying mechanisms. DiMaggio and Powell (1983) consider three mechanisms that drive institutional isomorphism: coercive, normative, and mimetic. Similarly Scott (2008) establishes three forces or pillars that drive conformity and that parallel DiMaggio and Powell (1983): regulatory, normative, and cultural-cognitive. Coercive mechanisms or the regulatory pillar involve differences of both formal and informal power that allow one actor to influence another (DiMaggio & Powell, 1983; Scott, 2008) and ultimately force firms to become isomorphic. Normative mechanisms or the normative pillar rely upon professionalization and standardization within an industry (DiMaggio & Powell, 1983; Scott, 2008). Isomorphism, in this instance, develops over time. As industries mature common training and recognized standards lead to a natural tendency to adopt similar views on what is appropriate and beneficial, driving organizations to become isomorphic. Finally, mimetic mechanisms or the cultural-cognitive pillar help firms deal with environmental uncertainty and ambiguity (DiMaggio & Powell, 1983; Scott, 2008). Firms replicate the structures and procedures of other “legitimate” organizations in order to avoid claims of negligence should their actions fail to positively affect the firm (Meyer & Rowan, 1977).

Mimetic mechanisms, or the cultural-cognitive pillar, emphasize the internal mechanisms that drive interpretations of the world and actions (Scott, 2008) and are of

special importance for this dissertation. This third pillar rests upon shared internal coding mechanisms that often exhibit a taken-for-grantedness that the other two pillars do not possess. Underlying cultural expectations and constitutive schema often go unrecognized by organizational actors. The symbolic representations of culture are adopted and infused into routines, structures, and texts often times without any recognition or understanding by the actor (Meyer & Jepperson, 2000; Phillips, Lawrence, & Hardy, 2004; Scott, 2008; Suddaby, Elsbach, Greenwood, Meyer, & Zilber, 2010). Compliance and isomorphism result by default because it is the “the way we do things” (Berger & Luckman, 1966; Scott, 2008). The move of external cultural mechanisms internally drives what information is selected for processing and how it is evaluated, either as legitimate or illegitimate (Markus & Zajonc, 1985). This final pillar holds substantial importance for the entrepreneur and entrepreneurial firms since it is so closely linked with cultural expectations and legitimacy (Bruton, Ahlstrom, & Li, 2010). For instance, Navis & Glynn (2011) argued that new ventures would be deemed plausible to the extent that entrepreneurs were able to align the narrative of their firm with present institutions. Consistent with this line of reasoning, Zott & Huy (2007: 71) found that entrepreneurs were better able to acquire resources to the extent that they engaged in symbolic actions, “behavior that seeks to convey subjective social meanings – as a means of creating ... legitimacy.” And Lounsbury and Glynn (2001) found that to the extent that entrepreneurial organizations could align their narrative to taken-for-granted beliefs, they would be found legitimate.

Various typologies of legitimacy have been developed in order to better understand the exact nature and process of legitimacy judgments (Heugens & Lander, 2009). Of the many different ways to specifically define, understand, and categorize legitimacy and illegitimacy, an emphasis on cognitive legitimacy and sociopolitical legitimacy seems most appropriate given my focus on the popular music industry (Aldrich & Fiol, 1994; Golant & Sillince, 2007). Both forms emphasize analytical processing as the basis for legitimacy judgments. Cognitive legitimacy emphasizes social “taken-for-grantedness” (Aldrich & Fiol, 1994; Scott, 2008; Suchman, 1995). Organizations that conform closely to currently legitimate categories can avoid further scrutiny and are given the legitimacy of the chosen category (Bitektine, 2011; Johnson, Dowd, & Ridgeway, 2006; Tost, 2011). Sociopolitical legitimacy emphasizes adherence to normative expectations for behavior in social systems. That is, given an individual’s or organization’s understanding of the world, does an organization have a right to exist since it serves an appropriate purpose (Aldrich & Fiol, 1994; Dowling & Pfeffer, 1975; Rindova, Pollock, & Hayward, 2006; Scott & Meyer, 1983)?

Because of the limitations of an individual’s cognitive capacity, heuristics are developed and used in order to minimize cognitive effort and time spent evaluating legitimacy (Bitektine, 2011; Rosch, 1978). Bitektine (2011) has argued that if a firm can be placed in a familiar category, the firm can gain the legitimacy of that category. Often this evaluation is passive in that as long as the firm conforms closely to or relatively closely to a legitimate group, the firm’s structure, actions, or characteristics can avoid evaluation (Johnson et al., 2006; Tost, 2011). Alternatively, if a firm fails to find

cognitive legitimacy, individuals begin an expanded search in an attempt to find a category for analysis (Hayes & Newell, 2009). If that categorization fails, then the firm is forced to undergo an evaluation of sociopolitical legitimacy. Under sociopolitical evaluations of legitimacy, the firm is examined to see whether its actions, intentions, or forms are socially acceptable and appropriate, or at least tolerable (Bitektine, 2011).

Tost (2011) argues that at least part of this evaluation is based upon moral, relational, and instrumental grounds. Instrumental evaluations grant legitimacy based upon the extent to which an entity promotes the material interest of the individual evaluator. Relational evaluations grant legitimacy based upon the extent to which an entity affirms the social identity or self-worth of the individual. Finally, moral evaluations grant legitimacy based upon the extent to which an entity is consistent with the evaluator's moral or ethical values (Tost, 2011). It is also important to note that while the individual may not view an organization as legitimate, they may recognize that others do. As a result, an organization "can be legitimate at the collective level (i.e., have validity) but may not be viewed as appropriate (i.e., as legitimate) by all individuals in the group" (Tost, 2011: 689).

The failure of the organization to assume a legitimate category through conformity or other easily classifiable characteristics forces the organization to undergo enhanced scrutiny (Bitektine, 2011). This enhanced scrutiny tends to lower the overall level of legitimacy conferred, as the easiest and surest way to obtain legitimacy is to avoid evaluation and operate under conditions of taken-for-grantedness (Johnson et al., 2006; Tost, 2011). The firm can reduce the impact of scrutiny by meeting standards of

moral, instrumental, and relational appropriateness (Phillips et al., 2004; Tost, 2011). It can also seek to manipulate the authority by which it speaks, use power or coercion to enforce acceptance, use centrality to disseminate supporting texts or discourses, or attempt to conform to or be categorized along existing discourses (Phillips et al., 2004).

Implicit within this stream of arguments is that some form of legitimate institution or recognized standard exists in order to allow for comparisons. Institutions themselves represent taken-for-granted values or belief systems that set conditions for actions and provide for stability and meaning (Phillips et al., 2004; Scott, 2008; Tost, 2011). These conditions increase costs for non-conformity, cognitively, socially, and economically (Bitektine, 2011). Phillips et al. (2004) argued that discourses represent the basis for all institutions. Drawing from several sources (e.g., Hall, 2001; Parker, 1992; Potter & Wetherell, 1987), they define a discourse as a collection of statements or texts that define an object and set boundaries concerning what an object can or cannot do (Phillips et al., 2004). Phillips et al. (2004) also suggest that texts, defined as, “any kind of symbolic expression requiring a physical medium and permitting storage” (Taylor & Van Every, 1993: 109), can represent both the discourse and the larger institution. Texts can include written documents, spoken words, or artwork (Phillips et al., 2004). Along this line of research, for instance, Zhao, Ishihara, and Lounsbury (2013) found that the titles of films could be used as a proxy to establish conformity to existing institutions and reduce the penalty for non-conformity. Zhao et al. (2013) findings echo the work of Granqvist, Grodal, and Woolley (2013) who similarly found that executives in the nanotechnology industry manipulated market labels in order to affect market categorization by individuals

outside the firm irrespective of the technological capabilities of the firm. In the context of this dissertation, genre classifications within the popular music industry serve to establish discourses that define acceptable and unacceptable characteristics of music (Lena & Peterson, 2008).

Legitimacy has been a central issue in the entrepreneurship literature (Bruton et al., 2010). The focus has generally been on how entrepreneurial firms are able to gain legitimacy in order to acquire resources to survive. Although all organizations face this issue, entrepreneurial ventures are more likely to suffer from illegitimacy as they have to deal with the liability of newness (Stinchcombe, 1965), higher levels of organizational failure due to being a young organization. While there are several reasons for the enhanced rate of organizational failure, one reason raised by Stinchcombe (1965) for the liability of newness is that new organizations do not have established relationships with key constituents to enable them to acquire resources. In addition to the lack of established relationships, entrepreneurial ventures have a lack of historical performance data and a lack of previously evaluated legitimacy (Aldrich & Fiol, 1994; Bruton et al., 2010; Navis & Glynn, 2010). Both make acquiring resources more difficult. Researchers have sought to examine the different methods through which entrepreneurial firms are able to gain legitimacy in their infancy. For instance, Nagy, Pollack, Rutherford, and Lohrke (2012) examined how an entrepreneur's credentials may influence cognitive evaluations of legitimacy. They found support for the idea that credentials positively impact legitimacy evaluations. Similarly, Pollack, Rutherford, and Nagy (2012) examined how an entrepreneur's preparedness to deliver a business pitch impacted cognitive legitimacy and

ultimately his/her ability to acquire resources. Further, they found that cognitive legitimacy impacted the amount of funding received. Alternatively, entrepreneurial firms may attempt to engage in symbolic actions such as taking on significant personal debt or structuring the organization in a particular way in order to appear legitimate (Rao, Chandy, & Prabhu, 2008; Zott & Huy, 2007).

Even in light of the emphasis on how entrepreneurial firms attempt to influence legitimacy in order to gain resources, there is still a lack of research that examines how innovative outcomes mediate the relationship between organizational resources and legitimacy and how legitimacy moderates the relationship between innovative outcomes and financial performance. In this dissertation, I attempt to address this gap by measuring independently the symbolic and substantive performance of entrepreneurial ventures. Deephouse and Suchman (2008) defined symbolic performance as the extent to which firms generate positive social evaluations, a definition that makes symbolic performance synonymous with legitimacy (Heugens & Lander, 2009). Additionally, Meyer and Rowan (1977) defined substantive performance as the ability to generate accounting-based profits or increase market value. Further, research does not address the question of whether innovative uniqueness affects symbolic performance (legitimacy) positively or negatively. In addition, although prior research has considered how legitimacy (symbolic performance) is gained (e.g., Nagy et al., 2012) and how financial resources (substantive performance) are gained (e.g., Pollack et al., 2012) by entrepreneurial ventures, there is a lack of studies that examine how entrepreneurial firms concurrently influence symbolic and substantive performance as a result of their innovation efforts.

Chapter 3

The Popular Music Industry

As explained in Chapter 1, my research model is tested in the context of the popular music industry and with a specific focus on the independent recording artist. To review, I use this context for several reasons. First, independent recording artists view themselves as entrepreneurs (Coulson, 2012) and are seen by others as entrepreneurial ventures (Lunden, 2011; Miller, 2007; Peterson & Berger, 1971). Second, the popular music industry is highly competitive and the rapid production and release of creative works is required to be successful (Klein & Slonaker, 2010). While “classics” and older releases are still bought and enjoyed by the market, innovation maintains an artist’s fan base and signals that the artist is fashionable and up to date. Third, improvements in technology have reduced entry costs and made it possible for independent artists to produce high quality recordings comparable to major recording labels (Klein & Slonaker, 2010; Mol et al., 2012; Wikström, 2009). These lower barriers to entry increase the level of rivalry in this industry (Porter, 1979), making innovation essential for these entrepreneurial ventures to create product differentiation. Fourth, historically, success in the popular music industry has required recording artists to challenge industry norms and major recording labels (Mol et al., 2012). Finally, the industry suffers from strong institutional pressures to be isomorphic and to gain legitimacy (DiMaggio, 1977; Negus, 1998; Wikström, 2009). These last two reasons suggest that while uniqueness in innovation may appeal to artists in terms of fostering their creativity and maintaining their popularity (Taylor & Greve, 2006), such uniqueness may hinder their quest for

legitimacy. This tension faced by popular music artists makes this industry an interesting field experiment in which to test my hypotheses. In this Chapter, I describe the industry for two reasons. First, to show how the aforementioned characteristics are present and, therefore, to justify my selection of this industry. Second, to highlight the distinctiveness of this industry as some of the facets will be brought up in the following Chapters.

The popular music industry has undergone drastic changes in the last two decades. It started with what has been called the “MP3 Crisis” in the later 1990s and early 2000s (Leyshon, 2001, 2003). Broadly viewed, the MP3 crisis resulted with the introduction of the MP3 file recording type and peer-to-peer file sharing networks (Hracs, 2012) that changed how music reached consumers and how consumers explored and reached for new music (Jones, 2002). Since the beginning of the MP3 crisis, the power of the major recording labels has been drastically reduced for a couple of reasons. First, the rise of digital distribution methods such as iTunes and YouTube coupled with the decrease in cost and increase in accessibility of broadband internet connections has allowed recording artists to reach consumers directly (Bockstedt, Kauffman, & Riggins, 2006). Second, advancements in technology such as Pro Tools, a digital audio workstation, has allowed the professional mastering of audio tracks by amateur recording artists (Hracs, 2012; Leyshon, 2009). Third, as a result of the two prior conditions recording artists have been gradually expanding their role to include a larger range of tasks including many non-creative business functions such as marketing and sales (Hracs, 2012; Oliver, 2010). In the remainder of this Chapter, I will briefly review the traditional value chain of the recorded music industry. I will then highlight changes that have

occurred due to the rise in digital distribution methods and technology. Then, I will discuss the expanding role of the independent recording artist. Finally, I will discuss the institutional pressures recording artists are subject to in their creative works.

Music Industry Value Chain

As depicted in Figure 1, the traditional value chain in the popular music industry begins with the composition or creation of a piece of music (Hirsch, 1969; Wallis, 2004). A songwriter who is normally under contract with a publishing house creates the piece of music. The songwriter may, although not always, be separate from the artist who will ultimately perform the piece of music for recording. Once a piece of music has been created and accepted by a publishing house, it is stored in the catalog of the publishing house until a record label or other entity purchases the rights to perform the piece of music (Hirsch, 1969; Wikström, 2009).

Separately, the artist and repertoire (A&R) department of a record label searches for undiscovered new talent in order to bring artists under contract with the record label. When an artist enters a recording contract with a record label, the artist has essentially outsourced all business functions of producing a record to the label (Krasilovsky & Schemel, 2007). The record label then manages almost every aspect of an artist's career and promotion. Once an A&R manager signs a new artist, the A&R manager then searches the catalog of the publishing house in order to find pieces of music for the artist to record. Once the artist has recorded the song, a record is then produced, marketed, and sold to consumers (Wallis, 2004; Wikström, 2009). Although Figure 1 depicts a linear picture of the value chain in the recorded music industry, the relationships are not

necessarily as clear or as linear (Hracs, 2012; Hull, 2004). Recording artists may move forwards and backwards along the value chain, may have to address multiple portions simultaneously, and deal with co-dependencies. A more complete view of the major relationships as presented by Scott (2000) is provided in Figure 2. For the recording artist the maze of potential and necessary relationships can be overwhelming. Yet some recording artists, either by choice or by default, attempt to be successful as an independent recording artist.

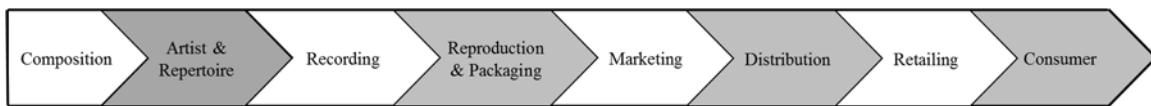


Figure 1. Traditional value chain, adopted from Graham, Burnes, Lewis, and Langer (2004).

Independent artists, or indies, are recording artists who have not signed a contract with a major record label. The indie must often tackle the entire value chain independently. These indies often compose their own pieces of music and create publishing companies or partner with small publishing companies. They then pursue independent contracts with recording studios, manufacturers, and distributors separately. The independent artist receives a larger percentage of all revenues generated as a result of maintaining more control over their creative works (Hracs, 2012). For both types of artist, those who have signed with a major record label and those who are independent, contracts with various groups may still have to be negotiated.

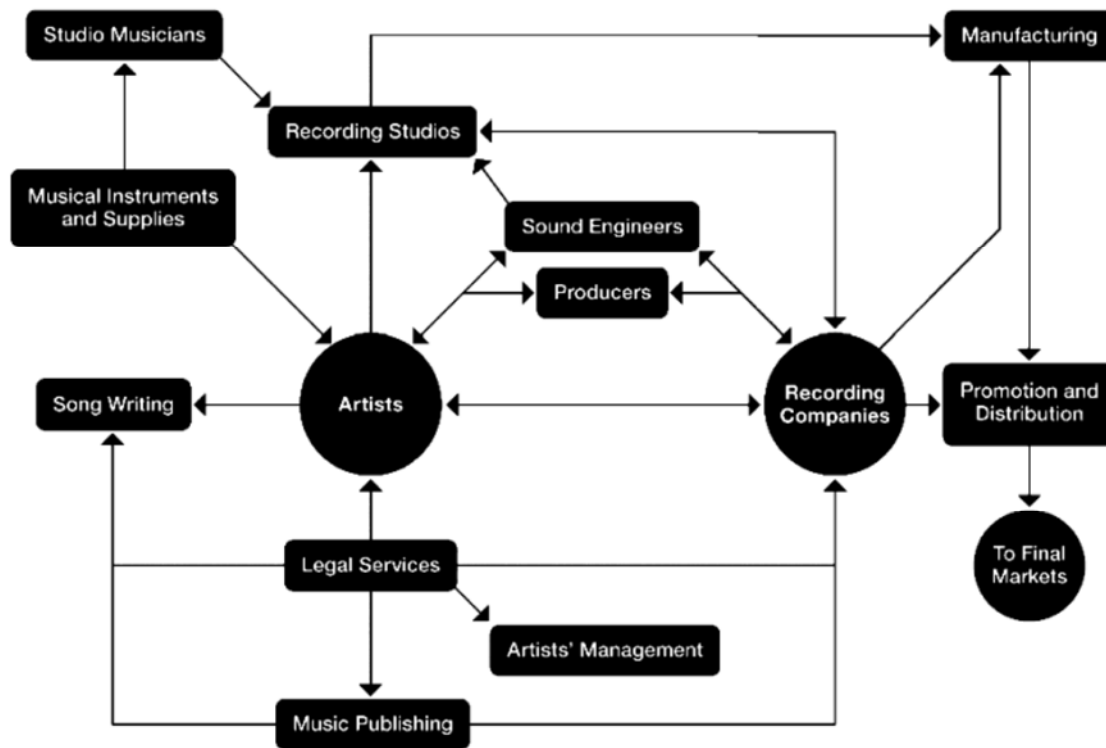


Figure 2. Traditional model of the recorded music industry, adopted from Scott (2000: 117).

Revenues in the value chain are generated along three different primary routes: song writing, public performances, and live performances (Hull, 2004). Song writing consists of the actual creation of a musical composition that is then sold or licensed to a publishing company. An artist can be a songwriter although recording artists do not necessarily have to write their own music. The publishing company then licenses out the right to use the musical composition and collects royalties based upon sales. The revenue generated from these mechanical royalties in the United States is regulated and standardized throughout the industry, currently the rate is US\$0.091 per compact disc or

digital download (“What Mechanical Royalty Rates,” 2014). Public performances also generate revenue for an artist and label. Under this revenue stream, anytime a creative piece is performed, either live or as a recording, royalties are generated. Here the recording artist’s association with specific performance rights organizations (PROs) determine how much revenue is generated with each performance. Although each PRO calculates royalties slightly differently, it is generally regarded that revenues from the major PROs, such as the American Society of Composers, Authors and Publishers (ASCAP), Broadcast Music Incorporated (BMI), and the Society of European Stage Authors and Composers (SESAC), are equivalent overtime (Carter Jr., 2011). Finally, the last major avenue to generate revenue is through live performances. Artists generally collect a portion of ticket sales for live performances or are paid a fee. These revenues can vary dramatically. Revenues are also generated through sales of sheet music and through synchronization licenses when pieces of music are played in movies or television shows (Hull, 2004).

Disruptions in the Popular Music Industry

With the rise of digital distribution methods as well as the availability of digital technologies, recording artists now have the ability to become independent from major labels (Hracs, 2012). Prior to the digital revolution in the popular music industry, the artist was dependent on the major record labels to provide needed capital and access to industry distribution channels. After the digital revolution, the required capital dropped significantly and access to multiple distribution channels became widely available. Today, the independent recording artist can produce their own music using a variety of

commercially available high quality hardware and digital audio workstations (DAWs) and then go directly to consumers through online distribution methods such as TuneCore (Graham et al., 2004; Hracs, 2012; Wikström, 2009). One estimate suggests that the initial capital required to produce an album dropped from US\$20,000 to under US\$3,000 (Hracs, 2012; Leyshon, 2009). The artist is no longer dependent upon the major record labels to produce and distribute their music.

As an example of the ease of setting up a recording studio, national recording artist and producer Graham Cochran (2011) provides multiple ways to set-up a complete minimalist recording studio for the home musician and producer for under US\$500. Cochran draws attention to products such as PreSonus's AudioBox, a complete studio that contains recording microphones, audio interfaces, and a DAW for under US\$300 (PreSonus, 2015). For those that would prefer to choose their own components, the options are plentiful. Although recording artists have a broad range of opinions on what is considered necessary or optional, for the typical independent popular music artist, the basic setup only requires a computer, microphone, audio interface, digital audio workstation software, digital keyboard, studio monitors or headphones, and cables (Dachis, 2011). Most individuals already have access to a computer and entry-level quality microphones can be purchased for under a US\$100 (Volanski, 2012). Of the basic set-up the most important component for the independent recording artist is the DAW (Fritz, 2000). A DAW allows independent recording artist to record, master, and combine separate recordings or tracks to produce professional quality content. As recently as 1990, a high quality professional post DAW could cost upwards of US\$100,000 (Eskow, 2001).

Today, several high quality entry-level DAWs can be purchased for less than US\$1,000 (Fritz, 2000). This drop in price for both hardware and software components lowered barriers to entry and makes it possible for independent artists to record professional quality music without the help of a major record label.

In addition to the reduced capital requirements to produce music, the increase in the popularity of online distribution methods has largely removed the advantage that major record labels had with brick-and-mortar stores and traditional distribution channels (Clemons, Gu, & Lang, 2002; Gavin, 2009; McLeod, 2005). According to a press release by Nielsen, the recorded music industry's leading data provider, digital album sales represented 41.4% of total album sales in 2014 with over 1.1 billion individual tracks being sold online ("2014 Nielson Music Report," 2015). Today, the independent recording artist can turn to service providers such as TuneCore to have their music distributed among the major online music stores such as Apple's iTunes and Google's Play store in addition to having their music provided through online music streaming providers such as Spotify and Pandora (TuneCore, 2013). For under US\$100.00, independent recording artists can access major online distribution channels, including streaming services, and they can have TuneCore collect and process royalties on their behalf (TuneCore, 2013).

The Independent Popular Music Artist as an Entrepreneur

Given these changes, the independent artist no longer needs a major record label to produce and sell their music. However, at the same time, the independent artist no longer has the record label to manage the non-creative tasks surrounding the production,

marketing, distribution, and sale of music (Hracs, 2012; Oliver, 2010; Wikström, 2009). Greffe (2004) highlights this shift in his discussion concerning the change in skills required to be successful within artistic production. Independent artists are no longer able to spend the “majority of their time seeking inspiration and being creative” (Hracs, 2012: 458). Instead, they have to focus on tasks such as networking, public relations, booking shows and tours, and other non-creative tasks. This shift to the do-it-yourself (DIY) model for artists has introduced a new focus on how small enterprises consisting of a handful of individuals can compete in marketplaces (Greffe, 2004). One such model, proposed by Oliver (2010), looks at the successful artist as being able to manage three separate components: artistic processes, information systems, and managerial processes. Artistic processes in this view are synonymous with creative processes. The artist must be able to compose new music as well as perform pieces of music. Assuming an artist can effectively participate in artistic processes, the artist must then be able to use information systems to manage and distribute their music. Finally, the artist must also be able to manage the business aspects of the process including financing, networking, and collaborative activities. For all the reasons aforementioned, the independent artist becomes a prototypical entrepreneur as he or she manages all aspects of product creation and promotion (Shane & Venkataraman, 2000; Shane, 2012; Wilson & Stokes, 2005).

Institutional Pressures in the Music Industry

The recorded music industry is a representative institutional environment with the popular music artist subject to strong coercive, normative, and mimetic pressures. DiMaggio and Powell (1983) argued that coercive mechanisms would be strongest in

industries with centralized resources and power. As previously mentioned, the popular music industry is dominated by three major recording labels, UMG, SONY, and WMG, collectively referred to as the Big Three. Although the power of the Big Three has been decreasing in recent years, these three labels still control over 60% of the market for recorded music sales (A2IM, 2014) giving them tremendous coercive influence over industry standards. Normative pressures are strongest in industries with high structuration and strong participation in trade organizations (DiMaggio & Powell, 1983). In the popular music industry, labels are often broken into two groups, the majors (Big Three) and Indies (independent record labels). A 2014 survey conducted by the International Federation of the Phonographic Industry (IFPI) found that 7 out of 10 independent artists desired to sign a contract with one of the majors partly due to the status associated with the major record labels and partly due to the resources provided by the majors (“How Record Labels Invest,” 2014). In regards to trade organizations, artists register with PROs in order to collect royalties and participate in industry wide award ceremonies such as the Grammy Awards (Anand & Watson, 2004). Finally, mimetic pressures are likely to be strongest in industries where high uncertainty concerning how to generate success is felt by incumbents and where there is ambiguity concerning what it means to be successful (DiMaggio & Powell, 1983). In a discussion concerning sampling, integrating pieces of prior recordings into current recordings, Mark Ronson suggested that artists often sample prior work in order to capture the emotional experiences created by the original work (Ronson, 2014). I argue that this represents an attempt to integrate the success of the original recording into new recordings and as a result can be seen as a way to reduce

uncertainty. The question of success in the popular music industry may be addressed from two perspectives, an economic logic and an artistic logic. Success from the economic logic can be defined by music sales while success from an artistic logic may focus solely on the experiences created by recordings (Eikhof & Haunschild, 2007). While recording artists who pursue artistic success may find economic success, the two logics are often seen at odds to one another and as a result the recording artist choose between them (Oliver, 2010).

In addition to industry characteristics that lend themselves to strong institutional pressures, the nature of the popular music industry represents a cultural industry where artistic value is the primary concern for consumers over economic or technical efficiency (DiMaggio, 1977; Eikhof & Haunschild, 2007). Yet, artistic value is a subjective concept that is difficult to quantify apart from some system of beliefs (Glynn, 2000). In the popular music industry, these systems of beliefs, or discourses, are closely linked to popular culture and genre classifications (DiMaggio, 1987, 1977; Shuker, 2001; Toynbee, 2000; Tschmuck, 2006). Genres provide readily discernable discourses for audiences that serve as a way to establish category membership and establish the criteria used by audiences to evaluate the artistic value and legitimacy of a production (Mark, 1998; Shuker, 2001; Wikström, 2009). Prior research has established that audiences have specific genre preferences that result in strong positive evaluations (Fu, 2013; Mattsson, Peltoniemi, & Parvinen, 2010; Moon, Bergey, & Iacobucci, 2010). For example, the country music genre is often preferred by older audiences (North, 2010) and is perceived as wholesome and seen as supporting traditional American values (Ballard, Dodson, &

Bazzini, 1999). On the other hand, rap and heavy metal genres are often preferred by younger audiences (North, 2010) and are perceived as promoting violence and anti-social behavior (Ballard et al., 1999; Binder, 1993). Additionally, research examining how genre labels affect audience attention and product performance has found that products that span multiple genres or categories are subject to an illegitimacy discount (Hsu, Hannan, & Koçak, 2009; Hsu, 2006; Zuckerman, 1999). Products that span multiple categories or genres become difficult to evaluate because the product's identity is not readily discernable and, as a result, developing evaluative criteria becomes burdensome (Bitektine, 2011; Rosch, 1978; Zhao et al., 2013; Zuckerman, 1999). For the same reason, an illegitimacy discount can also be applied to individuals, groups, or firms that attempt to pursue multiple categories of action or perform in multiple areas of competition (Zuckerman, Kim, Ukanwa, & von Rittmann, 2003; Zuckerman, 1999).

In the instance of independent popular music recording artists, the influence of genres has both internal and external components. Externally, audiences require adherence to a clear genre in order to be able to evaluate a particular music product (Toynbee, 2000; Tschmuck, 2006). Independent music artists that are unwilling to align themselves with established categories are typically penalized by both critics and consumers (Mattsson et al., 2010). Internally, recording artists themselves are constrained in the sounds they consider using because of genre considerations (Toynbee, 2000; Tschmuck, 2006). Furthermore, these internal constraints may stifle their musical and technical abilities. In both cases, the range of novelty that recording artists are willing to

introduce is reduced. Lack of uniqueness, however, may threaten the freshness and longevity of artists in this turbulent industry.

In review, independent recording artists are entrepreneurial firms that depend on innovative outcomes for their long term survival. In this dissertation, I argue that these artists possess creativity-related resources and management-related resources and that these resources separately and in combination affect innovative outcomes. I focus on two dimensions of innovative outcomes: innovative output and innovative uniqueness. These two dimensions of innovative outcomes highlight a conundrum that these independent music artists, as entrepreneurial firms, need to balance. On the one hand, innovative output is likely to increase both the symbolic and substantive performance of entrepreneurial firms. On the other hand, innovative uniqueness is likely to decrease the symbolic and substantive performance of a firm with a more pronounced effect in strong institutional environments. As a consequence entrepreneurial firms must be intentional about each component of their innovative outcomes in order to maximize performance.

Chapter 4

Hypotheses Development

In this Chapter, I begin building my research model with guidance from Penrose's (1959) approach to the resource-based view. Penrose saw the firm as comprised of two types of resources: productive resources and administrative resources. These two categories, which I refer to as creativity-related resources and management-related resources, respectively, form the antecedent conditions for innovative outcomes in my model. In my model, innovative outcomes consist of innovative output and innovative uniqueness. Although a firm's innovative outcomes can be examined using a broad variety of metrics and indicators (Paleo & Wijnberg, 2008), I chose to follow the approach of Jiang et al. (2011). Jiang et al. (2011) considered the innovative activity of firms by considering inventive performance, a simple sum of patent applications, and novelty, a sum of the number of new patent classes. Similarly, I focus on the innovative outcomes of entrepreneurial firms by focusing on the number of innovations generated, innovative output, and the novelty of those innovations, innovative uniqueness. This approach fits especially well considering my focus on the popular music industry. In the popular music industry, recording artists must remain active in creating music that is perceived as novel in order to remain competitive (Tschmuck, 2006). Next, I examine how innovative outcomes affect the organizational performance of the entrepreneurial firm. Following Heugens and Lander (2009), I assess organizational performance as symbolic performance and substantive performance. Finally, I look at the moderating impact of the institutional environment on the innovative uniqueness-symbolic

performance link. A graphic depiction of my conceptual research model, as described in the preceding arguments, can be seen in Figure 3. In the following sections, I will discuss in more detail the specific relationships that constitute my research model.

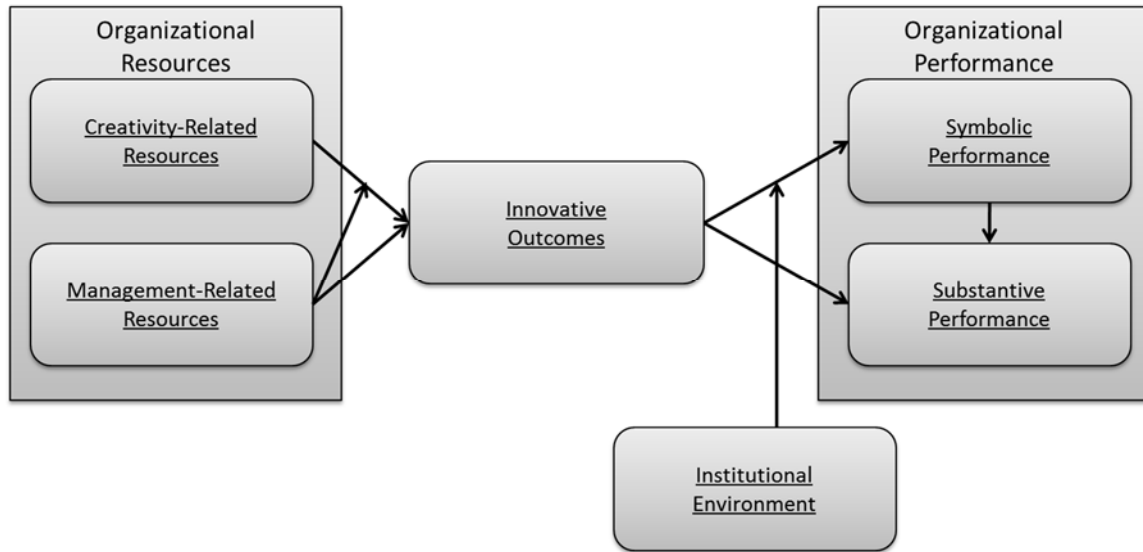


Figure 3. Overview of Theoretical Model.

Antecedents of Innovative Outcomes

The resource-based view of the firm argues that firm outcomes are largely determined by the resources possessed by the firm (Barney, 1991, 2001). In the past, resources such as reputation, patents, and unique knowledge have been examined in the strategy literature (Barney & Arkan, 2001; Crook et al., 2008; Ndofor, Sirmon, & He, 2011). These same resources, reputation, patents, and unique knowledge, have also been examined in the entrepreneurship literature (Fern, Cardinal, & O'Neill, 2012; Gillis, Combs, & Ketchen, 2014; Hsu & Ziedonis, 2013). For instance, Chandler (1996) found that founder's unique experience and knowledge affected new venture sales and earnings. Similarly, Hsu & Ziedonis (2013) found that patents provided access to more prominent

venture capital during initial funding campaigns and this effect was larger for entrepreneurial firms that lacked relevant prior experience. Much of this treatment in the literature, however, ignores the fact that resources can be divided into productive and administrative resources (Penrose, 1959). In this dissertation, I follow Hansen et al.'s (2004) call to return to the Penrosian roots of the resource-based view. I begin my model by examining the role that the productive and administrative resources (Penrose, 1959) of the entrepreneurial firm have on its innovative outcomes, and ultimately affecting the performance of the firm. Penrose (1959) argued that the administration of resources must be separated from the resources themselves in order to understand the value of the entrepreneur or manager in bringing about outcomes. Penrose (1959) defined productive resources as those resources that are used to offer a service. Given the industry under consideration – the popular music industry – and in line with Penrose's definition of productive resources, I examine a specific set of productive resources: creativity-related resources. Additionally, in order to avoid confusion concerning Penrose's original intention concerning administrative resources, I use the term management-related resources. According to Penrose (1959), administrative resources are those that govern the use of productive resources. In the following two subsections, I develop hypotheses regarding how these two different types of resources affect innovative outcomes.

Creativity-Related Resources and Innovative Outcomes

The resources available in the task domain for creative activities are one of the primary considerations for organizational innovation under Amabile's (1988) componential model. These resources take on a variety of forms such as capital and other

material resources required for production, databases that contain relevant information, and people with knowledge concerning implementing particular innovations (Amabile, 1988). I focus on two creativity-related resources of the entrepreneurial firm: knowledge stock and industry tenure. I argue that these two types of resources will drive innovative outcomes in the form of both innovative output and innovative uniqueness. The entrepreneurial firm's knowledge stock serves as a cognitive pathway for problem-solving and provides the raw material necessary for creativity (Amabile et al., 1996; Amabile, 1988; Taylor & Greve, 2006; West, 2002). The entrepreneurial firm's industry tenure, the time the firm has been in the industry, is related to knowledge sharing (Appleyard, 1996) and enables a deeper understanding of industry routines that are likely to impact creative processes (Amabile, 1988).

The aggregate knowledge stock of individuals within an organization is an important aspect of absorptive capacity (Cohen & Levinthal, 1990; Denford & Chan, 2011). Absorptive capacity is the ability of a firm to recognize the value of new information, assimilate that knowledge, and exploit it to commercial ends (Cohen & Levinthal, 1990). As such, absorptive capacity is a critical antecedent of an entrepreneurial firm's ability to generate innovative outcomes (Todorova & Durisin, 2007). Knowledge stock represents the basis from which firms add new knowledge (Smith, Collins, & Clark, 2005), identify opportunities (Shane, 2000), attempt to address problems (Wu & Shanley, 2009), and develop new products (Andriopoulos & Lewis, 2009; Smith et al., 2005; Taylor & Greve, 2006). Directly related to this dissertation, the knowledge stock of individuals is a vital element in the creation of entrepreneurial firms

(Qian & Acs, 2013). The knowledge stock of an organization can be divided into two dimensions, breadth and depth (Wu & Shanley, 2009). Knowledge breadth considers the extent to which knowledge is general or specific and the extent to which it has been drawn from single or multiple sources (Bierly & Chakrabarti, 1996; Denford & Chan, 2011). Knowledge depth considers how well knowledge has been developed in a specific domain (Bierly & Chakrabarti, 1996; Denford & Chan, 2011).

Knowledge breadth provides a base from which to organize and add new knowledge to the firm and increases the likelihood of novel combinations (Bierly & Chakrabarti, 1996; Bower & Hilgard, 1981; Cohen & Levinthal, 1990; Wu & Shanley, 2009). Firms with broad knowledge bases are better positioned to create a higher quantity of unique combinations (Fleming, 2001; Katila & Ahuja, 2002; Wu & Shanley, 2009), and therefore enhance their innovative outcomes. The breadth of a firm's knowledge stock increases the number of distinctive knowledge domains the firm can draw from, allowing for higher levels of knowledge spillovers (Henderson & Cockburn, 1996). In addition, broad knowledge bases position the firm to be better able to combine inputs in a more complex manner (Bierly & Chakrabarti, 1996) due to being able to better categorize knowledge into useful information and increasing the likelihood that new knowledge will relate to existing knowledge (Bower & Hilgard, 1981; Cohen & Levinthal, 1990; Hargadon & Sutton, 1997). As a result, the breadth of firm's knowledge helps the firm to understand and apply knowledge from multiple sources such as consumers and suppliers, increasing the potential for creative and innovative output (Ahuja & Katila, 2001; Gruber, MacMillan, & Thompson, 2012; Leiponen & Helfat, 2010; Rosenkopf & Nerkar, 2001;

Taylor & Greve, 2006). In essence, knowledge breadth provides the raw material required in the creative process (Amabile, 1988; Shane, 2000).

While most of this research is not specific to entrepreneurial firms, I expect the same mechanisms to work very similarly for them. In fact, I expect that knowledge breadth is even more essential to the entrepreneurial firm for a number of reasons. First, the literature suggests that the exposure of the entrepreneurial firm to broad knowledge is a key driver of innovation (Acs, Braunerhjelm, Audretsch, & Carlsson, 2009; Carlsson, Acs, Audretsch, & Braunerhjelm, 2009). Second, given its liability of newness, the entrepreneurial firm relies upon its ability to generate novel recombinations in order to compete (Wong, Ho, & Autio, 2005). Lastly, broad knowledge increases the exposure of the entrepreneurial firm to unutilized knowledge that provides for opportunity recognition and enables the entrepreneurial firm to take advantage of entrepreneurial opportunities (Audretsch, 1995; Mueller, 2007). In the case of popular music, exposure to multiple genres representing various styles of music enables experimentation and improvisation (Green, 2002). Both of these activities are fundamental to new music creation (Toynbee, 2000) and entrepreneurship (Chandler, DeTienne, McKelvie, & Mumford, 2011). As an example, Jimi Hendrix, one of the most influential and creative artists of the 20th century mixed elements of blues, R&B, rock, American folk music, and more (Moskowitz, 2010; Unterberger, 2009). Hendrix is associated with over 400 different releases and is credited as a writer in over 100 creative works (ASCAP, 2015). In recent history, artist Bruno Mars has become one of the best-selling popular music artists of the last decade (Jeffries, n.d.). He was recognized in 2011 as one of the 100 most influential people in the world

by Time magazine (“Bruno Mars,” 2011). Bruno Mars cites his exposure to a diverse mix of music styles growing up as part of the reason for his musical success (“Bruno Mars and Phillip Lawrence,” 2010). Mars mixes together elements from reggae, soul, funk, pop, and rock (“Bruno Mars and Phillip Lawrence,” 2010; Jeffries, n.d.). Mars is credited as a writer in over 150 different creative works (ASCAP, 2015). Recently, he collaborated with Mark Ronson in the song “Uptown Funk,” which spent ten weeks on Billboard’s Hot 100 as number one (Trust, 2015a). Only three percent of songs that have made Billboard’s Hot 100 have been able to remain number one for double digit weeks (Trust, 2015a).

Similar to knowledge breadth, an entrepreneurial firm’s knowledge depth should increase its ability to bring about innovative outcomes. Knowledge depth provides a nuanced understanding of particular knowledge domains (Wu & Shanley, 2009) and is the basis for becoming an expert in a particular area (Glaser, 1984; Lord & Maher, 1990; Smith et al., 2005). Experts have a deep knowledge base from which to draw upon and a better understanding of the relatedness of knowledge structures compared to non-experts (Glaser, 1984; Lord & Maher, 1990; Smith et al., 2005). Deep knowledge tends to be accumulated over time (Zhou & Li, 2012). The depth of knowledge allows the firm to assimilate new knowledge (Wu & Shanley, 2009) and make sophisticated and complex connections, leading to additional recombinations. All in all, knowledge depth leads to a higher creative output (Fleming, 2001).

In the entrepreneurial firm more specifically, knowledge depth is critical to driving innovative outcomes. Entrepreneurial firms suffer from liabilities of newness

(Bruderl & Schussler, 1990) and smallness (Stinchcombe, 1965). They have greater resource constraints than traditional firms (Baker & Nelson, 2005; Dolmans, van Burg, Reymen, & Romme, 2014; Tran & Santarelli, 2014), and operate with higher levels of risk and uncertainty (Kline & Rosenberg, 1986). Deep knowledge allows firms to look further ahead down particular innovative trajectories in order to anticipate potential problems (Chi, Glaser, & Farr, 1988; Katila & Ahuja, 2002) without having to pursue them. Deep knowledge provides the entrepreneur with the ability to understand which problems can be overcome, which assumptions to challenge, and which issues to avoid (Boh, Evaristo, & Ouderkirk, 2014). In addition, a key component of successful innovation is experimentation (Fleming & Sorenson, 2001; Thomke, 1998). Knowledge depth enables firms to make better abstractions concerning combinations of disparate components (Chi et al., 1988; Katila & Ahuja, 2002), enabling the entrepreneurial firm to better select and pursue fruitful avenues. In the popular music industry, knowledge depth provides grounding for experimentation with different sounds and instruments. For instance, in Jazz music, known for its improvisation, an understanding of how different components work together enables a form of creative chaos that is considered useful (Pasmore, 1998; Stokes, 2014; Tschmuck, 2006). Miles Davis, one of the best known and most influential Jazz musicians, is a great example on how knowledge depth instigates innovative outcomes. He began his musical education at the age of 13 with the trumpet and continued to study and experiment with the trumpet throughout his career. Davis credits his success to his deep knowledge background (Davis & Troupe, 1989).

In addition to a firm's knowledge breadth and depth, a firm's tenure within an industry is associated with higher levels of innovative outcomes (Dierickx & Cool, 1989; Smith et al., 2005). In general, research has suggested that organizational competency tends to increase over time (Bruderl & Schussler, 1990; Luo & Deng, 2009; Stinchcombe, 1965) for at least two reasons. First, as routines are implemented and refined in an iterative process (Luo & Deng, 2009; March, 1991), organizations become more competent. Second, as a firm moves along their respective learning curves (Cohen & Levinthal, 1990), they become better at performing organizational processes. As tenure within an industry increases for a firm, the ability of the firm to manage creative processes in a productive way also tends to increase (Amabile, 1988; Luo & Deng, 2009; Miller & Shamsie, 2001). Further, as tenure increases, firms become more familiar with the desires and preferences of their markets (Miller & Shamsie, 2001), allowing firms to better focus their processes towards particular innovations that are likely to find commercial success.

In the entrepreneurial firm, we should also expect tenure within an industry to affect its innovative outcomes. Entrepreneurial firms deal with higher levels of uncertainty compared to traditional firms (Amason, Shrader, & Thompson, 2006). In addition, entrepreneurial firms operate with less information about the environment than traditional firms (Daft & Lengel, 1986; Weick, 1969). When compared to traditional organizations, the entrepreneurial firm must also deal with higher levels of ignorance concerning the proper questions to ask, information to pursue, and how to interpret and apply information (Daft & Lengel, 1986; Weick, 1969). It requires time for firms to

acquire the requisite experience to make sense of their environments (Daft & Lengel, 1986; Stinchcombe, 1965). Having a greater understanding of their markets should allow entrepreneurial firms to achieve a higher level of innovative output. Similarly, greater tenure in an industry allows entrepreneurial firms to overcome many of the limitations that would otherwise reduce innovative uniqueness. For instance, Simsek (2007) found that top management teams acquire needed information and experience over time that enable them to more effectively select appropriate entrepreneurial behaviors (Lévesque & Minniti, 2006). Further, Kellermanns, Eddleston, Barnett, and Pearson (2008) found that over time, CEOs are able to build relationships that provide information and security to pursue riskier decisions. As a result, as an entrepreneurial firm becomes more familiar with industry and market characteristics and establishes relationships that reduce uncertainty and the penalties for risky decisions, they are more likely to produce innovative outcomes with higher levels of innovative uniqueness (Fritz & Ibrahim, 2010).

The impact of familiarity and experience also extends inside the firm. For instance, in a study involving creative industries, Taylor and Greve (2006) found that teams with greater tenure produced higher levels of variation in innovative outcomes. They argue that firms in creative industries may value innovativeness, closely related to uniqueness, “even though it is recognized that many creative products are not highly valued in the market” (Taylor & Greve, 2006: 728). Taylor and Greve (2006) argue that more efficient communication inside the organization increases cooperation that ultimately results in a more effective pursuit of industry values, in this case innovativeness, or in the context of this study, innovative uniqueness. Taken together, we

should expect that as entrepreneurial firms increase tenure within an industry, they are able to deal with both uncertainty and equivocality due to increased learning and stronger social support, and are better able to select efficient and effective routines that lead to a higher level of innovative outcomes (Brown & Eisenhardt, 1995; Lévesque & Minniti, 2006). Formally, I propose:

HYPOTHESIS 1: Creativity-related resources are significantly related to innovative outcomes.

HYPOTHESIS 1a: Knowledge breadth is positively related to innovative output.

HYPOTHESIS 1b: Knowledge breadth is positively related to innovative uniqueness.

HYPOTHESIS 1c: Knowledge depth is positively related to innovative output.

HYPOTHESIS 1d: Knowledge depth is positively related to innovative uniqueness.

HYPOTHESIS 1e: Industry tenure is positively related to innovative output.

HYPOTHESIS 1f: Industry tenure is positively related to innovative uniqueness.

Management-Related Resources and Innovative Outcomes

Resource-based view scholars have shifted their focus back to the role managers have in selecting and utilizing available productive resources (Hansen et al., 2004;

Sirmon & Hitt, 2003). Penrose (1959) argued that it was the manager or entrepreneur that generated rents by allocating resources to their most productive end. Makadok (2001) tested two different perspectives on how managers created above normal rents, either through a resource picking mechanism or through a capability building mechanism. He found support for both mechanisms, arguing that each mechanism can function as a supplement or complement given industry competitive conditions. Although Makadok's (2001) findings were not placed in the context of entrepreneurial firms or innovative outcomes, his findings are significant for the entrepreneurial firm. A defining characteristic of entrepreneurial firms is their ability to identify environmental opportunities and capitalize upon them before other competing firms (Shane, 2000). Further, entrepreneurial firms are often evaluated in terms of their innovative outcomes, both in terms of novelty (i.e., innovative uniqueness) and amount (i.e., innovative output) (Jiang et al., 2011). Management's ability to reconfigure resources and routines within the organization to generate innovative outcomes largely determines the success of entrepreneurial firms and reflects heavily upon capability building (Makadok, 2001).

I consider three components of management-related resources that affect innovative outcomes. These are management experience, interorganizational relationships (IORs), and time-related competencies. I define management experience in light of Dokko and Gaba's (2012) definition of practice specific experience as "prior career experience performing a practice." (p. 567). IORs consist of the relationships between the entrepreneurial firm and other organizations regardless of the specific form or content of the relationship (Oliver, 1990). Finally, I define time-related competencies

in line with the entrainment literature as the ability of firms to recognize and respond to key environmental rhythms (Khavul, Pérez-Nordtvedt, & Wood, 2010; Pérez-Nordtvedt, Payne, Short, & Kedia, 2008). Management-related resources are essential to innovative outcomes as entrepreneurial firms must be able to choose between multiple strategic choices and implement them effectively at the correct time (Luo, 2014). For instance, management experience appears to be essential to success in the popular music industry. As discussed in Chapter 3, the popular music industry is characterized by a complex pattern of interactions between different firms performing different value-added activities. Management experience should enable managers to successfully navigate the complex set of relationships in the popular music industry. In addition, management-related resources help create the innovative outcomes of entrepreneurial firms as they may need to form and/or disband relationships to serve the creative needs of the organization (Marion, Eddleston, Friar, & Deeds, 2015). Given all the different parties involved in the creation and production of a sound recording, IORs can be instrumental in this industry to the accomplishment of such a musical production goal. For instance, even after a song has been written and recorded, the song has to be refined through proper production. This requires the recording artist to engage in editing, mixing, and mastering (Keitt, 2013). Editing a recording might require parts of each song to be removed, rearranged, or re-recorded. Mixing requires that each track, or portion, of a song such as the drum line, bass line, and vocals be blended together into a cohesive whole. Finally, mastering requires an additional balancing and audio polishing after all tracks have been mixed together to refine the sound of the composition. The recording artist must choose

to become proficient in each of these areas or contract with other firms. Further, once a recording artist is ready to produce a complete album, additional IORs are likely to form: album art must be created, copyrights must be verified and permissions obtained (if required). Distribution channels must be selected and contracts negotiated, and the nature and form of promotion must also be determined (Chertkow & Feehan, 2014). Also, entrepreneurial firms may need to match their innovation process rhythms to key environmental rhythms (Pérez-Nordtvedt et al., 2008) in order to maximize innovative outcomes. In the popular music industry, the speed of release and timing of release are essential given the dynamic nature of this industry. For instance, should new recordings be released weekly, monthly, quarterly, yearly, or on some other schedule (Stevens, 2011)? While more frequent releases are likely to promote fan engagement, release schedules that are too rapid may reduce the impact of each release (Chau, 2011). In addition, certain times in the year are more or less favorable for releases. Generally, holiday seasons should be avoided while Fall and Summer releases offer distinct advantages for independent artists (McDonald, 2012a, 2012b). In general terms, in entrepreneurial ventures, management-related resources are essential because entrepreneurial firms are unable to rely upon past firm performance (Hsu & Ziedonis, 2013), excess cash (Holtz-Eakin, Joulfaian, & Rosen, 1994; Zott & Huy, 2007) or organizational slack (Dolmans et al., 2014) to help them overcome mistakes in the innovation process. In addition, since entrepreneurial firms tend to be deficient in their resource endowments (Baker & Nelson, 2005; Senyard et al., 2014) and legitimacy (Rao et al., 2008), they are subject to a much smaller margin for error. As a result,

entrepreneurial firms are likely to suffer disproportionately from risky decisions compared to larger and more mature firms (Bruderl & Schussler, 1990; Van de Ven, Hudson, & Schroeder, 1984). Below, I discuss how each type of management-related resource impacts a firm's innovative outcomes.

Prior research concerning the relationship between management experience and innovative outcomes is mixed (Liu & Hart, 2011; Michael & Palandjian, 2004; Montoya-Weiss & Calantone, 1994). While one of the primary benefits of management experience is the ability to manage processes and information to bring about innovative outcomes successfully (Bruderl & Schussler, 1990; Castanias & Helfat, 1991; Kor, 2003), that efficiency also imposes limits to innovative outcomes due to learning that favors successful routines over experimentation (Ahuja & Morris Lampert, 2001; Levinthal & March, 1993). Therefore, I argue that management experience will positively affect the quantity of innovative outcomes generated by an entrepreneurial firm – innovative output – but will, at the same time, reduce the average uniqueness of innovations – innovative uniqueness – generated by the firm. This is especially true for independent recording artists in the popular music industry as they must allocate time between traditional business functions, which can lead to greater innovative output, and the creative process, which can lead to greater innovative uniqueness (Oliver, 2010).

Management experience should positively impact innovative outcomes through its effect on innovative output. As an entrepreneurial firm adds management experience, knowledge of resources, routines, and capabilities develops. Research suggests that this specific managerial knowledge allows the firm to become more efficient at producing

outcomes within a given system (Bruderl & Schussler, 1990). As managers increase their tacit knowledge of the capabilities of the firm and the firm's resource endowments (Kor, 2003), they become better able to design proper strategies to bring about targeted outcomes with the particular resource endowments of the firm (Castanias & Helfat, 1991; Kor, 2003). Further, increased management experience should allow the firm to avoid the pitfalls of inappropriate strategies as well as aid in the selection of optimum resource configurations that maximize the potential output of the firm's resource endowments (Amabile, 1988; Eikhof & Haunschild, 2007; Penrose, 1959). This would suggest that entrepreneurial firms with greater management experience are likely to produce a greater number of innovations although very likely within the same domain of knowledge. In fact, Amabile (1988) suggests that management experience is a vital component of the ability of firms to innovate. Past research has provided some evidence that suggests this positive link. For instance, BarNir (2014) found that pre-venture managerial experience indirectly increased innovative outcomes such as intended patent filings and spending on research and development when considered through the entrepreneur's abilities and expectations. Similarly, in the area of corporate entrepreneurship, when considering research on new product development teams, a meta-analytic review by Sivasubramaniam, Liebowitz, and Lackman (2012) found that team tenure had a strong positive relationship with both speed to market and new product development efficiency. This finding suggests that practice specific experience, or time spent engaging in new product development within a given team, leads to quicker and more efficient new product development. Increased management experience provides for stronger goal

setting, the development and use of appropriate systems that balance multiple opposing demands, and better matches between organizational resources and their deployments (Amabile & Gryskiewicz, 1987). In the context of entrepreneurial firms, prior management experience has been shown to be positively related to search based discovery in high-technology new ventures (Marvel, 2013) and new venture growth (Baum, Locke, & Smith, 2001). Therefore, I expect management experience will have a positive effect on the innovative output in entrepreneurial firms.

On the other hand, as entrepreneurial firms increase their management experience they are likely to focus on the same set of closely related knowledge domains. While such focus can positively impact innovative output, it can be a deterrent of innovative uniqueness for several reasons. First, as an entrepreneurial firm increases their management experience they are likely to rely upon previously successful routines and as a result develop core rigidities (Leonard-Barton, 1992). This tendency to rely upon past routines that were successful locks entrepreneurial firms into limited innovative trajectories (De Carolis, 2003). Second, in the popular music industry, reliance on previously successful creative routines may represent a shift in the firm's dominant logic from an artistic one to an economic one, which may end up hurting the innovative uniqueness of songs. Such a shift in logics has been argued to be detrimental to entrepreneurial ventures in general (Eikhof & Haunschild, 2007), but I suspect it should be particularly harmful in the popular music industry where creativity and uniqueness keep artists current. While an artistic logic is characterized by a focus on creative processes without the need for outside legitimation, economic logics focus primarily on

the benefits of exchange in markets (Eikhof & Haunschild, 2007). Managers seeking to maximize the value of economic exchanges are likely to focus on lower more certain payoffs foregoing higher more uncertain payoffs (Christensen, 2006). The increased attention on sure and predictable returns is likely to direct managers into past successful roles that limit exploration and recombinations vital to innovative uniqueness (Fleming, 2001; Liu & Hart, 2011; Michael & Palandjian, 2004), lowering the probability of successful innovative improvisation (Weick, 1993). Third, previous research has provided some evidence to suggest the negative link between management experience and innovative uniqueness. For example, Cliff, Jennings, and Greenwood (2006) found that founders' prior experiences affected the novelty of entrepreneurial new ventures. They argue that "extensive experience of a particular format can result in the development of tight cognitive frames that produce perceptual blind spots and habitual reactions" that reduce novelty (Cliff et al., 2006: 637–638). These findings are echoed by Marvel and Lumpkin (2007) who found that as a manager's understanding of market needs increased, they were less likely to initiate breakthrough innovations. Further, in the area of corporate entrepreneurship, Patanakul, Chen, and Lynn (2012) found that new product development teams led by senior management performed more poorly as measured by development speed, cost, and product success as the novelty of the project was increased. Thus, given the previous discussion, I expect management experience will have a negative effect on innovative uniqueness in entrepreneurial firms.

Another important management-related resource that affects innovative outcomes are the IORs that the entrepreneurial firm has. While IORs can take on a variety of forms

such as simple outsourcing relationships, they can also be created to develop products (Marion et al., 2015; Mayer-Haug, Read, Brinckmann, Dew, & Grichnik, 2013; Oliver, 1990). IORs in the popular music industry are likely to take one of two forms, either collaborations on new music production or business relationships to address one of the partner's deficiencies, such as poor distribution channels or poor creative performance (Caves, 2000; Gander, Haberberg, & Rieple, 2007). In both cases, IORs are used to mix together heterogeneous knowledge structures to increase innovative performance (Caves, 2000; Gander et al., 2007; Rieple & Gander, 2001). As such, I suggest that IORs are positively related to innovative output and innovative uniqueness in entrepreneurial firms.

The literature suggests that IORs are a key driver of the entrepreneurial firm's ability to bring about innovative outcomes, in spite of resource constraints (Marion et al., 2015). First, as I mentioned earlier, entrepreneurial ventures are subject to both liabilities of newness and smallness (Bruderl & Schussler, 1990; Stinchcombe, 1965), which limit their potential actions (Aldrich & Martinez, 2001; Steier & Greenwood, 2000). For recording artists, many of these actions revolve around the creative process and innovation. One way entrepreneurial firms can overcome these constraints is by forming IORs. Prior research on IORs has shown their utility in increasing the innovative outcomes of an organization (Goes & Park, 1997; Nohria & Eccles, 1992), resulting in increased rates of patenting (Shan, Walker, & Kogut, 1994) and increased rates of product innovation (George, Zahra, & Wood Jr, 2002; Rothaermel & Deeds, 2006). Second, for the entrepreneurial firm in particular, IORs tend to be driven by the strategic

needs of the firm during the early stages of new product development (Eisenhardt & Schoonhoven, 1996; Marion et al., 2015). IORs provide the opportunity to overcome the limitations of the entrepreneurial firm by partnering with other organizations that are not limited in the same capacity (Gander et al., 2007). While a large portion of research concerning IORs and entrepreneurial ventures has focused on how entrepreneurial firms gain legitimacy through their partnerships (Khoury, Junkunc, & Deeds, 2013; Nagy et al., 2012; Rao et al., 2008) or gain access to financial resources (Ozmel, Reuer, & Gulati, 2013; Steier & Greenwood, 2000), a significant amount of research has also been conducted to explore how entrepreneurial firms utilize IORs to pursue product development. For instance, research by Haeussler, Patzelt, and Zahra (2012) found that the type of alliance a firm entered into had different effects on new product development. Specifically, upstream alliances were most likely to lead to a higher number of new products developed as compared to horizontal or downstream alliances. Haeussler et al. (2012) argue that upstream alliances expose the firm to specialized knowledge that is needed to develop products. Such specialized knowledge can speed the production of multiple products. This argument is supported by Demirkan and Demirkan (2011) who found that knowledge heterogeneity among network partners increased patenting rates within alliance networks in the biotechnology arena. In addition, such knowledge is likely to be complementary, which should lead to greater novelty in the product created. In the popular music industry, collaborating with multiple creative minds is likely to lead to unique sounds and musical compositions. Taken together, I argue that IORs will increase

the innovative outcomes of an entrepreneurial firm, both in terms of output and uniqueness.

The last management-related resource that can affect innovative outcomes is time-related competencies. This is the ability to recognize and respond appropriately to both key internal and external rhythms (Khavul et al., 2010; Pérez-Nordtvedt et al., 2008). I argue that time-related competencies are related to innovative outcomes because of the need to structure and order activities inside and outside of the firm (Vanhoucke, 2002; Wang, 1999) in a way that reduces constraints and supports organizational processes and survival. Time-related issues have been scantily examined in the context of entrepreneurial ventures. Among the few studies conducted in this area Khavul et al. (2010) suggested that the ability of firms to synchronize, or entrain, to their most important international customer was a neglected contingency that affected the impact of degree, scope, and speed of internationalization on firm performance. Khavul et al. (2010) found support for the moderating role of entrainment on degree and scope of internationalization on international new venture performance. Similarly, in a study examining temporal adaptation, Perez-Nordtvedt, Khavul, Harrison, and McGee (2014) found that spatial distance and strategic interpretation impacted the degree of temporal adaptation that took a form similar to entrainment. How time-related competencies affect innovative outcomes at the organizational level and within entrepreneurial ventures has received even less attention.

Yet, time-related competencies should play a significant role in the innovative outcomes of a firm (Slappendel, 1996; Van de Ven & Rogers, 1988). While

entrepreneurial firms may enjoy greater time-related flexibility when compared to more established firms (Pérez-Nordtvedt et al., 2014), I expect that entrepreneurial firms themselves will also vary in their competencies to manage time-related issues. Innovation processes are marked by multiple temporal rhythms both within and outside the firm (Garud, Tuertscher, & Van de Ven, 2013). Internally, firms must manage the structures and rhythms associated with creativity in order to increase the number of innovative outputs produced with particular resource endowments. First, temporal structuring mechanisms allow the firm to capitalize on already existing internal firm resources circumventing reductions in innovative output due to resource scarcity (Garud, Gehman, & Kumaraswamy, 2011). For instance, Piao (2010) found that firms that sequence events in moderately overlapping cycles maximize contemporaneous and continuous resource sharing and increase firm longevity. Second, the ability of the firm to focus attention on specific temporal events such as major award ceremonies creates predictable routines of search and interpretation (Anand & Peterson, 2000) that help focus the firm on creative efforts to produce outcomes at given times. Prior research at the level of individuals has found that time constraints can increase creativity by promoting novel solutions (Stokes, 2001), yet at the same time extreme time constraints reduce creativity (Kelly & Karau, 1993). Since creativity is an important component of an organization's innovative outcomes (Amabile, 1988), this suggests that the impact of time constraints has to be managed. Given key events such as major award ceremonies, entrepreneurial firms with high levels of time-related competencies are likely to be able to manage internal processes to take advantage of the positive impact of time pressure on creativity while

reducing the possible negative impact (Klein & Sorra, 1996) in order to increase innovative output.

Externally, firms must be able to match product development cycles with the cycle of resources available in the environment in order to maximize innovative output by avoiding resource scarcity (Brown & Eisenhardt, 1997; Garud et al., 2013).

Additionally, firms must also be able to match firm cycles to external cycles in order to increase conferred legitimacy due to institutional isochronism (Pérez-Nordtvedt et al., 2008). Firms demonstrating isochronism are likely to experience increased access to resources to support innovative output and enhanced status that increases partnering opportunities also leading to greater innovative output. Furthermore, firms with high levels of time-related competencies are likely to adjust their rates of production to account for the level of competition in an industry (Fethke & Birch, 1982). As a result, entrepreneurial firms that compete in highly competitive environments with short product life-cycles, such as the popular music industry, are likely to produce a greater number of innovative outcomes since rapid rates of new product development are needed to compete effectively (Fethke & Birch, 1982). Given the above arguments, entrepreneurial firms with higher levels of time-related competencies will be more apt at generating innovative outputs.

To recap, when it comes to management-related resources, I expect management experience will increase the number of innovative outputs generated by the entrepreneurial firm, but will reduce the average novelty of those innovations. In addition, I have argued that IORs will increase innovative outcomes, both in terms of

innovative output and innovative uniqueness, while time-related competencies will only do so through innovative output. Therefore, formally I propose:

HYPOTHESIS 2: Management-related resources are significantly related to innovative outcomes.

HYPOTHESIS 2a: Management experience is positively related to innovative output.

HYPOTHESIS 2b: Management experience is negatively related to innovative uniqueness.

HYPOTHESIS 2c: IORs are positively related to innovative output.

HYPOTHESIS 2d: IORs are positively related to innovative uniqueness.

HYPOTHESIS 2e: Time-related competencies are positively related to innovative output.

Moderation of Creativity-Related Resources by Management-Related Resources

The focus of the resource-based view generally has been on resource bundles that lead to competitive advantages while implicitly assuming the impact of managerial ability (Hitt, Nixon, Clifford, & Coyne, 1999; Sirmon & Hitt, 2003). In fact, when it comes to organizational performance, empirical research has supported both a) the direct positive relationship between bundles of resources and overall task performance (Huesch, 2013) and b) the direct role managerial action and ability play in leading to performance outcomes (Carmeli & Tishler, 2004; Holcomb, Holmes Jr, & Connelly, 2009; Pfeffer & Davis-Blake, 1986; Sirmon et al., 2008). Yet, Penrose (1959) argued that both resources and managers must be considered together. Resources provide productive potential that is

realized only by the actions of managers. While the firm's ability to generate rents is bounded by the resources the firm possesses, how close to the boundary firms are able to operate is greatly impacted by managerial ability (Alchian & Demsetz, 1972; Carmeli & Tishler, 2004; Collis & Montgomery, 1995; Collis, 1994). I argue that the same line of reasoning can be extended to the context of innovative outcomes. While creativity-related resources and management-related resources are likely to lead to innovative outcomes by themselves as it was argued in the previous section, management-related resources are also likely to strengthen the relationship between creativity-related resources and innovative outcomes.

Managers vary in their ability to realize outcomes from bundles of resources (Alchian & Demsetz, 1972; Holcomb et al., 2009; Sirmon et al., 2008, 2007, 2011). Holcomb et al. (2009) argued that skilled managers have two distinct advantages in realizing desired outcomes. First, skilled managers are better able to select valuable resources and negotiate their use more effectively than rivals (Amit & Schoemaker, 1993; Makadok, 2001). Therefore, I expect firms with high levels of management-related resources to be better able to select and utilize their most relevant creativity-related resources in order to pursue innovative outcomes successfully. Second, skilled managers are better able to design strategies that are more effective than rivals at creating value given particular industry contexts (Hansen et al., 2004; Lippman & Rumelt, 2003; Miller, 2003). When it comes to innovative outcomes, this suggests that entrepreneurial firms with high levels of management-related resources should be more capable of producing innovative outcomes given a set of creativity-related resources. Although Holcomb et al.

(2009) focused on the link between firm resources and performance, similar arguments have also been made in the context of organizational innovation and innovative outcomes. For instance, Amabile (1988) argued that having a manager with good project management skills will increase innovative outcomes since such a manager is better able to direct action towards innovative outcomes and provide resources and guidance to supplement deficiencies in project teams. Amabile et al. (1996) found empirical support for these arguments in a study of 22 organizations across industries such as biotechnology, pharmaceuticals, and consumer products.

Management experience, one component of the management-related resources available to the firm, is likely to help entrepreneurial firms utilize and make sense of the knowledge stock available to the firm as well as the social support and information gained from increased industry tenure. As management experience increases, so does the ability of managers to select and utilize the most relevant components of the creativity-related resources available to a firm given a particular industry context in order to generate innovative outcomes (Holcomb et al., 2009). While the ability to generate viable ideas is an important antecedent condition for innovation, ideas must then be transformed into innovations through the specific structuring of work and the management of resource portfolios (Taylor & Greve, 2006). From the standpoint of the popular music industry, artistic and creative processes represent the generation of a rough product that must be refined into a commercially viable product (Noyes & Parise, 2012; Tschmuck, 2006). The ability to transform rough ideas into polished and viable innovative outcomes is greatly influenced by the management experience available to a firm (Oliver, 2010). I

expect recording artists with greater experience managing projects in the popular music industry to understand which innovative outcomes are more promising. Such insights about the industry can speed up the innovation process and result in a greater number of innovations. In contrast to the positive impact on innovative output, an increase in management experience is likely to reduce the positive relationship between creativity-related resources and innovative uniqueness. Recording artists with extensive management experience are likely to develop a narrow understanding of competitive environments (Cliff et al., 2006). Prior managerial experiences are likely to become the basis by which managers understand and interpret organizational events (Haleblian & Finkelstein, 1999) leading to a reduced evaluation of potential combinations that would lead to high innovative uniqueness over those that align with past innovative outcomes (Adner & Levinthal, 2008; Dougherty & Heller, 1994). This is supported by De Carolis (2003) who found that firms were likely to rely on past knowledge stocks instead of integrating new knowledge; she suggests this may be due to the development of core rigidities (Leonard-Barton, 1992). Core rigidities are likely to be expressed in a preference for local search that minimizes the ability of knowledge stock to lead to innovative uniqueness and minimizes the willingness of entrepreneurial firms to engage in risky experimentation (Qiang, Maggitti, Smith, Tesluk, & Katila, 2013; Rosenkopf & Nerkar, 2001). Therefore, although I expect management experience to strengthen the positive relationships between creativity-related resources and innovative output, I also expect management experience to weaken the positive relationships between creativity-related resources and innovative uniqueness.

Another important aspect of management-related resources are IORs. As entrepreneurial firms develop IORs, they should be better able to utilize their knowledge stock and industry tenure to bring about innovative outcomes (Marion et al., 2015; Schulze, Brojerdi, & Krogh, 2014). IORs are likely to unlock the potential for creativity-related resources to generate innovative outcomes as exposure to additional partners increases the likelihood firms will be exposed to additional environmental opportunities (Yu, Gilbert, & Oviatt, 2011). In addition, IORs help the entrepreneurial firm overcome deficiencies in the innovation process without having to necessarily acquire in-house resources (Marion et al., 2015). Specifically, IORs may help address deficiencies in knowledge stock by providing complementary knowledge and as a result should increase innovative output (Rothaermel, Hitt, & Jobe, 2006). Similarly, IORs may reinforce the impact of industry tenure on innovative output by providing their own experience to reduce uncertainty (Bozeman, Dietz, & Gaughan, 2001; Chandran, Hayter, & Strong, 2014). Additionally, IORs are likely to strengthen the relationships between knowledge stock and innovative uniqueness and industry tenure and innovative uniqueness. IORs provide knowledge diversity that supplements the existing knowledge stock of the entrepreneurial firm (Phelps, Heidl, & Wadhwa, 2012) and provides opportunities to make novel connections using the firm's knowledge stock thus increasing innovative uniqueness. Similarly, IORs help to strengthen the relationship between industry tenure and innovative uniqueness by providing for guidance when exploring novel areas (Fleming, 2001) allowing the entrepreneurial firm to experiment with more risky ideas thus leading to greater innovative uniqueness (Rodan & Galunic, 2004).

Finally, time-related competencies should also positively moderate the relationship between creativity-related resources such as knowledge stock and industry tenure and innovative outcomes. As entrepreneurial firms increase their time-related competencies they are likely to increase their ability to synchronize internal cycles of innovation to external cycles of demand and resource availability to overcome factors that would otherwise hinder the relationship between creativity-related resources and innovative outcomes (Gerwin & Ferris, 2004; O'Connor & Rice, 2013; Yu et al., 2011). Separately, time-related competencies should help firms manage creative sessions that use an entrepreneurial firm's knowledge stock and industry tenure to increase both innovative output and innovative uniqueness (Klein & Sorra, 1996). Time-related competencies enable the firm to be able to manipulate time-related urgency (Mohammed & Nadkarni, 2011) in order to increase the intensity by which organizational members pursue innovative outcomes. By selecting key events in the environment or by carefully creating deadlines the entrepreneurial firm is able to force organizational members to consider more information in a shorter amount of time (Halbesleben, Novicevic, Harvey, & Buckley Ronald, 2003; Waller, Zellmer-Bruhn, & Giambatista, 2002). This imposed time scarcity leads firms to make better use of their knowledge stock and industry tenure to increase innovative output while at the same time increasing innovative improvisation and as a result innovative uniqueness (Pina e Cunha, Clegg, Rego, & Neves, 2014; Wu, Parker, & de Jong, 2011). Formally, I propose:

HYPOTHESIS 3: Management-related resources moderate the relationship between creativity-related resources and innovative outcomes.

HYPOTHESIS 3a: Management experience strengthens the positive relationship between knowledge breadth and innovative output.

HYPOTHESIS 3b: Management experience strengthens the positive relationship between knowledge depth and innovative output.

HYPOTHESIS 3c: Management experience strengthens the positive relationship between industry tenure and innovative output.

HYPOTHESIS 3d: Management experience weakens the positive relationship between knowledge breadth and innovative uniqueness.

HYPOTHESIS 3e: Management experience weakens the positive relationship between knowledge depth and innovative uniqueness.

HYPOTHESIS 3f: Management experience weakens the positive relationship between industry tenure and innovative uniqueness.

HYPOTHESIS 3g: IORs strengthen the positive relationship between knowledge breadth and innovative output.

HYPOTHESIS 3h: IORs strengthen the positive relationship between knowledge depth and innovative output.

HYPOTHESIS 3i: IORs strengthen the positive relationship between industry tenure and innovative output.

HYPOTHESIS 3j: IORs strengthen the positive relationship between knowledge breadth and innovative uniqueness.

HYPOTHESIS 3k: IORs strengthen the positive relationship between knowledge depth and innovative uniqueness.

HYPOTHESIS 3l: IORs strengthen the positive relationship between industry tenure and innovative uniqueness.

HYPOTHESIS 3m: Time-related competencies strengthen the positive relationship between knowledge breadth and innovative output.

HYPOTHESIS 3n: Time-related competencies strengthen the positive relationship between knowledge depth and innovative output.

HYPOTHESIS 3o: Time-related competencies strengthen the positive relationship between industry tenure and innovative output.

HYPOTHESIS 3p: Time-related competencies strengthen the positive relationship between knowledge breadth and innovative uniqueness.

HYPOTHESIS 3q: Time-related competencies strengthen the positive relationship between knowledge depth and innovative uniqueness.

HYPOTHESIS 3r: Time-related competencies strengthen the positive relationship between industry tenure and innovative uniqueness.

Consequences of Innovative Outcomes

Innovative Outcomes and Performance

As previously noted, the performance of entrepreneurial ventures has been viewed from multiple perspectives. From an institutional theory perspective, one of the primary concerns for entrepreneurial ventures considering their liabilities of newness and smallness is gaining legitimacy in the eyes of key industry constituents (Navis & Glynn, 2010; Wang, Song, & Zhao, 2014). For entrepreneurial ventures, legitimacy is often dependent upon conformity to existing standards and social norms or expectations that

results in the social acceptance of the entrepreneurial firm (Bitektine, 2011; Tost, 2011). The social acceptance of the firm is important for entrepreneurial firms as it provides access to capital (Chung & Luo, 2013), a buffer from poor decisions (Luo, 2014), helps to reduce or eliminate constraints (Adner & Levinthal, 2008), and helps to ensure entrepreneurial firms are able to benefit fully from their innovative outcomes (Rao et al., 2008). As a result, I consider the social acceptance of the entrepreneurial firm directly by looking at its symbolic performance, a measure of the social acceptance granted to the firm (Deephouse & Suchman, 2008; Heugens & Lander, 2009). In addition to symbolic performance, entrepreneurial ventures must also be commercially viable. That is, entrepreneurial ventures must actually be able to generate revenues and make a profit. The profit generated by a firm is a concrete measure of an entrepreneurial firm's success within the marketplace and is a common measure of venture performance (Toft-Kehler, Wennberg, & Kim, 2014). I also consider entrepreneurial performance from this perspective, which I label substantive performance consistent with Heugens and Lander (2009), to distinguish between symbolic performance and to emphasize the bottom-line nature of financial outcomes.

A larger quantity of innovations generated, innovative output, is likely to increase the symbolic performance of an entrepreneurial firm for multiple reasons. First, as a firm releases more products, they are likely to achieve higher relative levels of visibility (Leahey, 2007). Higher levels of visibility are likely to lead to a taken-for-granted status as the familiarity with the entrepreneurial firm's name and its outputs increases. This taken-for-granted status afforded by higher levels of familiarity is likely to lead to passive

evaluations and support for the entrepreneurial firm (Johnson et al., 2006; Tost, 2011). Passive evaluations are especially important for entrepreneurial firms since they tend to struggle with providing the justification for specific actions and structures (Zimmerman & Zeitz, 2002). Further, entrepreneurial firms are likely to struggle with deficiencies in reputation, status, or past performance due to liabilities of newness and smallness (Bruderl & Schussler, 1990; Stinchcombe, 1965). Second, in addition to providing visibility and familiarity, higher levels of innovative output provide additional information to evaluators concerning the identities of entrepreneurial firms (Bitektine, 2011). The increased amount of available information reduces uncertainty and the cognitive effort required for categorizations and evaluation (Phillips et al., 2004) and facilitates sense making by key constituents (Navis & Glynn, 2010). These sense making activities are vital for entrepreneurial firms since their small size, short history, and unique nature lead to reduced legitimacy by default (Luo, 2014; Nagy et al., 2012). In order for entrepreneurial firms to overcome these hurdles, they must provide sufficient information for their actions and identities to be placed within familiar categories in order to assume the legitimacy of the familiar category (Bitektine, 2011; Mugge & Dahl, 2013). Prior research has shown the impact of these attempts to assume familiar category membership by demonstrating that entrepreneurial ventures use language to attempt to conform to legitimate groups (Glynn & Abzug, 2002; Navis & Glynn, 2011).

Similarly, I expect innovative output to increase the substantive performance of an entrepreneurial firm. A higher innovative output has already been linked to positive financial firm performance (e.g., Geroski, Machin, & Van Reenen, 1993). This positive

relationship is likely to exist for several reasons. First, most directly, as a firm increases its innovative outputs, the firm is likely to increase sales and market share. This is the case because a greater number of products enables entrepreneurial firms to offer products with different characteristics to satisfy nuanced market demands (Cho & Pucik, 2005; Golovko & Valentini, 2011). Second, as an entrepreneurial firm increases its number of innovative outputs, it is more likely to increase its sensitivity to changing market conditions (Hult, Hurley, & Knight, 2004). This allows the entrepreneurial firm to be better able to pursue products that are likely to find commercial success (Kyrgidou & Spyropoulou, 2013). For the entrepreneurial firm more specifically, a higher level of innovative output provides additional information for markets and serves as a proxy for quality (Akdeniz, Calantone, & Voorhees, 2014; Luo, 2014). Further, for the entrepreneurial firm, higher levels of innovative outputs are likely to increase brand awareness and recognition and as a result provide an advantage to the firm in consumer markets (Wiklund & Shepherd, 2003). Given the above discussion, I expect innovative output to enhance both the symbolic and the substantive performance of the entrepreneurial firm.

On the other hand, the effect of innovative uniqueness on the performance of the entrepreneurial firm is likely to be negative. A higher level of uniqueness in the innovative outcomes of the entrepreneurial firm is likely to reduce its symbolic performance. Uniqueness increases the cognitive effort required to evaluate a product or firm (Bitektine, 2011; Rosch, 1978). The additional cognitive effort required is likely to lead to a legitimacy penalty for unique firms or products (Goode, Dahl, & Moreau, 2013;

Hsu et al., 2009; Hsu, 2006). This is especially true for entrepreneurial firms since they tend to lack a clear or coherent identity (Santos & Eisenhardt, 2005). For instance, Navis and Glynn (2010) found that entrepreneurial firms first had to collectively establish the legitimacy of new market categories before audiences would consider the legitimacy of a particular entrepreneurial firm. Further, even after categories were established, entrepreneurial firms had to conform to the market category prototype in order to avoid an illegitimacy discount (Navis & Glynn, 2010). In addition to the illegitimacy discount, higher levels of uniqueness force products into multiple or new categories (Hsu, 2006). In the instance of multiple categories, unique products do not fit well within the evaluative criteria of any particular category and as a result are evaluated less favorably than alternative products (Hsu, Negro, & Perretti, 2012; Hsu, 2006). In the instance of new categories, the cognitive effort required to develop entirely new and appropriate evaluative criteria is likely to lead individuals to base new criteria on existing categories that do not accurately capture the value or appropriateness of highly unique innovative products (Bitektine, 2011; Hsu et al., 2009). As a result of using ill-fitting evaluative criteria, unique innovations are likely to receive lower overall evaluations of appropriateness and legitimacy (Bitektine, 2011; Hsu et al., 2009). Entrepreneurial firms are also more likely to be affected by these penalties because they suffer from the liability of newness (Stinchcombe, 1965). In addition, cultural industries, such as the popular music industry, are especially sensitive to the negative effects of product uniqueness on symbolic performance because of the inclusion of artistic logics in addition to traditional economic logics in product evaluations (Peltoniemi, 2015). That is to say that products

that are successful become endearing and memorable to audiences and any deviations are highly penalized.

Innovative uniqueness is also likely to reduce the substantive performance of entrepreneurial firms. First, from the perspective of a consumer, as an entrepreneurial firm adds novelty or uniqueness to its innovative outputs, the firm also increases the amount of effort required on the part of the consumer to understand and adopt new products. As a result, higher levels of uniqueness increase the learning costs associated with new product adoption (Mukherjee & Hoyer, 2001). The increased learning costs associated with highly unique products leads to lower product evaluations (Mugge & Dahl, 2013) and should result in decreased intentions to buy (Dodds, Monroe, & Grewal, 1991). The negative relationship between innovative uniqueness and substantive performance highlights an interesting issue. While consumers may express an explicit desire for highly unique products in reality they prefer new products that minimize uniqueness. Second, a cost perspective also supports a negative relationship between innovative uniqueness and substantive performance. From the perspective of the costs incurred by the entrepreneurial firm, an emphasis on highly unique products may limit the range of options considered by the firm to more radical ideas (He & Wong, 2004). As a result, the firm may waste resources, or use too many of them, as it pursues uniqueness (Miller & Friesen, 1982). Entrepreneurial firms are especially sensitive to wasted resources as they tend to be resource deficient (Baker & Nelson, 2005). Third, from an emotional perspective, in the popular music industry, songs that demonstrate high innovative uniqueness may not bring about the same level of emotional connection that

listeners had with previous songs by similar artists and are likely to bring disappointment and a desire to find the same kind of feeling elsewhere. Given the above arguments, I suggest the following hypotheses:

HYPOTHESIS 4: Innovative outcomes are significantly related to firm performance.

HYPOTHESIS 4a: Innovative output is positively related to the symbolic performance of the firm.

HYPOTHESIS 4b: Innovative output is positively related to the substantive performance of the firm.

HYPOTHESIS 4c: Innovative uniqueness is negatively related to the symbolic performance of the firm.

HYPOTHESIS 4d: Innovative uniqueness is negatively related to the substantive performance of the firm.

Moderating Effect of Institutional Environments

Competitive environments have historically been divided into two types by institutional theorists: technical or task environments and institutional environments (Oliver, 1997). Task environments emphasize the economic efficiency and effectiveness of organizations and as a result technical efficiency is a primary metric in determining the overall performance of a firm (Scott & Meyer, 1983). In contrast to task environments, institutional environments focus on the conformity of organizations to rules and requirements, apart from technical efficiency (Scott, 1992). Within institutional environments firm behavior and performance is influenced primarily by explicit and

implicit rules of appropriateness as opposed to economic considerations of efficiency (Shinkle & Kriauciunas, 2012). However, institutional environments themselves vary in the extent to which they influence behavior (Levitsky & Murillo, 2009; Phillips et al., 2004). As a result, I focus on institutional strength. In institutional environments with high institutional strength, behavior is greatly limited because deviations from accepted standards are likely to be met with strong negative consequences (Phillips et al., 2004).

As discussed in Chapter 3, the popular music industry is an institutional environment. Institutional environments are characterized by industries or sectors with influential organizations that set the rules and requirements for organizations (DiMaggio & Powell, 1983). These influential organizations are able to impact the overall symbolic performance of a firm by the establishment and reinforcement of discourses (DiMaggio & Powell, 1983; Phillips et al., 2004). Discourses represent collections of materials that shape understanding and become the basis of the explicit and implicit rules that direct behavior and impact performance. Institutional strength increases as an entrepreneurial firm identifies with a particular discourse (Phillips et al., 2004). The more closely a firm identifies with a particular discourse, the more strictly it is held to the expectations of acceptable and appropriate actions established by that discourse (Carpenter & Feroz, 2001; Phillips et al., 2004). Entrepreneurial firms operating within areas of high institutional strength are more greatly penalized for deviations from standards of behavior and appropriateness (Aldrich & Fiol, 1994; Powell & DiMaggio, 1991).

Both the smaller size and younger age of the average entrepreneurial firm is likely to reduce the ability of the entrepreneurial firm to contradict or challenge existing

discourses (Boyer & Blazy, 2014; Mattsson et al., 2010). In the popular music industry in particular, the impact of high institutional strength is likely to be especially strong. Music and products from other cultural industries are consumed primarily for their artistic value and not for their economic value (Peltoniemi, 2015). Since artistic value is hard to quantify objectively, evaluations are likely to default to existing standards of value and usefulness set by existing influential discourses (Tost, 2011). I argue that for each genre, there are different standards of conformity. For some genres, the expectations of audiences are narrower and the artist needs to more closely conform. For other genres, the artist may have more leeway as the standards for belonging to that genre are wider. Thus, the uniqueness of products is evaluated against existing standards to arrive at a judgment concerning the product (Bitektine & Haack, 2014; Bitektine, 2011). Comparisons to existing standards are likely to become especially influential when discourses become easily discernable. The easier it is to identify standards for evaluation the more likely a firm will be held to those standards (Bitektine, 2011) and penalized for deviations (Phillips et al., 2004). Therefore, I formally I propose:

HYPOTHESIS 5: Institutional environments moderate the relationship between innovative uniqueness and symbolic performance.

HYPOTHESIS 5a: The negative effect of innovative uniqueness on symbolic performance will be greater as institutional strength increases.

Symbolic and Substantive Performance

The substantive performance of a firm should be closely linked with the symbolic performance of the firm (DiMaggio & Powell, 1983; Heugens & Lander, 2009).

Although many theorists suggest a negative relationship between symbolic and substantive performance (e.g., Scott, 2001), I argue for a positive relationship. Arguments for a negative relationship between symbolic and substantive performance revolve around three major lines of reasoning (Heugens & Lander, 2009). First, it is expected that the opportunity cost of seeking legitimacy may draw resources away from their best financial use in order to satisfy non-technical expectations (Barreto & Baden-Fuller, 2006). However, as I argue next, there is not necessarily a trade-off between technical efficiency and symbolic performance. Tost (2011) argued that efficiency can be a component of symbolic performance. Further, the popular music industry is a cultural industry and is not generally evaluated on technical grounds (Peltoniemi, 2015). Second, firms may adopt formal structures in order to satisfy non-technical expectations, but then establish different informal processes in order to pursue technical efficiency (Meyer & Rowan, 1977). This decoupling may lead to wasted resources. Further, the formal structures may interfere with the informal processes and reduce the ability of a firm to operate effectively (Basu, Dirsmith, & Gupta, 1999). Again, I argue that this is not necessarily the case. It may be that formal structures and informal processes are complimentary. For instance, in the case of corporate social responsibility prior research has concluded that the most significant positive benefits occur when firms are wholly committed to social responsibility initiatives and both formal and informal structures are aligned (Barnett & Salomon, 2002; Orlitzky, Schmidt, & Rynes, 2003). Third, as firms adopt legitimate structures and create conforming products, they are likely to reduce product differentiation, which results in a reduction of the potential for a competitive advantage

(Deephouse, 1999). Once more, this is not necessarily the case, as consumers may prefer more familiar products (Basuroy, Desai, & Talukdar, 2006; Brewer, Kelley, & Jozefowicz, 2009).

Therefore, despite the negative relationship between symbolic and substantive performance suggested in the literature, I argue that entrepreneurial firms that achieve higher levels of symbolic performance should also achieve higher levels of substantive performance. I suggest this positive relationship for several reasons. First, conformity, a key condition for symbolic performance, does not necessarily reduce technical efficiency. The literature provides evidence of such contention. Tost (2011) argued that one of the conditions for establishing legitimacy is promoting the material interests of society and individuals suggesting usefulness and efficiency. In line with Tost (2011), Westphal, Gulati, and Shortell (1997) found that early adopters of total quality management (TQM) initiatives did so on the basis of technical efficiency and that late adopters who did so for increased legitimacy also received the benefits of increased technical efficiency. The quest for legitimacy often involves increasing technical efficiency, and technical efficiency is directly related to financial measures of performance (Chen, Delmas, & Lieberman, 2015; Moatti, Ren, Anand, & Dussauge, 2015). Second, higher symbolic performance provides a firm greater access to higher quality resources, under more favorable conditions (DiMaggio & Powell, 1983; Griffiths, Kickul, Bacq, & Terjesen, 2012). Such access to better resources enables the firm to pursue more competitive strategies (Penrose, 1959). For the entrepreneurial firm, this is especially important since it tends to lack resources and access to capital markets (Baker & Nelson, 2005; Deeds,

Mang, & Frandsen, 2004; Pollock & Rindova, 2003). Third, firms with higher symbolic performance should receive priority over firms with lower symbolic performance when purchase decisions are made by consumers (Bitektine & Haack, 2014; Bitektine, 2011; Hsu et al., 2012; Tost, 2011). Such purchases should result in higher substantive performance. In the context of entrepreneurial firms, the strong conformity to expectations that results in higher symbolic performance allows them to overcome the lack of status and reputation (Deephouse & Suchman, 2008) that result from the liability of newness (Bruderl & Schussler, 1990). For instance, authenticity is often seen as a key component for recording artists in the country music genre (Jones, Anand, & Alvarez, 2005). Recording artists that conform by demonstrating high authenticity are more likely to attract larger initial audiences (Peterson, 1997). Given the above arguments, formally, I propose the following:

HYPOTHESIS 6: Symbolic performance is positively related to substantive performance.

The research model showing all the constructs discussed in my hypotheses development is depicted in Figure 4. Table 1 provides a summary of the exact relationships hypothesized.

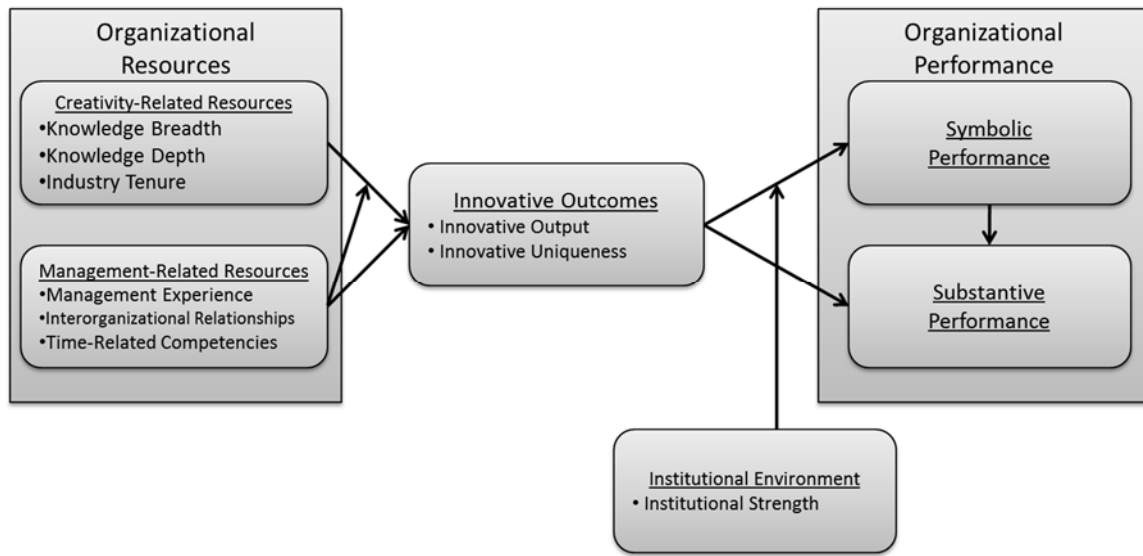


Figure 4. Full Theoretical Model.

Table 1. Summary table of hypothesized relationships.

Hypothesis	Predictor Variable	Hypothesized Relationship	Criterion Variable or Relationship
1	Creativity-related resources are significantly related to innovative outcomes.		
1a	Knowledge Breadth	Increases (+)	Innovative Output
1b	Knowledge Breadth	Increases (+)	Innovative Uniqueness
1c	Knowledge Depth	Increases (+)	Innovative Output
1d	Knowledge Depth	Increases (+)	Innovative Uniqueness
1e	Industry Tenure	Increases (+)	Innovative Output
1f	Industry Tenure	Increases (+)	Innovative Uniqueness
2	Management-related resources are significantly related to innovative outcomes.		
2a	Management Experience	Increases (+)	Innovative Output
2b	Management Experience	Decreases (-)	Innovative Uniqueness
2c	Interorganizational Relationships	Increase (+)	Innovative Output
2d	Interorganizational Relationships	Increase (+)	Innovative Uniqueness
2e	Time-Related Competencies	Increase (+)	Innovative Output
3	Management-related resources moderate the relationship between creativity-related resources and innovative outcomes.		
3a	Management Experience	Strengthens (+)	Positive relationship between Knowledge Breadth and Innovative Output
3b	Management Experience	Strengthens (+)	Positive relationship between Knowledge Depth and Innovative Output
3c	Management Experience	Strengthens (+)	Positive relationship between Industry Tenure and Innovative Output
3d	Management Experience	Weakens (-)	Positive relationship between Knowledge Breadth and Innovative Uniqueness

Table 1. Continued

3e	Management Experience	Weakens (-)	Positive relationship between Knowledge Depth and Innovative Uniqueness
3f	Management Experience	Weakens (-)	Positive relationship between Industry Tenure and Innovative Uniqueness
3g	Interorganizational Relationships	Strengthen (+)	Positive relationship between Knowledge Breadth and Innovative Output
3h	Interorganizational Relationships	Strengthen (+)	Positive relationship between Knowledge Depth and Innovative Output
3i	Interorganizational Relationships	Strengthen (+)	Positive relationship between Industry Tenure and Innovative Output
3j	Interorganizational Relationships	Strengthen (+)	Positive relationship between Knowledge Breadth and Innovative Uniqueness
3k	Interorganizational Relationships	Strengthen (+)	Positive relationship between Knowledge Depth and Innovative Uniqueness
3l	Interorganizational Relationships	Strengthen (+)	Positive relationship between Industry Tenure and Innovative Uniqueness
3m	Time-Related Competencies	Strengthen (+)	Positive relationship between Knowledge Breadth and Innovative Output
3n	Time-Related Competencies	Strengthen (+)	Positive relationship between Knowledge Depth and Innovative Output

Table 1. Continued

3o	Time-Related Competencies	Strengthens (+)	Postive relationship between Industry Tenure and Innovative Output
3p	Time-Related Competencies	Strengthens (+)	Postive relationship between Knowledge Breadth and Innovative Uniqueness
3q	Time-Related Competencies	Strengthens (+)	Postive relationship between Knowledge Depth and Innovative Uniqueness
3r	Time-Related Competencies	Strengthens (+)	Postive relationship between Industry Tenure and Innovative Uniqueness
4	Innovative outcomes are significantly related to firm performance.		
4a	Innovative Output	Increases (+)	Symbolic Performance
4b	Innovative Output	Increases (+)	Substantive Performance
4c	Innovative Uniqueness	Decreases (-)	Symbolic Performance
4d	Innovative Uniqueness	Decreases (-)	Substantive Performance
5	Institutional environments moderate the relationship between innovation uniqueness and symbolic performance.		
5a	Institutional Strength	Strengthens (-)	Negative relationship between Innovative Uniqueness and Symbolic Performance
6	Symbolic Performance	Increases (+)	Substantive Performance

Chapter 5

Research Methods

This study focuses on the conditions leading to the success of entrepreneurial ventures. In order to test my hypotheses, I focus on the popular music industry. As explained in Chapter 4, the popular music industry shares many of the same characteristics of industries that are normally considered in the study of entrepreneurship. For instance, there is rapid change in market leaders and a strong focus on innovative outcomes as the primary method of competition (Klein & Slonaker, 2010; Peterson & Berger, 1971). Further, because a specific area of concern for my dissertation is the ability of entrepreneurial firms to manage the resource endowments under their control, I have chosen to focus on independent recording artists as my sample. Independent recording artists maintain more control over the day-to-day operations of their organizations compared to traditional recording artists that have partnered with a major record label (Coulson, 2012; Hracs, 2012). The additional control maintained by independent recording artists requires that they devote more time to the management of their organizations than traditional recording artists (Oliver, 2010). In my analysis, I use the term recording artist to refer to both individuals and groups of recording artists. For instance, recording artist Jason Aldean is a single individual while recording artist Alesana includes five members: Shawn Mike, Patrick Thompson, Dennis Lee, Steven Tomany, and Daniel Magnuson. I aggregate data to the artist level for analysis. In this chapter, I will briefly discuss my data sources, variable measurements, and method of analysis.

Data Sources

Data was gathered from public profiles listed on websites and multiple online databases that are available for public non-commercial use through application programming interfaces (APIs). I discuss these websites and databases in more detail below. An API is a special type of software-to-software interface that allows software developers to integrate services offered by other firms into their product offerings (Roos, 2007). One of the simplest examples of an API is a Google search bar located on a non-Google website. A website user can conduct a Google search of the web or a particular website without having to access <http://www.google.com> directly. In this instance, the search is still conducted by Google and the results will be equivalent to the results on <http://www.google.com> but the results are accessed through a separate firm's website. The process is largely unnoticed by a consumer since the process occurs behind the user's interface. Many firms across various types of industries make APIs available to software developers in order to access new customers or markets, promote innovation, and generate additional revenue (Woods, 2011). For instance, Google offers several APIs that allow developers to integrate specific services such as language translation (Google Translate), navigation (Google Maps), and e-mail (G-Mail) into third-party software applications ("Google Developers Console," 2015). Similarly, Amazon offers APIs that allow developers to integrate product searches, audio and video streaming, and various cloud based services ("Amazon Developer Services," 2015).

Data concerning bands, band members, releases, and recordings was aggregated from four API sources: MusicBrainz, Last.fm, Rovi Corporation, The Echo Nest and two

primary websites: <http://www.facebook.com> and <http://www.youtube.com>. MusicBrainz is an open-source database of music metadata (“About - MusicBrainz,” 2015). MusicBrainz provides a unique identifier that is used by multiple other service providers to identify and track artists. For instance, the MusicBrainz identifier is used by both Last.fm and The Echo Nest and was used to link information together from these two sources. The MusicBrainz database is updated hourly to reflect the most current information. Last.fm is a streaming music provider and recommendation service (“About Last.fm,” 2015). Last.fm provides information concerning recording artists as well as user data. Rovi Corporation is a digital entertainment firm that specializes in providing metadata concerning digital media such as television programs, album releases, and e-book releases (“About Us - Rovi Corporation,” 2015). Rovi’s services offered are very similar to Last.fm. However, Rovi’s scope is broader since Rovi does not limit its services and products to only recorded music. The Echo Nest is a music intelligence firm that focuses on analyzing music structures and serves as a portal for information concerning artists, their popularity, news, and trends (“Company - The Echo Nest,” 2015). The website <http://www.facebook.com> is primarily known as a social networking website that allows individuals and firms to establish public profiles. In the case of recording artists, Facebook pages are a point of contact with customers and are often used to disseminate information and original content. Similarly, the website <http://www.youtube.com> allows both firms and individuals to establish profiles primarily for the dissemination of video content. Data fields available for each recording artist were

linked together using unique identifiers assigned to each recording artist by MusicBrainz, Rovi Corp, or through manual name and profile matching.

In order to identify and narrow my sample, I used the Billboard Independent Albums charts for the years 2012, 2013, and 2014. Billboard's charts are widely regarded as the standard for performance data throughout the popular music industry (Isaac & Schindler, 2014). Billboard's Independent Albums chart lists the top-selling albums on a weekly basis that have been distributed through independent distributors across all genres and includes the impact of digital media sales and streaming content ("Independent Albums - Billboard," 2015). I used the three most recent years for several reasons. First, using the most recent three year period to identify a sample of firms that are currently active is in line with research in the innovation literature (Filippini, Salmaso, & Å, 2004; Vega-Vázquez, Cossío-Silva, & Martín-Ruiz, 2012; von Hippel, de Jong, & Flowers, 2012). Second, using the three most recent years of albums helps to control for variance in performance due to unobserved and unmeasured historical factors that might impact my research. The structure of the popular music industry is constantly undergoing changes (Klein & Slonaker, 2010; Leyshon, 2003). Using too long of a window risks capturing performance variations due to the digital revolution as opposed to my specific variables of interest. Third, focusing on the three most recent years helped to ensure that there was sufficient data richness for each band concerning recent activities and biographies (Tucker, 2013). Finally, the three most recent years provides a sample size large enough to satisfy power requirements.

Variable Measurements

In the following paragraphs, I discuss how I measured each one of the constructs mentioned in my hypotheses development, and, in some cases, I provide possible alternative measures. Since my sample consists of independent popular music artists, I use variable measurements that are likely to capture the construct as it relates to my specific context. I begin with my independent variables, move to my moderating variable, dependent variables, and then conclude with my control variables. A summary of constructs, construct definitions, and measures can be found in Table 2.

Independent Variables

Knowledge Breadth. I measured knowledge breadth as the sum of the total number of unique production credits held by each band member over the entire course of their career. Production credits certify that an artist has provided meaningful work towards an innovative outcome. Production credits can be awarded for various roles such as playing specific instruments or helping to edit cover art for specific albums. As the total number of unique production credits increases, the knowledge breadth of the entrepreneurial firm should also increase. Experience in multiple job roles is likely to expose individuals to broad and novel knowledge and increases the likelihood that new knowledge can be related to what is already known (Cohen & Levinthal, 1990; Wu & Shanley, 2009).

Knowledge Depth. I measured knowledge depth as the total number of songs where band members are listed as a writer or composer by Rovi Corporation regardless of band affiliation or the number of co-authors. I expect that as a band member participates

in the composition of a song, the knowledge depth associated with song writing should increase. Knowledge depth captures the familiarity with a particular type of knowledge (Ahuja & Katila, 2001; Bierly & Chakrabarti, 1996; Wu & Shanley, 2009). Multiple experiences with a particular process should increase overall knowledge of the process and subject matter and should help move individuals along learning curves. Given my research context and variable of interest, innovative outcomes, experience in song writing is likely to be the most important area of knowledge required for success.

Industry Tenure. I measured industry tenure as the time between a band's first listed official release and the current year (Smith et al., 2005). A band's first release may be either a single song, EP, or a full album and represents a significant objective marker that indicates a recording artist's entry into the popular music industry. I expect that the longer a firm has been in the recorded music industry, the greater its industry tenure.

Management Experience. I measured management experience as the number of independent albums the band has released. In line, with Dokko and Gaba (2012), I expect the greater the number of independent albums, the more management experience the band will possess. An album represents a significant project that the recording artist accomplishes and requires skills that go beyond composing, performing, and recording a song (Oliver, 2010). For instance, a recording artist must be able to form a collection of songs with a common theme, name them properly, and order them properly to find the greatest level of commercial success possible (Trust, 2015b). Additionally, recording artists have to choose between writing all new music for an album, including prior recordings of music or new recordings of prior music, or collaborating with a single other

artist or multiple artists. Further, for each album, recording artists must determine distribution methods, promotion activities such as concerts and release parties, and make pricing decisions (Chertkow & Feehan, 2014; Keitt, 2013). As a result, the independent publication of an album requires recording artists to engage in multiple traditional business management functions (Oliver, 2010). The more independent albums they have published, the more experience they will have with the process.

Interorganizational Relationships. I measured the number of interorganizational relationships as the total number of unique artist partnerships where the guest artist received at least one production credit on an album. While IORs are a much broader term that is inclusive of all relationships regardless of the content or function of their relationship (Marion et al., 2015; Oliver, 1990), I believe that measuring the number of unique collaborations at the album level should capture the successful ability of a recording artist to partner. Recording artists that are able to partner with multiple other recording artists should also be more able to form outside relationships for other processes in the popular music industry such as distribution and promotion. As a result, the greater the number of unique artists partnerships, the greater the number of interorganizational relationships.

Time-Related Competencies. I measured time-related competencies as the standard deviation in the length of time between the Grammy Awards, a major music awards ceremony, and the bands last song release prior to the Grammy Awards ceremony over the active life of the recording artist. I expect time-related competencies to be greater when the standard deviation is smaller. A smaller standard deviation represents a

smaller time frame in which an independent artist releases a song prior to the Grammy Awards. The smaller the time frame the more likely it is that the recording artists is targeting a particular window for release suggesting that they are recognizing and responding to key environmental rhythms. As an example, given two independent artists active for only the last three years, if independent recording artist A releases a single 30 days before the 2014 awards ceremony, 40 days before the 2013 awards ceremony, and 45 days before the 2012 awards ceremony their standard deviation would be 7.6376. Alternatively, if independent recording artist B releases a single at 35, 40, and 45 days before the 2014, 2013, and 2012 awards ceremony, respectively, their standard deviation is equal to 5. In this case, independent recording artist B has a smaller deviation and a narrower window suggesting an intentional targeting of a release window. I reverse-coded this variable in order to simplify interpretation, as a result larger values are associated with stronger time-related competencies.

Moderator Variable

Institutional Strength. I have three measures of institutional strength. First, I measured the age of the primary genre in which a recording artist participates. In this case, as the age of a primary genre increases, then institutional strength should also increase. Generally, the longer a particular institution has been in existence the greater its ability to influence behavior (Deroy & Clegg, 2015; DiMaggio & Powell, 1983; Eisenhardt, 1988). For this measure I used an ordinal ranking based upon the first major album released in that genre according to Rovi Corp. Second, I measured the number of user reported tags for a band. This measure is a count variable. User reported tags are

broader categories than genres and are not constrained by anything other than the consumer's imagination. In this case, consumers create labels that others may identify with or associate with a recording artist. For instance, the recording artist Radiohead currently has tags that range from "britpop" to "indie" and from "overrated" to "masterpiece" ("No Title," 2015). User tags are not curated but are often relied upon by users to find new music. I expect that as a firm increases the number of categories spanned, institutional strength will decrease. This is because as the number of categories a firm participates in increases, the ability of any one category criteria to constrain the firm decreases (Bitektine, 2011). In order to aid in interpretation, I reverse coded this measure. As a third measure, I calculated the percentage of albums released in the recording artist's primary genre. This variable is a continuous variable bounded between zero and one. The larger the percentage of the recording artist's albums that are produced in a specific genre, the greater the institutional strength. In this instance, the clear identification with a particular genre is likely to lead audiences to more closely evaluate songs according to standards within that genre.

Dependent Variables

Innovative Output. I measured innovative output as the total number of songs released by a recording artist. The greater the number of songs released, the greater the innovative output of the artist. While I measure management experience by the number of independent albums published, here I consider only song releases. It is important to note that a recording artist can release only singles and never create an album or they can take the same set of songs and release multiple albums. Further, an artist may record songs for

release where they are not a writer. Oliver (2010) considers the creation of a song a creative process that does not require the same level of managerial skills required to enable an independent album to be successful. A logarithmic transformation was applied to this variable due to variable skewness.

Innovative Uniqueness. I measured innovative uniqueness as the mean of the similarity score generated by Last.fm between the focal recording artist as compared to the 100 most similar recording artists listed by Last.fm. Last.fm creates a similarity score that is bounded between zero and one as part of their music search and recommendation services. The greater a similarity score between two artists the more likely a consumer that listens to one artist will also enjoy music from the second artist. Although the exact formula is proprietary, Last.fm creates the similarity score based upon listener data. The more often consumers listen to songs by both artist “A” and artist “B”, the greater the similarity score becomes. Similarity scores of one indicate recording artists that are always listened to together, while similarity scores of zero indicate recording artists that are never listened to together. As an example, The Rolling Stones, an artist in my sample, is rated as almost perfectly similar to The Who (Last.fm similarity score=1.000000), unlike Fleetwood Mac (Last.fm similarity score=.296967), and even less like Stevie Wonder (Last.fm similarity score=.233128). I reverse coded this variable to aid in interpretation and as a result larger values are associated with greater innovative uniqueness.

Symbolic Performance. I measured symbolic performance as the number of reported fan “likes” on Facebook. Symbolic performance has historically been measured

by regulatory or media endorsement (Deephhouse & Carter, 2005; Deephouse, 1996; Heugens & Lander, 2009). Facebook, as a social media platform, allows consumers to voice their opinions in much the same way that regulatory agencies are able to use press releases and news articles. In addition, Facebook provides a platform that enables music exploration. For instance, Bookya, a German start-up, uses data specifically from Facebook to recommend artists to booking agents and concert promoters (Kharpal, 2015). The greater the number of “likes,” or endorsements, provided, the greater the level of symbolic performance.

Substantive Performance. I used two measures for substantive performance. First, I measured substantive performance as the sum of the play count of all artist releases as calculated by Last.fm. I also captured substantive performance as the number of unique listeners as calculated by Last.fm. While limitations due to data accessibility prevents me from using actual sales figures for each artist, royalty structures tend to be fairly standard throughout the industry and allow me to compare artists based upon public performances (Krasilovsky & Schemel, 2007). For instance, mechanical royalties for songs under 5 minutes are currently 0.091 \$USD for a physical format, such as a compact disc, or permanent download (“What Mechanical Royalty Rates,” 2014). A public performance includes anytime a recorded song is played. The greater the play count for an artist, the greater the substantive performance for an artist. As an alternate measure, unique listeners represent consumers of a recording artist’s product. As the number of unique listeners increases, the greater the substantive performance of an artist.

Control Variables

I controlled for the primary genre listed for each recording artist as different genres are likely to experience different levels of success due to different market sizes. For instance, an independent artist that records “Dubstep” is likely to have lower substantive performance than a genre such as “Country” music because, compared to country music, dubstep is not a mainstream genre and the market is smaller. I also controlled for the country of origin of the recording artist measured by the country where the recording artist’s first release took place. Foreign recording artists may face additional challenges that are likely to influence multiple variables within my research model and may also suffer from the liability of foreignness (Zaheer, 1995). For instance, while being an international recording artist may offer benefits such as a larger market, being an international recording artist may also hinder both symbolic and substantive performance since expectations concerning appropriate behavior may be different. I controlled for the gender of the recording artists since gender may affect the willingness of consumers to accept uniqueness and may also impact market size. I used the percentage of members that are male as my measure. Please recall that independent recording artists can be individuals or bands. Finally, I controlled for prior relationships with a major record label or their subsidiaries. Recording artists that have had relationships with major record labels in the past are likely to have established brands that will enable them to be more successful in the future and may affect their substantive and symbolic performance. I measured prior relationships with the Big 3 and subsidiaries

with a dummy variable which took the value of 1 if the entrepreneurial firm has had a prior relationship with a major record label or their subsidiaries.

Table 2. Summary of constructs and measures.

Construct	Definition	Measure(s)
Knowledge Breadth	The extent to which knowledge is drawn from multiple sources (Bierly & Chakrabarti, 1996; Denford & Chan, 2011).	The sum of the total number of distinct production credits held by each band member.
Knowledge Depth	The extent to which knowledge has been developed in a specific domain (Bierly & Chakrabarti, 1996; Denford & Chan, 2011).	The sum of the total number of songs composed by band members regardless of affiliation.
Industry Tenure	The length of time a firm has been involved within an industry (Kehoe & Tzabbar, 2015; Smith et al., 2005).	Time since a recording artist's first official release.
Management Experience	Experience performing a specific practice (Dokko & Gaba, 2012; Oliver, 2010).	The number of independent albums published.
Interorganizational Relationships	Relationships between the focal firm and other separate firms (Oliver, 1990).	The number of collaborations across album releases with another recording artist.
Time-Related Competencies	The ability of the firm to recognize and respond to key environmental rhythms (Khavul et al., 2010; Perez-Nordtvedt et al., 2008).	The standard deviation in the time between the recording artists last official release prior to the Grammy Awards.
Innovative Output	The number of innovations generated by a firm (Jiang et al., 2011).	The total number of songs released by a recording artist.

Table 2. Continued.

Innovative Uniqueness	The amount of novel content represented in an innovation (Jiang et al., 2011).	The mean of the similarity score as computed by Last.fm compared to 100 most similar artists.
Institutional Strength	The level of identification with a particular discourse (Phillips et al., 2004).	<p>The age of the recording artist's primary genre.</p> <p>The number of user generated tags, reverse-coded.</p> <p>The percentage of albums released in the recording artist's primary genre.</p>
Innovative Uniqueness	The amount of novel content represented in an innovation (Jiang et al., 2011).	The mean of the similarity score as computed by Last.fm compared to 100 most similar artists.
Institutional Strength	The level of identification with a particular discourse (Phillips et al., 2004).	<p>The age of the recording artist's primary genre.</p> <p>The number of user generated tags, reverse-coded.</p> <p>The percentage of albums released in the recording artist's primary genre.</p>
Symbolic Performance	The extent to which a firm generates positive social evaluations (Deephouse & Suchman, 2008; Heugens & Lander, 2009).	The number of fan "likes" on Facebook.

Table 2. Continued

Substantive Performance	The ability of the firm to generate accounting based profit (Heugens & Lander, 2009; Meyer & Rowan, 1977).	The sum of play counts for all artist releases as calculated by Last.fm. The number of unique listeners as calculated by Last.fm
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Sample Size

Following Cohen (1988), a basic power analysis for multiple regression suggests that for 10 predictor variables, in order to detect a medium effect size (change in F-squared=.15) with a power of .80, a minimum sample size of 118 is required. On the other hand, in order to detect a small effect size (change in F-squared=.02) with a power of .80, a minimum sample size of 818 is required (Soper, 2015). Since my methods of analysis included a structural equation model with only observed variables (also known as a path model), I also used the number of parameters estimated multiplied by general guidelines to determine sample size. Using this approach, for the estimation of 37 parameters following the “rule of 10,” a minimum required sample size would be 370 (Goodhue, Lewis, & Thompson, 2012). Using the 20:1 ratio suggested by Tanka (1987), a minimum sample size would be 740. My final sample size consisted of 800 firms, which exceeded the minimum sample size requirements using standard guidelines except for detecting very small effect sizes. Although Billboard reports the top 25 albums each week on their Independent Albums chart representing a maximum of 1,300 albums per year, albums tend to persist for multiple periods. As a result only 964 unique artists were identified within the three year period considered. After accounting for missing data and

extreme observations my final sample size consisted of either 800 unique entrepreneurial firms or 749 firms when all three measures of institutional strength are included in the analysis due to missing data.

Chapter 6

Analysis and Results

In this dissertation, I analyzed the relationship between creativity-related resources, management-related resources, innovative outcomes, and symbolic and substantive performance. In order to test these relationships, as stated in the previous chapter, I collected information on popular music recording artists that were listed on Billboard's Independent Album Charts. In this Chapter, I report my empirical findings. I first discuss my sample including descriptive statistics and variable correlations. Then, I discuss the results of my analysis. For robustness, I conducted my analysis using both hierarchical linear regression and structural equation modeling (SEM).

Sample Characteristics

I selected all artists that appeared in Billboard's Independent Album Charts during the years 2012, 2013, and 2014. I identified 964 unique artists. After accounting for missing data using listwise deletion, my sample included 815 recording artists with complete data. Visual inspection of the distribution of each individual variable identified 10 artists that contained extreme observations. These artists contained at least one variable under consideration that was at least double the next nearest firm and represented standardized values of over 10. For instance, the artist Santana includes 52 group members while the next largest artist, The Cult, has only 23 group members. Similarly, artist Duke Ellington has released 1,021 compact discs while the next most non-extreme firm, Motorhead has released only 346 compact discs. Visual inspection of bivariate relationships using scatterplots identified another 5 recording artists that were

considered extreme values. After removing artists with extreme values, a total 800 of these entrepreneurial firms remained for analysis. It must be noted that the exclusion of these 15 firms due to extreme observations is in line with previous research in the recorded music industry. Rosen (1981) introduced the idea that there is a super-stardom effect in the recorded music industry whereby a small portion of artists experience abnormal success that distorts empirical relationships. Marshall (2013) suggests that the unique industry structure of the popular music industry is likely to be a significant factor in the effect. As a result, I decided to exclude these firms in order to examine more typical firms and reduce potential bias.

The median industry tenure for firms in my sample was 11 years with the oldest recording artist, The Rolling Stones, having been in the industry for 52 years. Approximately half of the sample has been active for less than 10 years. I subtracted the current year, 2015, from the year of the recording artists first release to calculate industry tenure. A summary of founding years is presented in Table 3. Firm size ranged from a single member to 23 members. Of the sample, 296 firms (37.0%) were comprised of a single member, 95 firms (11.9%) consisted of 5 members, and 79 firms (9.9%) consisted of 4 members. Ninety-four percent of firms represented were founded in the United States (667 firms), England (46 firms), Canada (25 firms) or Sweden (13 firms). Founding countries represented in the sample can be seen in Table 4.

Table 3. Frequency table of artist first album release.

Period of First Release	Firms Represented	Percent of Sample	Cumulative Percent Represented
2010-2014	149	18.63	18.63
2005-2009	228	28.50	47.13
2000-2004	160	20.00	67.13
1995-1999	107	13.38	80.50
1990-1994	75	9.38	89.88
1985-1989	40	5.00	94.88
1980-1984	20	2.50	97.38
Before 1979	21	2.63	100.00
Total	800	100.00	100.00

Table 4. Frequency table of artist country of origin.

Country of Origin	Firms Represented	Percent of Sample	Cumulative Percent Represented
United States of America	667	83.38	83.38
England	46	5.75	89.13
Canada	25	3.13	92.25
Sweden	13	1.63	93.88
Australia	7	0.88	94.75
Ireland	6	0.75	95.50
Scotland	5	0.63	96.13
Netherlands	4	0.50	96.63
France	3	0.38	97.00
Germany	3	0.38	97.38
Mexico	3	0.38	97.75
New Zeland	3	0.38	98.13
Northern Ireland	2	0.25	98.38
Norway	2	0.25	98.63
South Korea	2	0.25	98.88
Wales	2	0.25	99.13
Brazil	1	0.13	99.25
Israel	1	0.13	99.38
Italy	1	0.13	99.50
Jamaica	1	0.13	99.63
Poland	1	0.13	99.75
South Africa	1	0.13	99.88
United Kingdom	1	0.13	100.00
Total	800	100.00	100.00

Of the firms considered in my analysis 550 firms were classified by Rovi Corp as primarily “Pop/Rock”. The next most represented categories are “Rap” and “Country.”

These three genres account for over 85% of my sample. Please refer to Table 5 for a complete presentation of genres represented in the sample. Cumulatively, these 800 firms have released 40,165 albums that represent 12,582 first (unique) album releases. Over 50% of the sample has released less than 10 unique albums with the majority of firms releasing either 3 (55 firms), 5 (48 firms), or 7 (50 firms) unique albums. A summary of the distribution of unique albums released is presented in Table 6. Cumulatively, these firms have released 161,028 separate recordings. A summary of total recordings by artists can be found in Table 7.

Table 5. Frequency table of genres represented.

Genre	Firms Represented	Percent of Sample	Cumulative Percent Represented
Pop/Rock	550	68.75	68.75
Rap	82	10.25	79.00
Country	59	7.38	86.38
R&B	37	4.63	91.00
Religious	25	3.13	94.13
Electronic	23	2.88	97.00
Reggae	6	0.75	97.75
Folk	4	0.50	98.25
International	4	0.50	98.75
Latin	3	0.38	99.13
Blues	2	0.25	99.38
Jazz	2	0.25	99.63
New Age	2	0.25	99.88
Classical	1	0.13	100.00
Total	800	100.00	100.00

Table 6. Frequency table of unique album releases.

Unique Albums Released	Firms Represented	Percent of Sample	Cumulative Percent Represented
1-10	410	51.25	51.25
11-20	219	27.38	78.63
21-30	77	9.63	88.25
31-40	44	5.50	93.75
41-50	18	2.25	96.00
51-60	8	1.00	97.00
61-70	6	0.75	97.75
71-80	2	0.25	98.00
81-90	6	0.75	98.75
91 or above	10	1.25	100.00
Total	800	100.00	100.00

Table 7. Frequency table of unique recordings released.

Total Recordings Per Firm	Firms Represented	Percent of Sample	Cumulative Percent Represented
1-50	201	25.13	25.13
51-100	201	25.13	50.25
101-150	117	14.63	64.88
151-200	69	8.63	73.50
201-250	45	5.63	79.13
251-300	39	4.88	84.00
301-350	25	3.13	87.13
351-400	14	1.75	88.88
401-450	14	1.75	90.63
451-500	9	1.13	91.75
501-550	5	0.63	92.38
551 or above	61	7.63	100.00
Total	800	100.00	100.00

Pearson pairwise correlations were run between each of the variables under consideration. A correlation matrix is presented in Table 8. Several variables were highly correlated but the correlations were expected based upon theory. Post-estimation analysis for multi-collinearity did not indicate any severe issues, all models had variance inflation

Table 8. Correlation matrix.

n=749	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) Knowledge Breadth	52.15	61.43	1.00																
(2) Knowledge Depth	101.49	245.82	0.56***	1.00															
(3) Industry Tenure	13.29	9.02	0.47***	0.50***	1.00														
(4) Management Experience	9.60	10.78	0.34***	0.42***	0.54***	1.00													
(5) Interorganizational Relationships	2.36	6.38	0.13***	0.32***	0.55***	0.27***	1.00												
(6) Time-Related Competencies	-94.85	32.35	-0.02	0.03	-0.01	0.08*	0.02	1.00											
(7) Institutional Strength (Genre Age)	7.48	2.80	0.25***	0.10**	0.10**	-0.01	-0.13***	-0.02	1.00										
(8) Institutional Strength (Songs in Genre)	0.88	0.20	0.06	-0.01	-0.06	-0.05	-0.08*	-0.05	0.17***	1.00									
(9) Institutional Strength (Listener Categories)	-11.64	6.55	0.04	-0.03	-0.02	0.00	-0.07*	0.01	0.11**	0.12**	1.00								
(10) Innovative Uniqueness	-0.31	0.11	0.11**	0.04	-0.05	-0.01	-0.09*	0.00	-0.08*	-0.08*	-0.14***	1.00							
(11) Innovative Output	201.29	333.98	0.35***	0.55***	0.63***	0.81***	0.44***	0.09*	-0.05	-0.07*	-0.02	-0.04	1.00						
(12) Symbolic Performance	842,000	1,750,000	0.03	0.14***	0.06†	0.17***	0.04	0.03	-0.06	0.05	0.08*	-0.02	0.22***	1.00					
(13) Substantive Performance (Play count)	12,800,000	21,400,000	0.22***	0.14***	0.11**	0.28***	-0.06†	-0.03	0.20***	0.13***	0.11**	0.12**	0.15***	0.32***	1.00				
(14) Substantive Performance (Listener count)	405,000	454,000	0.30***	0.28***	0.24***	0.33***	0.06†	-0.04	0.16***	0.13***	0.10**	0.06†	0.28***	0.38***	0.85***	1.00			
(15) Band Size	4.15	3.52	0.69***	0.21***	0.18***	0.15***	-0.15***	0.03	0.35***	0.16***	0.17***	-0.07*	0.09**	0.01	0.21***	0.20***	1.00		
(16) Percent Male	0.87	0.29	0.11**	0.04	0.01	0.08*	-0.09*	0.01	-0.08*	0.08*	0.12**	-0.04	0.03	0.04	0.06*	0.01	0.19***	1.00	
(17) Prior Relationships With Big 3	0.66	0.47	0.20***	0.22***	0.39***	0.17***	0.24***	-0.11**	0.08**	-0.05	0.00	0.03	0.26***	0.18***	0.16***	0.31***	0.09*	-0.07*	1.00

*** p<0.001, ** p<0.01, * p<0.05, † p<0.10

factors (VIF) below the generally accepted cut-off of 10.0 (Neter, Wasserman, & Kutner, 1985) with mean VIF per model of less than 2.0. Correlations provide preliminary support for the positive impact of creativity-related resources and separately management-related resources on innovative output. Of the six resources under consideration all six are significantly and positively correlated to innovative output. Whereas of the six resources under consideration only two find significant correlations with innovative uniqueness; knowledge breadth is positively correlated with innovative uniqueness while IORs are negatively correlated with innovative uniqueness. Significant positive correlations are also found between innovative output and symbolic performance, innovative output and substantive performance, and innovative uniqueness and substantive performance. Post-estimation visual analysis of model fit indicated heteroskedastic variance that was corrected by applying logarithmic transformations to innovative output, symbolic performance, and substantive performance.

Estimation and Results

Relationships between variables of interest were analyzed using hierarchical ordinary least squares (OLS) regression and structural equation modeling (SEM) for robustness. One advantage of SEM over OLS regression is the ability to estimate the relationships between all variables in my hypothesized model simultaneously. In addition, SEM allows for the correlation between independent variables to be factored into the estimation. This feature of SEM is important to reduce potential bias since theory would suggest that several of my independent variables should be correlated; for instance

knowledge depth, knowledge breadth, and industry tenure are all facets of creativity-related resources.

Ordinary Least Squares (OLS) Regression Analysis

OLS regression has several underlying assumptions that should be evaluated before interpreting each model. Model assumptions were evaluated using several different techniques. Informally, visual analysis of residual-versus-fitted plots and residual-versus-predictor plots was conducted to evaluate model fit. After conducting logarithmic transformations of innovative output, symbolic performance, and substantive performance, visual inspection failed to identify any readily apparent issues with heteroskedastic variance, non-linearity, dependence, or non-normally distributed error terms. In addition, OLS assumptions were evaluated using Breusch-Pagan's test for heteroskedastic variance, White's general test for heteroskedasticity, Ramsey's regression equation specification error test (RESET), and the calculation of variance inflation factors.

In all models, variance inflation factors were below the standard accepted cutoff of 10.0 (Neter et al., 1985). VIF scores ranged between 1.00 and 6.19. Results for the regression analyses are found in Table 9 (Models 1-14), Table 10 (Models 15-27), Table 11 (Models 28-35), Table 12 (Models 36-39), and Table 13 (Models 40-44). Testing in Models 14 and 35 predicting innovative output and innovative uniqueness, respectively, found significant evidence ($p < .01$) of omitted variable bias using Ramsey's RESET but failed to find significant evidence ($p < .05$) of heteroskedastic variance. Ramsey's RESET is a general test for model misspecification that evaluates how well non-linear combinations predict the expected outcome (Wooldridge, 2009). Given that both Models

14 and 35 have good model fit, testing failed to find significant evidence ($p < .05$) of heteroskedastic variance, and visual inspection did not identify any readily apparent issues, I chose to move forward with my analysis. Future theorizing should consider non-linear relationships in order to attempt to address this potential issue. Testing in Model 27 predicting innovative uniqueness failed to find significant evidence ($p < .05$) of omitted variable bias or heteroskedastic variance. Testing in Models 39 and 44 failed to find evidence of omitted variable bias but found significant evidence of significant evidence ($p < .05$) of heteroskedastic variance using Breusch-Pagan's test. However, in both cases White's general test did not find significant evidence of heteroskedastic variance. In order to lessen the impact of heteroskedastic variance, Models 39 and 44 were re-run using robust standard errors (presented in Appendix A). Regression using robust standard errors relaxes the assumption that residuals are identically distributed. In this instance, all conclusions remained the same.

Table 9 presents predictor variables for innovative output. Model 1, the Control Model, shows results that include only the control variables. Model 10, the Main Effects Model, includes both control variables and all main effects hypothesized. Results show that Hypothesis 1a, predicting a positive relationship between knowledge breadth and innovative output, is supported. As Model 10 shows, knowledge breadth is significantly and positively related to innovative output ($p < 0.05$). Hypothesis 1c, on the other hand, predicting a positive relationship between knowledge depth and innovative output, is not supported. Interestingly, knowledge depth is negatively related to innovative output, although only at moderate levels of significance ($p < 0.1$). Hypothesis 1e, predicting a

positive relationship between industry tenure and innovative output, finds strong support ($p < .001$), see Model 10.

Hypothesis 2a predicting a positive relationship between management experience and innovative output also finds strong support ($p < .001$) in Model 10. Hypothesis 2c predicting a positive relationship between IORs and innovative output also finds strong support ($p < .01$) in the Main Effects Model, Model 10. Hypothesis 2e predicting a positive direct relationship between time-related competencies and innovative output is not supported in the Main Effects Model. To sum up, knowledge breadth, industry tenure, management experience and IORs are strong predictors of innovative output. The Main Effects Model is significant (Adjusted $R^2 = 0.749$; $p < 0.001$) and explains 47.3% of variance in innovative output beyond the Control Model, Model 1, providing strong support for my contention that both creativity-related resources and management-related resources predict innovative output.

Table 9. OLS regression on innovative output.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Band Size	0.1929*** (5.509)	-0.1306** (-3.026)	0.1267*** (3.811)	0.0843*** (3.665)	0.0317 (1.005)	0.1041*** (3.824)	0.2384*** (7.656)	0.1906*** (5.440)	0.1469*** (5.794)	0.0336 (1.168)	0.0458† (1.775)	0.0279 (0.984)	0.0399 (1.377)	0.0477† (1.838)
Percent Male	0.0457 (1.372)	0.0484 (1.571)	0.0358 (1.153)	0.0333 (1.538)	0.0340 (1.575)	0.0194 (0.756)	0.0690* (2.339)	0.0457 (1.373)	0.0387 (1.633)	0.0284 (1.461)	0.0097 (0.559)	0.0251 (1.310)	0.0277 (1.425)	0.0103 (0.588)
Prior Relationships With Big 3 and Subsidiaries	0.4047*** (12.824)	0.3392*** (11.392)	0.3444*** (11.490)	0.1376*** (6.224)	0.1360*** (6.169)	0.3060*** (12.409)	0.2979*** (10.318)	0.4095*** (12.902)	0.2472*** (10.548)	0.1455*** (7.304)	0.1181*** (6.625)	0.1272*** (6.445)	0.1443*** (7.247)	0.1148*** (6.423)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Knowledge Breadth		0.4679*** (11.341)			0.0799* (2.220)					0.0735* (2.267)	0.0488 (1.572)	0.0739* (2.201)	0.0619† (1.888)	0.0349 (1.054)
Knowledge Depth			0.3323*** (10.708)		0.0097 (0.360)					-0.0461† (-1.869)	0.0551† (1.877)	-0.0337 (-1.151)	-0.0320 (-1.209)	0.0534 (1.612)
Industry Tenure				0.7304*** (32.297)	0.6996*** (27.146)					0.5193*** (18.164)	0.4889*** (18.646)	0.5054*** (17.920)	0.5170*** (17.925)	0.4898*** (18.461)
Management Experience						0.6176*** (22.939)			0.5339*** (20.652)	0.3259*** (13.454)	0.6258*** (20.356)	0.3386*** (14.198)	0.3360*** (13.136)	0.6199*** (19.668)
Interorganizational Relationships							0.4279*** (14.569)		0.2879*** (11.757)	0.0659*** (2.801)	0.0715*** (3.411)	0.2488*** (6.241)	0.0658*** (2.795)	0.1296*** (3.427)
Time-Related Competencies								0.0423 (1.351)	-0.0031 (-0.137)	0.0100 (0.548)	0.0211 (1.291)	0.0147 (0.819)	-0.0078 (-0.330)	0.0531* (2.436)
Mangement Experience x Knowledge Breadth											-0.0452† (-1.691)			-0.0495† (-1.656)
Mangement Experience x Knowledge Depth											-0.0427 (-1.340)			-0.0944* (-2.422)
Mangement Experience x Industry Tenure											-0.3391*** (-12.761)			-0.3266*** (-11.278)
Interorganizational Relationships x Knowledge Breadth												-0.0290 (-1.023)		0.0229 (0.863)
Interorganizational Relationships x Knowledge Depth												0.0236 (0.693)		0.0173 (0.522)
Interorganizational Relationships x Industry Tenure												-0.2094*** (-5.737)		-0.0792* (-2.184)
Time-Related Competencies x Knowledge Breadth													-0.0367 (-1.269)	-0.0531† (-1.915)
Time-Related Competencies x Knowledge Depth													-0.0125 (-0.443)	0.0641† (1.881)
Time-Related Competencies x Industry Tenure													0.0012 (0.043)	0.0555* (2.157)
Constant	*** (34.246)	*** (37.665)	*** (37.335)	*** (45.321)	*** (45.131)	*** (42.688)	*** (37.619)	*** (28.333)	*** (36.547)	*** (41.140)	*** (45.843)	*** (42.476)	*** (36.265)	*** (41.366)
Observations	800	800	800	800	800	800	800	800	800	800	800	800	800	800
F	8.38***	12.91***	12.39***	46.76***	44.92***	27.62***	16.00***	8.21***	34.40***	56.34***	71.03***	55.93***	52.90***	63.91***
Adjusted R-squared	0.255	0.362	0.351	0.685	0.687	0.559	0.416	0.255	0.626	0.749	0.801	0.760	0.749	0.804
Change in R-squared from Control Model, Model 1		0.103***	0.093***	0.411***	0.414***	0.291***	0.155***	0.002	0.355***	0.473***				
Change in R-squared from Main Effects Model, Model 10											0.050***	0.011***	0.001	0.054***
Standardized beta coefficients reported. T-statistics in parentheses. *** p<0.001, ** p<0.01, * p<0.05, † p<0.10														

Results for the interaction effects of the study variables on innovative output are found in Table 9, Model 14, the Full Model. Hypotheses 3a, 3b, and 3c predicting a positive interaction between management experience and knowledge breadth, knowledge depth, and industry tenure, respectively, fail to find support in the Full Model, Model 14. In each case, the relationships are negative and significant at $p < .05$ (knowledge depth), and $p < .01$ (industry tenure) or moderately significant at $p < .10$ (knowledge breadth). This indicates that management experience hinders the positive effect that industry tenure and, separately, knowledge breadth have on innovative output. And when the entrepreneurial firm has both management experience and knowledge depth, this negatively affects innovative output.

Hypotheses 3g, 3h, and 3i predicting a positive interaction between IORs and knowledge breadth, knowledge depth, and industry tenure, respectively, also fail to find support. Hypotheses 3g and 3h, are not significant in the Full Model, Model 14. However, while hypothesis 3i, the interaction between IORs and industry tenure is significant ($p < .05$), contrary to expectations, it is negative. IORs weaken the positive effect that industry tenure has on innovative output.

Hypotheses 3m, 3n, and 3o predicting a positive interaction between time-related competencies and knowledge breadth, knowledge depth, and industry tenure, respectively, finds mixed support in the Full Model, Model 14. Hypothesis 3m was not supported. Hypothesis 3m predicted a positive interaction between time-related competencies and knowledge breadth but found support for a moderately significant ($p < .10$) negative interaction. Therefore, time-related competencies weaken the positive

effect that knowledge breadth has on innovative output. Hypothesis 3n is supported, albeit moderately so ($p < .10$). As Model 14 shows the interaction between time-related competencies and knowledge depth is positive. Hypothesis 3o, predicting a positive interaction between time-related competencies and industry tenure, found a positive and significant ($p < .05$) relationship. The Full Model, Model 14, is significant (Adjusted $R^2 = .804$, $p < .001$) and accounts for 5.4% more variance ($p < .001$) in innovative output than the Main Effects Model, Model 10.

To better understand the interactions, I graphed the ones that were significant at conventional levels ($p < 0.05$) in Figures 5-8. Figure 5 shows the interaction between knowledge depth and management experience on the log of innovative output. Hypothesis 3b predicted a positive interaction, OLS found a negative interaction. Although the coefficient for the interaction was negative, a graph of the interaction shows support for my general arguments. As can be seen in Figure 5, innovative output is greater in the presence of high management experience given a level of knowledge depth. Further, the relationship between knowledge depth and innovative output is stronger in entrepreneurial firms with low management experience.

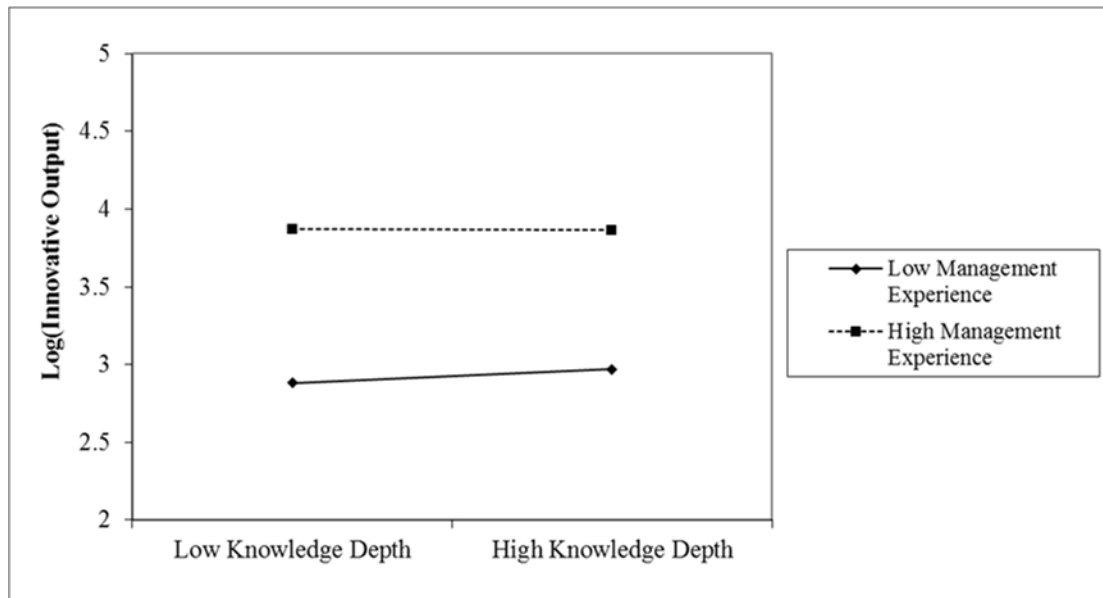


Figure 5. Interaction between knowledge depth and management experience on the log of innovative output.

Figure 6 depicts the interaction between management experience and industry tenure on the log of innovative output. Similar to the interaction between management experience and knowledge depth, although the OLS coefficient for the interaction is negative, a graph of the interaction supports my hypothesis. Greater management experience is associated with higher levels of innovative output given a level of industry tenure.

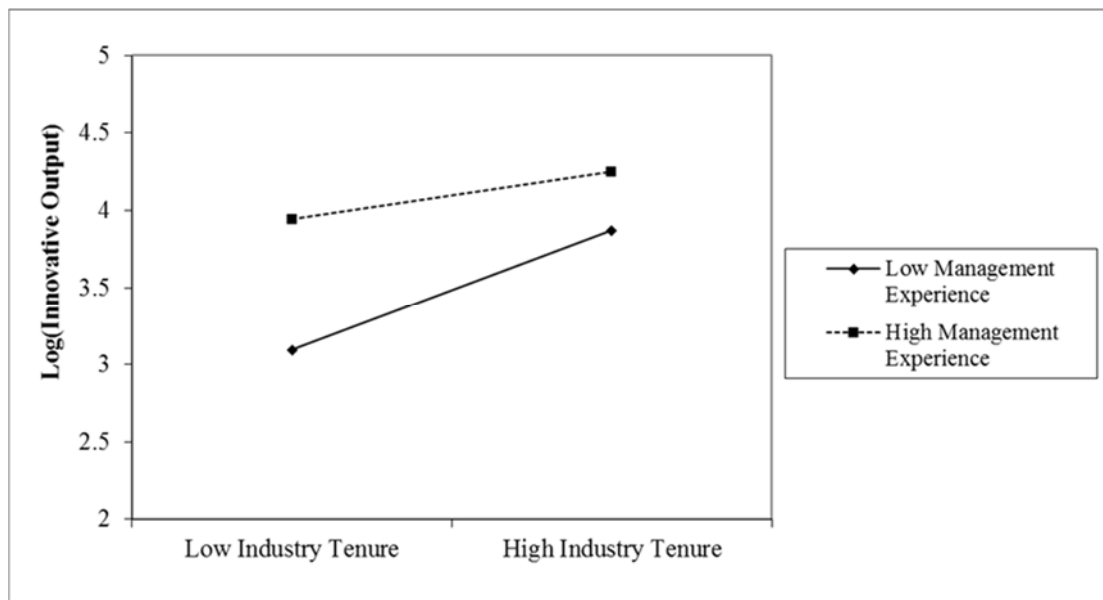


Figure 6. Interaction between industry tenure and management experience on the log of innovative output.

Figure 7 depicts the interaction between interorganizational relationships and industry tenure. Figure 7 shows that increases in IORs increase innovative output given a level of industry tenure. In this case also, although the coefficient for the interaction between IORs and industry tenure is negative, the overall impact appears to be positive. Entrepreneurial firms with greater a amount of IORs are able to produce higher levels of innovative output.

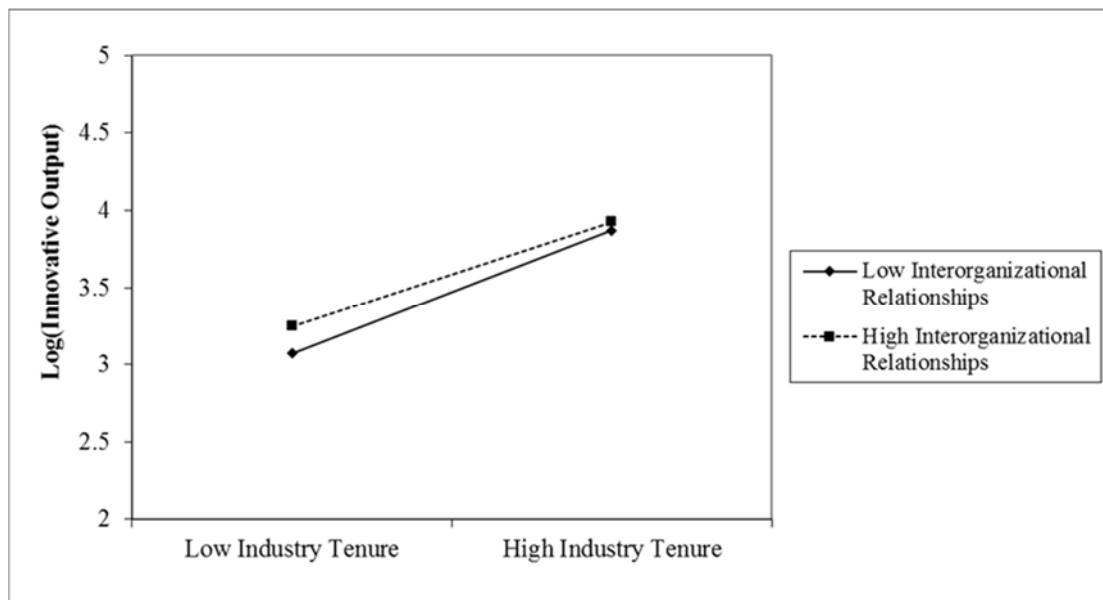


Figure 7. Interaction between industry tenure and interorganizational relationships on the log of innovative output.

Finally, Figure 8 depicts the interaction between time-related competencies and industry tenure. Specifically, Figure 8 shows that time-related competencies increase the rate at which an entrepreneurial firm increases its innovative output in both the high and low industry tenure conditions. This would suggest that time-related competencies are effective at helping the entrepreneurial firm make better use of industry tenure.

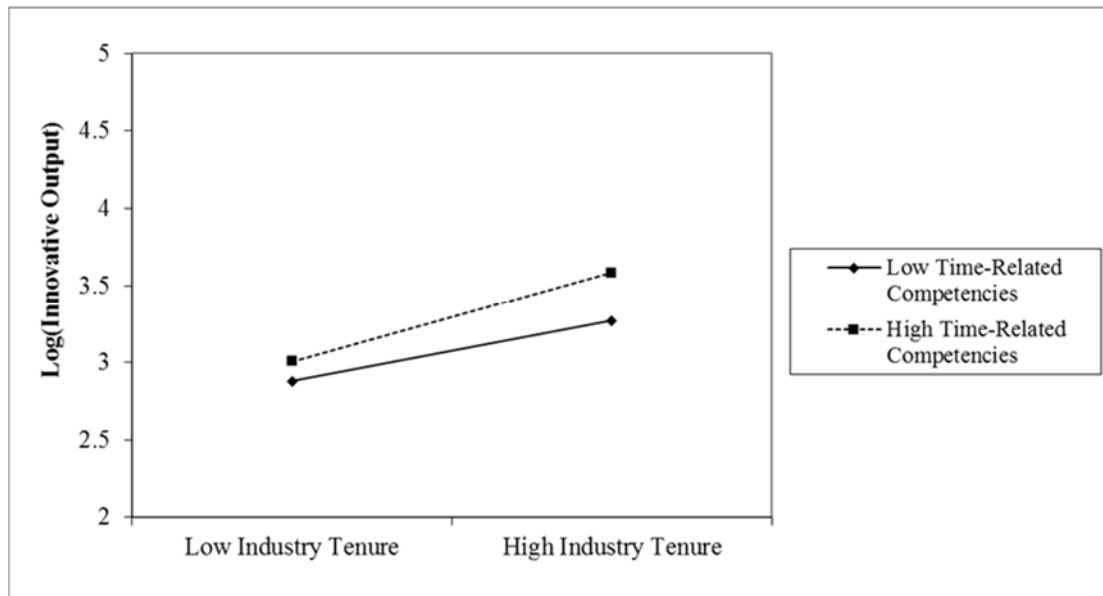


Figure 8. Interaction between time-related competencies and industry tenure on the log of innovative output.

Table 10 presents variables related to innovative uniqueness. Results for the direct effects of the control variables on innovative uniqueness are found in Model 15, the Control Model. Results for the direct effects of the study variables on innovative uniqueness are found in Model 23, the Main Effects Model. Hypothesis 1b predicting a positive relationship between knowledge breadth and innovative uniqueness finds strong support ($p < .001$) in the main effects Model, Model 23. Hypothesis 1d predicting a positive relationship between knowledge depth and innovative uniqueness is not

supported in the Main Effects Model, Model 23. Similarly, hypothesis 1f predicting a positive relationship between industry tenure and innovative uniqueness fails to find support in Model 23. Therefore, the only creativity-related resource that the entrepreneurial firm possesses that has a strong effect on its innovative uniqueness is knowledge breadth.

Hypothesis 2b predicting a negative relationship between management experience and innovative uniqueness fails to find support in the main effects Model, Model 23. Hypothesis 2d predicting a positive relationship between IORs and innovative uniqueness also fails to find support in Model 23. Contrary to my hypothesized relationship, IORs are strongly, but negatively related to innovative uniqueness ($p < .001$). Therefore, management-related resources either do not drive innovative uniqueness or do not affect it in the predicted way. Overall, although the Main Effects Model, Model 23, is significant (Adjusted $R^2 = .095$, $p < .001$) and accounts for 8.7% more variance in innovative uniqueness than the Control Model, Model 15, only knowledge breadth and IORs found statistically significant relationships.

Results for the interaction effects of the study variables on innovative uniqueness are found in Table 10, Model 27, the Full Model. Hypotheses 3d, 3e, and 3f predicting a negative interaction between management experience and knowledge breadth, knowledge depth, and industry tenure, respectively, fail to find support in the Full Model, Model 27. Management experience does not enhance the positive effect of creativity-related resources on innovative uniqueness.

Table 10. OLS regression on innovative uniqueness.

VARIABLES	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Band Size	-0.0594 (-1.471)	-0.2826*** (-5.398)	-0.0690† (-1.682)	-0.0533 (-1.307)	-0.3459*** (-6.403)	-0.0551 (-1.352)	-0.0717† (-1.779)	-0.0726† (-1.772)	-0.3741*** (-6.877)	-0.3732*** (-6.795)	-0.3875*** (-7.077)	-0.3720*** (-6.755)	-0.3869*** (-6.936)
Percent Male	-0.0532 (-1.386)	-0.0513 (-1.372)	-0.0546 (-1.424)	-0.0525 (-1.368)	-0.0452 (-1.224)	-0.0519 (-1.352)	-0.0595 (-1.558)	-0.0598 (-1.562)	-0.0541 (-1.466)	-0.0554 (-1.493)	-0.0604 (-1.629)	-0.0551 (-1.487)	-0.0638† (-1.695)
Prior Relationships With Big 3 and Subsidiaries	0.0215 (0.592)	-0.0237 (-0.657)	0.0127 (0.343)	0.0364 (0.929)	0.0289 (0.765)	0.0262 (0.710)	0.0506 (1.354)	0.0502 (1.333)	0.0326 (0.867)	0.0305 (0.806)	0.0331 (0.869)	0.0343 (0.905)	0.0352 (0.917)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Knowledge Breadth		0.3229*** (6.453)			0.4729*** (7.676)				0.4708*** (7.688)	0.4699*** (7.110)	0.5124*** (7.904)	0.4662*** (7.471)	0.5041*** (7.069)
Knowledge Depth			0.0486 (1.269)		-0.0837† (-1.814)				-0.0576 (-1.231)	-0.0511 (-0.815)	-0.0833 (-1.468)	-0.0437 (-0.868)	-0.1103 (-1.549)
Industry Tenure				-0.0407 (-1.016)	-0.1597*** (-3.620)				-0.0619 (-1.142)	-0.0640 (-1.142)	-0.0686 (-1.255)	-0.0647 (-1.180)	-0.0594 (-1.041)
Management Experience						-0.0294 (-0.730)		0.0050 (0.119)	-0.0414 (-0.902)	-0.0209 (-0.317)	-0.0378 (-0.820)	-0.0339 (-0.696)	-0.0188 (-0.278)
Interorganizational Relationships							-0.1166** (-3.066)	-0.1179** (-2.977)	-0.1494*** (-3.351)	-0.1489*** (-3.328)	-0.1813* (-2.346)	-0.1501*** (-3.354)	-0.1840* (-2.263)
Time-Related Competencies												0.0198 (0.439)	0.0111 (0.237)
Mangement Experience x Knowledge Breadth										-0.0054 (-0.095)			0.0166 (0.259)
Mangement Experience x Knowledge Depth										-0.0010 (-0.014)			0.0569 (0.679)
Mangement Experience x Industry Tenure										-0.0233 (-0.410)			-0.0283 (-0.455)
Interorganizational Relationships x Knowledge Breadth											-0.1096* (-1.997)		-0.1140* (-2.000)
Interorganizational Relationships x Knowledge Depth											0.1119† (1.695)		0.1456* (2.042)
Interorganizational Relationships x Industry Tenure											-0.0015 (-0.021)		-0.0059 (-0.076)
Time-Related Competencies x Knowledge Breadth												-0.0106 (-0.193)	0.0083 (0.139)
Time-Related Competencies x Knowledge Depth												-0.0353 (-0.654)	-0.1015 (-1.384)
Time-Related Competencies x Industry Tenure												0.0126 (0.238)	0.0176 (0.318)
Constant	*** (-18.539)	*** (-18.564)	*** (-18.423)	*** (-17.978)	*** (-17.292)	*** (-18.428)	*** (-18.388)	*** (-18.353)	*** (-17.499)	*** (-17.453)	*** (-17.254)	*** (-12.373)	*** (-12.091)
Observations	800	800	800	800	800	800	800	800	800	800	800	800	800
F	1.231	2.358***	1.241	1.225	2.827***	1.211	1.459*	1.420*	3.008***	2.802***	2.908***	2.771***	2.564***
Adjusted R-squared	0.011	0.061	0.011	0.011	0.084	0.010	0.021	0.020	0.095	0.092	0.097	0.093	0.092
Change in R-squared from Control Model, Model 15		0.049***	0.002	0.0013	0.0736***	0.0006	0.0115**	0.0115**	0.0866***				
Change in R-squared from Main Effects Model, Model 23										0.000	0.004	0.001	0.007

Standardized beta coefficients reported. T-statistics in parentheses.
*** p<0.001. ** p<0.01. * p<0.05. † p<0.10

Hypotheses 3j, 3k, and 3l predicting a positive interaction between IORs and knowledge breadth, knowledge depth, and industry tenure, respectively, finds mixed support. Contrary to my hypothesized relationship, Hypothesis 3j, the interaction between IORs and knowledge breadth is significant ($p < .05$) but negative. Therefore, IORs weaken the positive relationship between knowledge breadth and innovative uniqueness. Hypothesis 3k, the interaction between IORs and knowledge depth is significant ($p < .05$) and positive in Model 27 in support of my hypothesized relationship. Entrepreneurial firms that possess knowledge depth and have IORs increase their innovative uniqueness. Hypothesis 3l is not significant.

Hypotheses 3p, 3q, and 3r predicting a positive interaction between time-related competencies and knowledge breadth, knowledge depth, and industry tenure, respectively, fail to find support in the full Model, Model 27. Therefore, time-related competencies do not enhance the positive effect of creativity-related resources on innovative uniqueness. Overall, although Model 27 is significant (Adjusted $R^2 = .092$, $p < .001$), it only accounts for 0.8% more variance in innovative uniqueness as compared to the main effects Model, Model 23, and does not represent a statistically significant ($p < .10$) improvement.

To better understand the interactions, I graphed the ones that were significant at conventional levels ($p < 0.05$) in Figures 9 and 10. As noted in Chapter 5, in order to calculate my measure of innovative uniqueness, I reverse coded the mean of the similarity scores reported by Last.fm. As a result the scale both Figures 9 and 10 for the y-axis are negative with values closer to zero representing greater innovative uniqueness.

Figure 9 depicts the interaction between knowledge breadth and IORs. As seen in Figure 9 although greater innovative uniqueness is associated with greater knowledge breadth, the relationship is weakened when considering the interaction with IORs. Contrary to my hypothesized relationship, when considering the high versus low trend lines a stronger relationship between knowledge breadth and innovative uniqueness is seen when there are fewer interorganizational relationships. This suggests that a greater number of IORs reduce innovative uniqueness given different levels of knowledge breadth. It's possible that as entrepreneurial firms increase the number of IORs in which they participate they adopt fewer and fewer unique perspectives as they assimilate more external knowledge.

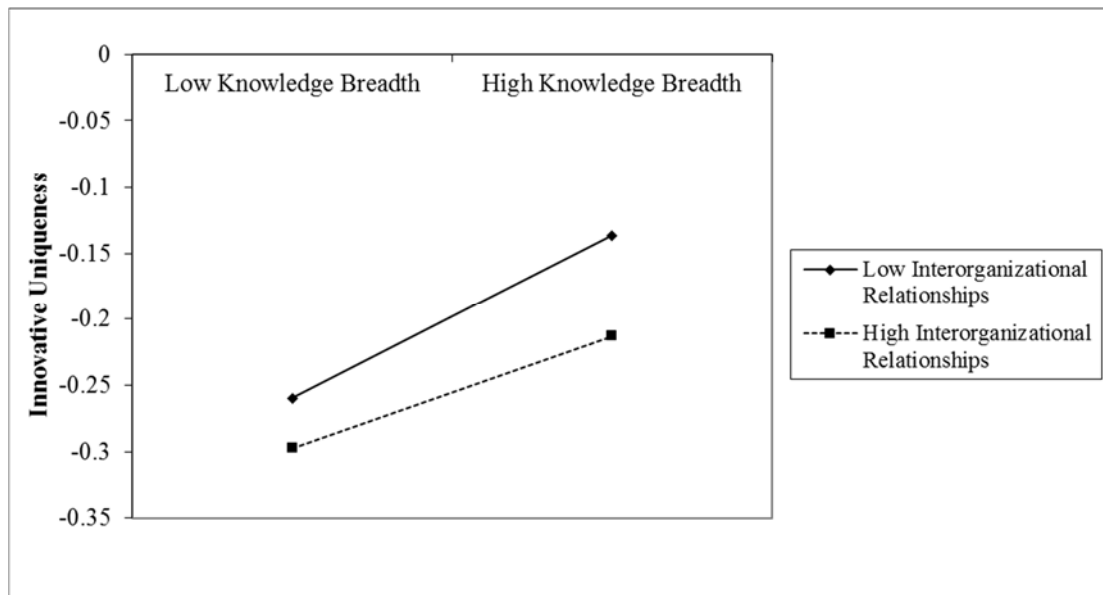


Figure 9. Interaction between knowledge breadth and interorganizational relationships on innovative uniqueness.

Figure 10 depicts the interaction between knowledge depth and IORs on innovative uniqueness. Similar to the interaction between knowledge breadth and IORs depicted in Figure 9, a higher level of IORs is associated with lower levels of innovative uniqueness. However, as it relates to the relationship between knowledge depth and innovative uniqueness, there does not appear to be a relationship between knowledge depth and innovative uniqueness in the presence of a high level of IORs.

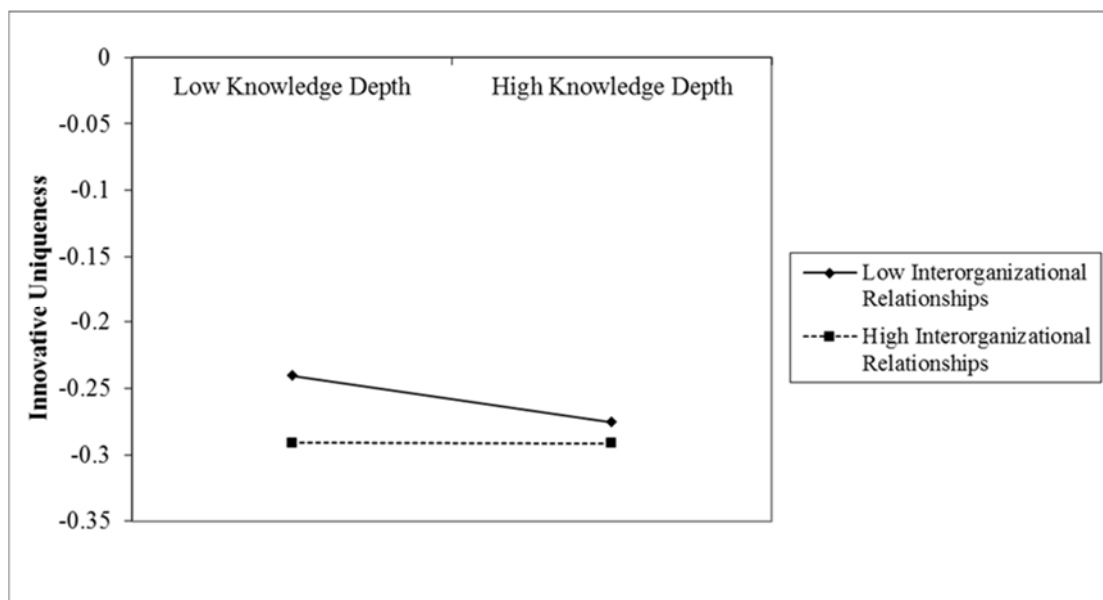


Figure 10. Interaction between knowledge depth and interorganizational relationships on innovative uniqueness.

Table 11 presents the relationships between the variables of interest and symbolic performance. Results for the direct effects of the control variables on symbolic performance are found in Model 28, the Control Model. Results for the direct effects of innovative outcomes on symbolic performance are found in Model 31, the Main Effects Model. Hypothesis 4a predicting a positive relationship between innovative output and symbolic performance finds strong support ($p < .001$) in the Main Effects Model.

Hypothesis 4c predicting a negative relationship between innovative uniqueness and substantive performance finds moderate support ($p < .10$) in Model 31. In addition, the Main Effects Model, Model 31, is significant (Adjusted $R^2 = .194$, $p < .001$) and accounts for 4.1% more variance in the symbolic performance of entrepreneurial firms than the Control Model alone. Thus, while innovative output enhances symbolic performance, innovative uniqueness harms it.

Results for Hypothesis 5a are found in the Full Model, Model 35. As noted in Chapter 5, I chose to operationalize institutional strength using three separate measures. Model 35 includes the interaction effects for each one of these 3 variables. Hypothesis 5a predicted a positive interaction between institutional strength and innovative uniqueness on symbolic performance. Depending on the operationalization of institutional strength, results are mixed. When institutional strength is measured as the relative age of each genre the interaction with innovative uniqueness fails to find support. When institutional strength measured as the number of listener tags hypothesis 5a is supported at $p < .05$. Finally, in Model 35, when institutional strength is measured as the percentage of albums released in a recording artist's primary genre the interaction is not significant. These results may suggest that when users place an independent recording artist in fewer categories, the effect of innovative uniqueness on symbolic performance becomes even more negative because veering away from those categories by being unique leads users to dislike the artist.

Table 11. OLS regression on symbolic performance.

[illegible]

I graphed the interaction between institutional strength measured as listener tags and innovative uniqueness in Figure 11 in order to better understand the relationship. It appears that in the presence of strong institutional environments (high institutional strength) that the entrepreneurial firm is not impacted by differing levels of innovative uniqueness. This lends support to Tost (2011), who argued that simply existing in strong institutional environments may lead to legitimacy. It is only in the instance of weak institutional environments where conformity may matter. In this instance, although the OLS coefficient supports my hypothesized relationship, contrary to my expectations it appears that high innovative uniqueness may lead to greater symbolic performance in the presence of weak institutional strength.

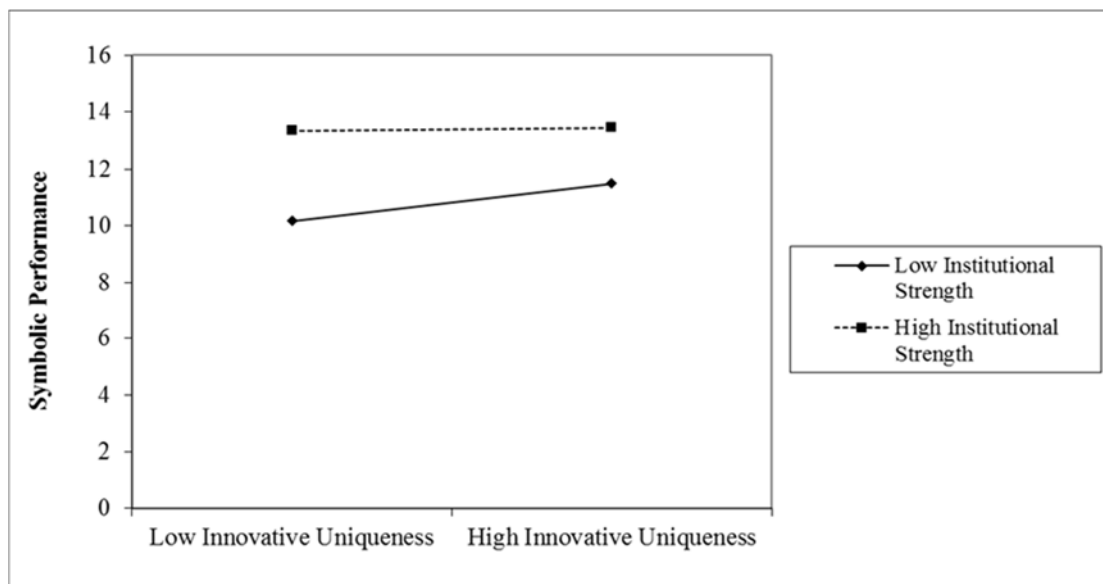


Figure 11. Interaction between innovative uniqueness and institutional strength on symbolic performance.

Finally, Tables 12 and 13 examine relationships with substantive performance. As noted in Chapter 5, I operationalized substantive performance as both play counts and

listener counts. Table 12 shows relationships with play counts and Table 13 shows relationships with listener counts. Results for the direct effects of the control variables on substantive performance are found in Model 35, Table 12, and Model 40, Table 13. These are the Control Models. Results for the direct effects of the study variables on substantive performance are found in Model 39, Table 12, and Model 44, Table 13. These are the Main Effects Models. Hypothesis 4b predicting a positive relationship between innovative output and substantive performance finds strong support ($p < .001$) in Models 39 and 44. Hypothesis 4d predicted a negative relationship between innovative uniqueness and substantive performance. Hypothesis 4d fails to find statistical support in Models 39 and 44. Lastly, Hypothesis 6, predicting a positive relationship between symbolic performance and substantive performance, finds strong support ($p < .001$) in both Main Effects Models, Models 39 and 44. In both Model 39 and Model 44, the positive impact of increased symbolic performance on substantive performance is greater than the positive impact of increased innovative output on substantive performance. This is especially important to note given prior theoretical perspectives that suggest the potential for a negative relationship between symbolic performance and substantive performance. Both Main Effects Models are statistically significant ($p < .001$). Model 39 (Adjusted $R^2 = .553$, $p < .001$) explains 14.4% more variance in the play counts of independent recording artists in addition to the Control Model, Model 35. Model 44 (Adjusted $R^2 = .535$, $p < .001$) explains 18.5% more variance in the listener counts of independent recording artists in addition to the Control Model, Model 43.

Table 12. OLS regression on substantive performance (play counts).

VARIABLES	(35)	(36)	(37)	(38)	(39)
Band Size	0.1900*** (6.068)	0.1432*** (4.656)	0.1888*** (6.022)	0.1454*** (5.233)	0.1189*** (4.289)
Percent Male	-0.0131 (-0.440)	-0.0242 (-0.842)	-0.0141 (-0.473)	-0.0271 (-1.032)	-0.0325 (-1.257)
Prior Relationships With Big 3 and Subsidiaries	0.2068*** (7.329)	0.1086*** (3.624)	0.2072*** (7.339)	0.1054*** (4.080)	0.0479† (1.752)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes
Log(Innovative Output)		0.2426*** (7.778)			0.1604*** (5.589)
Innovative Uniqueness			-0.0188 (-0.669)		0.0170 (0.697)
Log(Symbolic Performance)				0.3920*** (14.758)	0.3619*** (13.519)
Constant	.*** (26.190)	.*** (11.010)	.*** (21.362)	.*** (4.990)	.† (1.880)
Observations	800	800	800	800	800
F	15.65***	18.02***	15.24***	25.30***	25.76***
Adjusted R-squared	0.404	0.447	0.404	0.536	0.553
Change in R-squared		0.042***	0.000	0.126***	0.144***
Standardized beta coefficients reported. T-statistics in parentheses.					
*** p<0.001, ** p<0.01, * p<0.05, † p<0.10					

Table 13. OLS regression on substantive performance (listener counts).

VARIABLES	(40)	(41)	(42)	(43)	(44)
Band Size	0.1362*** (4.141)	0.0722* (2.299)	0.1323*** (4.028)	0.0888** (3.053)	0.0454 (1.606)
Percent Male	-0.0541† (-1.728)	-0.0692* (-2.361)	-0.0575† (-1.842)	-0.0690* (-2.508)	-0.0798** (-3.027)
Prior Relationships With Big 3 and Subsidiaries	0.3446*** (11.623)	0.2102*** (6.870)	0.3460*** (11.698)	0.2366*** (8.753)	0.1506*** (5.399)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes
Log(Innovative Output)		0.3319*** (10.419)			0.2469*** (8.429)
Innovative Uniqueness			-0.0653* (-2.217)		-0.0263 (-1.053)
Log(Symbolic Performance)				0.4171*** (15.004)	0.3657*** (13.387)
Constant	*** (22.140)	*** (6.731)	*** (17.191)	* (2.203)	* (-2.266)
Observations	800	800	800	800	800
F	12.24***	16.46***	12.11***	21.35***	23.97***
Adjusted R-squared	0.342	0.424	0.346	0.492	0.535
Change in R-Squared		0.078***	0.004**	0.143***	0.185***
Standardized beta coefficients reported. T-statistics in parentheses.					
*** p<0.001, ** p<0.01, * p<0.05, † p<0.10					

Structural Equation Modeling (SEM) Analysis

Estimation using SEM allows for the full structural model to be estimated at one time. In addition, SEM allows for the covariance between independent variables to be factored into the estimation. Since I selected two operationalizations of substantive performance, I ran two separate models. I also attempted to use all three measures of institutional strength as I did in Table 11 but model fit was poor and resulted in models that should not be interpreted (Hooper, Coughlan, & Mullen, 2008). Of the three measures of institutional strength, only listener categories resulted in structural models with fair to good model fit statistics and as a result I use only institutional strength measured as listener tags in the full structural models. Due to the number of relationships estimated I chose to display the direction and significance for each full structural model in two parts in order to improve readability. As a result, although only two full structural models were estimated I present 4 diagrams, Figures 12(a), 12(b), 13(a), and 13(b), representing the two full structural models, SEM Model 1 and SEM Model 2, found in Table 14. Figures 12(a) and 13(a) show only the direction and significance of the main variables while including interaction terms and control variables in the model estimation. Figures 12(b) and 13(b) show only variable interactions while including main variables and control variables in the model estimation. In both models, I allowed for the covariance of related items and for the covariance of related interaction terms to be included as guided by theory. For instance, knowledge breadth, knowledge depth, and industry tenure are all observed variables related to creativity-related resources and are expected to covary. Further the interactions between management experience and

knowledge depth, management experience and knowledge breadth, and between management experience and industry tenure were allowed to covary since each interaction contains management experience.

Goodness of fit statistics indicate good to fair model fit for both full structural models, SEM Model 1 and SEM Model 2 found in Table 14, using cut-off criteria establish by Hu & Bentler (1999). Figure 12 diagrams SEM Model 1 and represents a sample size of 800, with a chi-square of 232.99 with 79 degrees of freedom, a comparative fit index (CFI) of 0.922, a root mean squared error of approximation (RMSEA) of 0.049, and a standardized root mean squared residual (SRMR) of 0.019. Figure 13 diagrams SEM Model 2 and represents a sample size of 800, chi-square of 190.76 with 79 degrees of freedom, a CFI of 0.944, a RMSEA of 0.042, and a SRMR of 0.017. For ease of interpretation, standardized coefficients are reported in Table 14.

Hypothesis 1a predicting a positive relationship between knowledge breadth and innovative output and hypothesis 1c predicting a positive relationship between knowledge depth and innovative output failed to find support in SEM Models 1 and 2, found in Table 14. In both SEM Models M1a and SEM M2a the relationships are not significant. Hypothesis 1e, predicting a positive relationship between industry tenure and innovative output found significant statistical support ($p < .01$) in SEM Models M1a and M2a. Hypothesis 2a, 2b, and 2c predicting positive relationships between management experience, IORs, and time-related competencies, respectively, and innovative output found statistical support ($p < .05$) in SEM Models M1a and M2a.

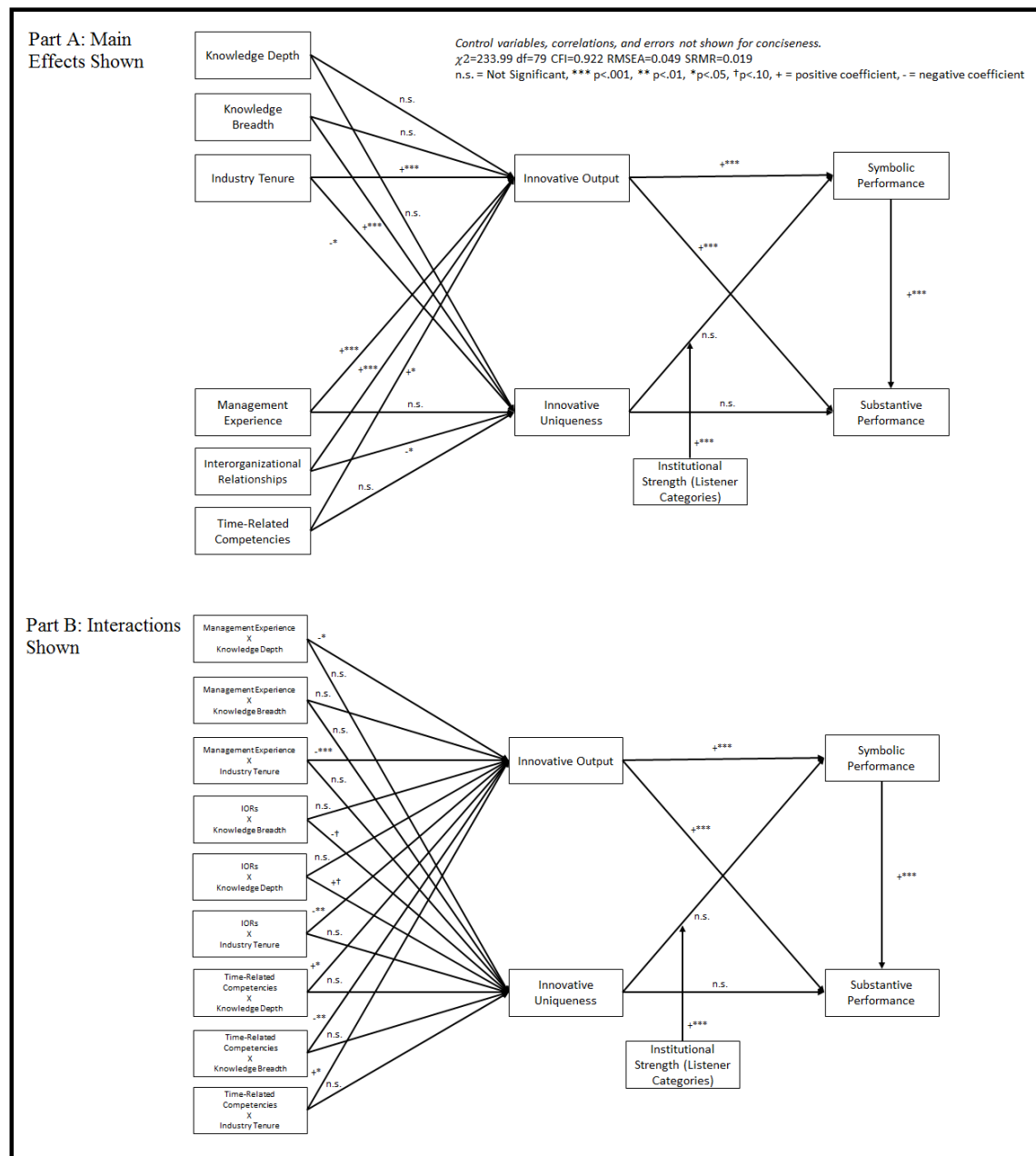


Figure 12. SEM on substantive performance measured as play counts.

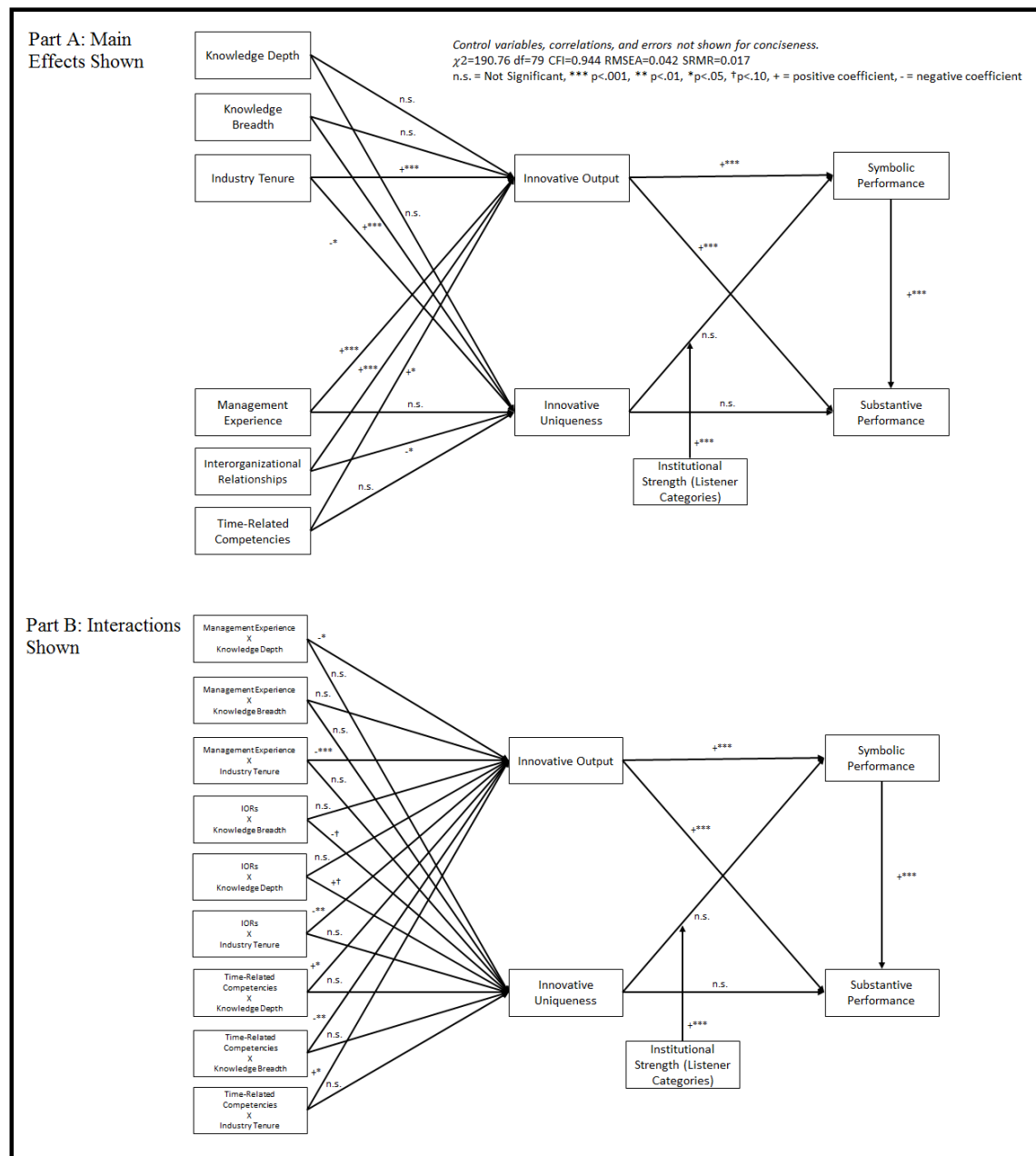


Figure 13. SEM on substantive performance measured as listener counts.

Table 14. SEM estimation.

VARIABLES	SEM Model 1 (Play Count)				SEM Model 2 (Listener Count)			
	(SEM M1a) Log(Innovative Output)	(SEM M1b) Innovative Uniqueness	(SEM M1c) Log(Symbolic Performance)	(SEM M1d) Log(Substantive Performance)	(SEM M2a) Log(Innovative Output)	(SEM M2b) Innovative Uniqueness	(SEM M2c) Log(Symbolic Performance)	(SEM M2d) Log(Substantive Performance)
Band Size	0.0211	-0.4067***	0.0228	0.2786***	0.0211	-0.4067***	0.0228	0.1518***
Percent Male	0.0213	-0.0330	0.0108	-0.006	0.0213	-0.0330	0.0108	-0.0435
Prior Relationships With Big 3 and Subsidiaries	0.1160***	0.0466	0.1639***	0.0538†	0.1160***	0.0466	0.1639***	0.1563***
Knowledge Breadth	0.0201	0.5034***			0.0201	0.5034***		
Knowledge Depth	0.0515	-0.0831			0.0515	-0.0831		
Industry Tenure	0.4920***	-0.1170*			0.4920***	-0.1170*		
Management Experience	0.5979***	0.0281			0.5979***	0.0281		
Interorganizational Relationships	0.1629***	-0.1785*			0.1629***	-0.1785*		
Time-Related Competencies	0.0530*	0.0068			0.0530*	0.0068		
Mangement Experience x Knowledge Breadth	-0.0298	0.0133			-0.0298	0.0133		
Mangement Experience x Knowledge Depth	-0.0988*	0.0446			-0.0988*	0.0446		
Mangement Experience x Industry Tenure	-0.3214***	-0.0410			-0.3214***	-0.0410		
Interorganizational Relationships x Knowledge Breadth	0.0273	-0.1052†			0.0273	-0.1052†		
Interorganizational Relationships x Knowledge Depth	0.0055	0.1194†			0.0055	0.1194†		
Interorganizational Relationships x Industry Tenure	-0.1025**	0.0100			-0.1025**	0.0100		
Time-Related Competencies x Knowledge Breadth	-0.0581**	-0.0043			-0.0581**	-0.0043		
Time-Related Competencies x Knowledge Depth	0.0698*	-0.0648			0.0698*	-0.0648		
Time-Related Competencies x Industry Tenure	0.0557*	-0.0015			0.0557*	-0.0015		
Log(Symbolic Performance)				0.3866***				0.3799***
Innovative Uniqueness			-0.0342	0.0405			-0.0342	0.0038
Log(Innovative Output)			0.2449***	0.1189***			0.2449***	0.2132***
Listener Categories x Innovative Uniqueness			-0.0649*				-0.0649*	
Institutional Strength (Listener Tags)			0.1528***				0.1528***	
Observations	800	800	800	800	800	800	800	800

Standardized coefficient reported.
 *** p<0.001, ** p<0.01, * p<0.05, † p<0.10

Hypothesis 3a predicting a positive impact for management experience on the relationship between knowledge breadth and innovative output failed to find statistical support in SEM Models M1a and M2a. Further, contrary to the hypothesized relationships, management experience was found to negatively impact the relationships between knowledge depth and innovative output and industry tenure and innovative output in SEM Models M1a and M2a, and as a result both hypothesis 3b and 3c were not supported although they were statistically significant ($p < .01$). Hypotheses 3g, 3h, and 3i predicting a positive relationship between the interactions between IORs and knowledge breadth (hypothesis 3g), knowledge depth (hypothesis 3h), and industry tenure (hypothesis 3i) and innovative output failed to find support in SEM Models M1a and M2a and so do not have a conjoint effect on innovative output. Hypothesis 3g, predicting the positive impact of the interaction between IORs and knowledge breadth on innovative output found an insignificant relationship as was hypothesis 3h predicting a positive impact for the interaction between IORs and knowledge depth on innovative output. However, hypothesis 3i found a negative statistically significant ($p < .05$) relationship in SEM Models M1a and M2a, in Table 14, for the interaction between IORs and industry tenure on innovative output, opposite of the predicted relationship. Hypothesis 3m predicting a positive relationship for the interaction between time-related competencies and knowledge breadth on innovative output found a significant ($p < .05$) negative relationship in SEM Models M1a and M2a and as a result failed to support my predictions. Hypothesis 3n and 3o, predicting a positive relationship for interaction between time-related competencies and knowledge depth (hypothesis 3n) and time-

related competencies and industry tenure (hypothesis 3o) on innovative output found significant support ($p < .05$) in SEM Models M1a and M2a, in Table 14.

SEM Models M1b and M2b found in Table 14 test hypotheses related to innovative uniqueness. In addition to Table 14, Figures 12(a) and 13(a) show the results for main effects and Figures 12(b) and 13(b) show the results for interaction effects. In support of hypothesis 1b SEM found a positive and significant ($p < .01$) relationship between knowledge breadth and innovative uniqueness in SEM Models M1b and M2b. Hypothesis 1d predicting a positive relationship between knowledge depth and innovative uniqueness failed to find statistical significance in SEM Models M1b and M2b. Hypothesis 1f predicting a positive relationship between industry tenure and innovative uniqueness failed to find support in SEM Models M1b and M2b, contrary to the hypothesized positive relationship empirical analysis found a negative and significant ($p < .01$) relationship. Hypothesis 2b predicting a negative relationship between management experience and innovative uniqueness failed to find support in SEM Models M1b and M2b. Hypothesis 2d predicting a positive relationship between IORs and innovative uniqueness was not supported. Contrary to the predicted positive relationship, a negative and significant ($p < .05$) relationship was found in SEM Models M1b and M2b in Table 14. Hypotheses 3d, 3e, and 3f predicting a negative relationship between the interaction of management experience and knowledge breadth (hypothesis 3d), management experience and knowledge depth (hypothesis 3e), and between management experience and industry tenure (hypothesis 3f), and innovative uniqueness failed to find significance in SEM Models M1b and M2b. Hypothesis 3j predicting a positive

relationship for the interaction of IORs and knowledge breadth on innovative uniqueness was not supported, instead a negative significant ($p < .05$) relationship was found in SEM Models M1b and M2b. Hypothesis 3k predicting a positive relationship for the interaction between IORs and knowledge depth on innovative uniqueness found marginal support ($p < .10$) in SEM Models M1b and M2b. Hypothesis 3l predicting a positive relationship for the interaction between IORs and industry tenure on innovative uniqueness failed to find support in SEM Models M1b and M2b. Finally, hypotheses 3p, 3q, and 3r, predicting a positive relationship for the interaction between time-related competencies and knowledge breadth (hypothesis 3p), time-related competencies and knowledge depth (hypothesis 3q), and between time-related competencies and industry tenure (hypothesis 3r), on innovative uniqueness failed to find support in SEM Models M1b and M2b.

SEM Models M1c and M2c in Table 14 test hypotheses related to symbolic performance while SEM Models M1d and M2d test hypothesis related to substantive performance. Hypothesis 4a and predicting a positive relationship between innovative output and symbolic performance found strong support ($p < .001$) in SEM Models M1c and M2c in Table 14. Similarly hypothesis 4b predicting a positive relationship between innovative output and substantive performance found strong support ($p < .001$) in SEM Models M1d and M2d. Hypothesis 4c predicting a negative relationship between innovative uniqueness and symbolic performance failed to find statistical support in SEM Models M1c and M2c. Further, hypothesis 4d predicting a negative relationship between innovative uniqueness and substantive performance failed to find statistical support in

SEM Models M1d and M2d in Table 14. However, as stated in Hypothesis 5a, when entrepreneurial firms that engage in innovative uniqueness compete in environments with high levels of institutional strength their symbolic performance is negatively impacted ($p < .05$). In other words, together, innovative uniqueness and institutional strength negatively impact the symbolic performance of the entrepreneurial firm. We, therefore, find support for Hypothesis 5a in SEM Models M1c and M2c, in Table 14. Finally, hypothesis 6 predicting a positive relationship between symbolic performance and substantive performance found strong support ($p < .001$) in SEM Models M1d and M2d in Table 14.

A summary table that includes conclusions for both OLS regressions and SEM analysis can be found in Table 15. As Table 15 shows, results are similar for 30 out of 35 hypotheses. While they are different for 5 hypotheses, those differences are differences in levels of statistical significance. In general, although there were few different results obtained by each method, results from both regression and SEM are similar. I discuss their meaning in the next chapter.

Table 15. Summary of conclusions.

Hypothesis	Predictor Variable	Hypothesized Relationship	Criterion Variable or Relationship	Direction and Significance in Full Model		Conclusion
				OLS Coefficient	SEM Coefficient	
1	Creativity-related resources are significantly related to innovative outcomes.					
1a	Knowledge Breadth	Increases (+)	Innovative Output	(+)*	(+)	Mixed Support, significant in OLS, insignificant on SEM
1b	Knowledge Breadth	Increases (+)	Innovative Uniqueness	(+) ***	(+) ***	Supported
1c	Knowledge Depth	Increases (+)	Innovative Output	(-)†	(+)	Not Supported, marginally significant in OLS model that becomes insignificant in SEM, opposite expected relationship
1d	Knowledge Depth	Increases (+)	Innovative Uniqueness	(-)	(-)	Not Supported
1e	Industry Tenure	Increases (+)	Innovative Output	(+)***	(+) ***	Supported
1f	Industry Tenure	Increases (+)	Innovative Uniqueness	(-)	(-) *	Mixed Support, insignificant in OLS, significant in SEM, opposite expected relationship
2	Management-related resources are significantly related to innovative outcomes.					
2a	Management Experience	Increases (+)	Innovative Output	(+)***	(+) ***	Supported
2b	Management Experience	Decreases (-)	Innovative Uniqueness	(-)	(+)	Not Supported
2c	Interorganizational Relationships	Increases (+)	Innovative Output	(+)**	(+) ***	Supported
2d	Interorganizational Relationships	Increases (+)	Innovative Uniqueness	(-)***	(-) *	Not Supported, significant but opposite of expected relationship
2e	Time-Related Competencies	Increases (+)	Innovative Output	(+)	(+) *	Mixed Support, insignificant in OLS, significant in SEM
3	Management-related resources moderate the relationship between creativity-related					
3a	Management Experience	Strengthens (+)	Positive relationship between Knowledge Breadth and Innovative Output	(-)†	(-)	Not Supported, marginally significant in OLS model that becomes insignificant in SEM, opposite expected relationship

Table 15 Continued.

3b	Management Experience	Strengthens (+)	Positive relationship between Knowledge Depth and Innovative Output	(-)*	(-) *	Not Supported, significant but opposite of expected relationship
3c	Management Experience	Strengthens (+)	Positive relationship between Industry Tenure and Innovative Output	(-)**	(-) **	Not Supported, significant but opposite of expected relationship
3d	Management Experience	Weakens (-)	Positive relationship between Knowledge Breadth and Innovative Uniqueness	(+)	(+)	Not Supported
3e	Management Experience	Weakens (-)	Positive relationship between Knowledge Depth and Innovative Uniqueness	(+)	(+)	Not Supported
3f	Management Experience	Weakens (-)	Positive relationship between Industry Tenure and Innovative Uniqueness	(-)	(-)	Not Supported
3g	IORs	Strengthens (+)	Positive relationship between Knowledge Breadth and Innovative Output	(+)	(+)	Not Supported
3h	IORs	Strengthens (+)	Positive relationship between Knowledge Depth and Innovative Output	(+)	(+)	Not Supported
3i	IORs	Strengthens (+)	Positive relationship between Industry Tenure and Innovative Output	(-)*	(-) **	Not Supported, significant but opposite of expected relationship
3j	IORs	Strengthens (+)	Positive relationship between Knowledge Breadth and Innovative Uniqueness	(-) *	(-)†	Not Supported, significant but opposite of expected relationship
3k	IORs	Strengthens (+)	Positive relationship between Knowledge Depth and Innovative Uniqueness	(+) *	(+)†	Supported
3l	IORs	Strengthens (+)	Positive relationship between Industry Tenure and Innovative Uniqueness	(-)	(-)	Not Supported
3m	Time-Related Competencies	Strengthens (+)	Positive relationship between Knowledge Breadth and Innovative Output	(-)†	(-) **	Not Supported, Significant but opposite of expected relationship

Chapter 7

Discussion

The statistical results in Chapter 6 offered fair support for my overall theoretical model. Of 35 separate hypothesis examined, 10 hypotheses found support, 13 hypotheses failed to find statistical significance, 4 hypotheses found mixed support, and 8 hypotheses found evidence of relationships opposite of what was theorized. In this chapter, I first review the primary research questions established in Chapter 1 and discuss how empirical findings provide insight for answering my research questions. I then review the hypotheses that found discrepant empirical evidence and discuss possible explanations. I then discuss the implications of my overall empirical findings for practitioners and researchers. Finally, I end with a discussion of limitations and recommendations for future research before my concluding remarks.

Primary Research Questions Addressed

One of the primary research questions underpinning the development of this dissertation and theoretical model was the desire to better understand the relationships between firm resources, innovative outcomes, and firm performance. Prior work in the resource-based view literature has argued the importance of firm resources in driving firm performance (Barney, 1991; Mahoney & Pandian, 1992; Peteraf, 1993). Following the distinction made by Penrose (1959) between, productive resources and administrative resources, I sought to address how resource endowments in these two categories, that is, in creativity-related resources and in management-related resources, impact the innovative outcomes of entrepreneurial firms. Entrepreneurial firms are important

subjects to study because even though they tend to be resource constrained (Baker & Nelson, 2005; Pollock & Rindova, 2003), they operate with the strong expectation that they will be innovative (Klein & Slonaker, 2010; Peterson & Berger, 1971). Stated differently, this research attempted to address the impact of two kinds of resource endowments on the innovative outcomes of entrepreneurial firms and assess the impact of those innovative outcomes on symbolic and substantive performance.

My empirical results provide several interesting responses to this first question. Informal post-estimation of the marginal impact of resource endowments revealed that as a group creativity-related resources increased innovative uniqueness while decreasing innovative output and as a group management-related resources increased innovative output while decreasing innovative uniqueness. This would suggest that creativity-related resources and management-related resources have different functions within an entrepreneurial firm. Creativity-related resources are more likely to impact the characteristics of the entrepreneurial firm's innovative outcomes while management-related resources are more likely to impact the ability of the entrepreneurial firm to generate and commercialize its innovative outcomes. Further, increases in innovative output ultimately enhanced the entrepreneurial firm's substantive and symbolic performance while innovative uniqueness found mixed support for a negative relationship with symbolic performance and no relationship with substantive performance.

When considering specific creativity-related resources and their synergistic effects (i.e., their interactions) with management-related resources, the relationships become less straight-forward. Knowledge breadth failed to significantly improve

innovative output when considering only the main effect. However, when considering the interaction between knowledge breadth and management-related resources, knowledge breadth reduced innovative output. Similarly, knowledge depth failed to significantly impact innovative output when considered alone but when considering interactions with management-related resources, knowledge depth lowered innovative output. In contrast to the impact of knowledge breadth and knowledge depth, and in support of my predicted hypotheses, industry tenure alone and when considering interactions with management-related resources increased innovative output. Increased tenure was expected to increase innovative output due to increased competency (Luo & Deng, 2009; March, 1991) and increased efficiency (Cohen & Levinthal, 1990) and so this empirical finding may provide some evidence to better understand the negative impact of knowledge breadth and knowledge depth on innovative output after accounting for the interaction with management-related resources. It may be the case that entrepreneurial firms with broad and deep knowledge may consider too many options or consider them too deeply and as a result may experience reduced innovative output because the additional time and effort required to examine and evaluate those options lengthens the time required to commercialize its innovations.

When considering the impact of creativity-related resources on innovative uniqueness, knowledge breadth both independently and in conjunction with management-related resources, albeit at a reduced rate, significantly and substantially increased innovative uniqueness. However, the impact of knowledge depth on innovative uniqueness was slightly negative but negligible. Similar to knowledge depth, industry

tenure failed to significantly impact innovative uniqueness either independently or in conjunction with management-related resources. This would suggest that access to a broad knowledge base allows the entrepreneurial firm to mix together more unique combinations but deep knowledge and industry tenure have almost no impact.

Management-related resources themselves positively impacted innovative output both when considered independently and also after accounting for the interaction with creativity-related resources. Surprisingly, for both management experience and IORs the positive marginal effect on innovative output is reduced when considering interactions with creativity-related resources. However, the positive marginal effect is increased in the case of time-related competencies. That is, increases in management-related resources such as, management experience and IORs, increase the ability of the entrepreneurial firm to generate innovative outputs. But when considering the interactions with creativity-related resources, both management experience and IORs are less effective at generating innovative outputs. As it is related to time-related competencies, the effectiveness of time-related competencies increased when considering the interaction with creativity-related resources. This would seem to suggest that time-related competencies help the entrepreneurial firm experience synergies that are missing when considering management experience or IORs.

Management-related resources on the whole had a negative marginal effect on innovative uniqueness for the entrepreneurial firm. However, with the exception of IORs, the negative marginal effects were not significant. IORs by themselves reduced innovative uniqueness and, when considering creativity-related resources, reduced the

ability of knowledge breadth to increase innovative uniqueness. Although, as predicted, the interaction between IORs and knowledge depth increased innovative uniqueness, the marginal impact was insufficient to overcome the negative marginal effects of the interactions with other creativity-related resources.

In assessing the role of innovative outcomes on symbolic and substantive firm performance, the relationships are clearer. Innovative output increased both symbolic and substantive firm performance. However, innovative uniqueness failed to directly impact either symbolic or substantive performance but did have a negative marginal impact on symbolic performance when considering the interaction with institutional strength, when measured as listener tags. It would seem that a greater innovative output is more important for the entrepreneurial firm's symbolic and substantive performance than manipulating the uniqueness of those innovations.

With the exception of two relationships, the relationship between knowledge depth and innovative output and the relationship between IORs and innovative uniqueness, the main effects were either in support of my hypothesized relationships or not significant. With the exception of time-related competencies, the overall moderating effect of management-related resources on the relationship between creativity-related resources and innovative outcomes is either opposite of what I expected or not supported. In the presence of high managerial experience or a high number of interorganizational relationships, weaker relationships are found between the creativity-related resources of the entrepreneurial firm and its innovative output. It appears that some type of inefficiency in innovation occurs as managerial experience and creativity-related

resources together increase, or as interorganizational relationships and creativity-related resources together increase. When it comes to time-related competencies, I found what I expected. Time-related competencies enhance the effect that creativity-related resources have on innovative output.

What my results suggest is that while more resources are generally seen as preferred, more resources are not equally impactful and may not always increase the innovative outcomes of the firm. Entrepreneurial firms must select the most impactful resources if they are to more effectively adjust their resource endowments to impact innovative outcomes. For instance, in the case of innovative output, increasing management experience has the largest positive marginal effect, followed by industry tenure, time-related competencies, and IORs. However, both knowledge breadth and knowledge depth have negative marginal effects. Choosing the most effective route to increasing innovative output is complicated by the interactions between management-related resources and creativity-related resources. For instance, although increasing management experience has the largest positive marginal impact on innovative output, the benefits are reduced when the impact of management experience on the benefits of industry tenure, knowledge depth, or knowledge breadth are taken into account. Whereas when considering time-related competencies, time-related competencies are more effective at increasing innovative output when accounting for the impact on the benefits gained by industry tenure, knowledge depth, or knowledge breadth. On the other hand, only knowledge breadth, knowledge depth, and IORs were significantly related to changes in innovative uniqueness. Knowledge breadth, a creativity-related resource,

significantly and directly increased innovative uniqueness while IORs, a management-related resource, directly and significantly decreased innovative uniqueness. Knowledge depth only indirectly, through the interaction with IORs, increased innovative uniqueness. These relationships are further complicated when considering the effects of resources on both innovative output and innovative uniqueness. For instance, increasing knowledge breadth is likely to reduce innovative output while increasing innovative uniqueness. The entrepreneurial firm must select the preferred innovative outcome desired and then take steps to mitigate any unwanted effects.

A second driving research question was to understand the role of symbolic performance for the entrepreneurial firm. More specifically, how can the entrepreneurial firm impact substantive performance by enhancing its symbolic performance. While previous research has provided competing perspectives on the importance of symbolic performance (Heugens & Lander, 2009; Scott, 2001), I expected to find a positive relationship between symbolic performance and substantive performance. Underpinning this particular research question was a novel perspective, innovative outcomes can themselves affect symbolic performance.

Does symbolic performance lead to increased substantive performance for entrepreneurial firms? The answer is a resounding yes according to my data. Symbolic performance was the strongest predictor of substantive performance in all models tested. Do innovative outcomes impact symbolic performance? Again, my findings answer with a yes. An entrepreneurial firm can increase its symbolic performance by adjusting their innovative outcomes albeit in interesting ways. In all situations tested, innovative output

increased both symbolic and substantive performance. Therefore, an entrepreneurial firm can increase its symbolic performance by generating more innovations. Further, although innovative uniqueness itself is only negatively related to symbolic performance in the regression model when consider the interaction with institutional environments the marginal effects are negative in both the regression models and in SEM. Thus, when considering innovative uniqueness, the entrepreneurial firms should stick to conforming to industry norms when it innovates if it wants to enhance its symbolic performance, especially in the context of strong institutional environments.

Lastly, this dissertation also sought to provide clarity on the role of institutions in understanding and rewarding the entrepreneurial firm for its innovative outcomes. Institutions and institutional environments are largely seen as constraining forces (O'Connor & Rice, 2013). As a result, entrepreneurial firms that desire to deviate from norms must do so outside of institutional environments. Empirical analysis shed some light on the role of institutions and institutional environments. Prior relationships with large institutions, a control variable, was positively and significantly ($p < .05$) related to innovative output, symbolic performance, and substantive performance. Such relationships thus appear to deem the entrepreneurial firm legitimate and reward its innovative efforts. Formally, I operationalized institutional strength using three different measures related to genre age, percentage of albums released in a genre, and the number of listener created tags. Unfortunately, models run with separate measures yielded inconsistent results. While the interaction between institutional strength and innovative uniqueness did have a consistent negative marginal effect on symbolic performance in

OLS regressions regardless of the measure used the relationships did not uniformly find statistical significance. Further, SEM models run with institutional strength operationalized as genre age and the percentage of albums released in a genre resulted in model fit issues that make it inappropriate to interpret the results. Analysis conducted with institutional strength measured as listener tags found a consistent significant and negative interaction with innovative uniqueness in both SEM and OLS regression. This would suggest that the response to an entrepreneurial firm's innovative efforts are dependent upon the characteristics of the institutional environment in which they participate.

Discrepant Empirical Results

Of the eight hypotheses that found significant relationships between variables that was opposite of what was theorized, six (hypothesis 3a, 3b, 3c, 3i, 3j, 3m) were related to the interaction between management-related resources and creativity-related resources. Post-estimation evaluation of the marginal effects reduces concern over these specific contradictory findings. In each instance, the marginal change is still positive suggesting that adding additional resources provides a net increase in the expected outcome but at a decreased rate. Although understanding why the impact of additional resources reduces the marginal benefit is not empirically addressed in this dissertation, several theoretical explanations are available. One of the simplest interpretations of these negative coefficients is an increase in process losses. As firms increase their resource endowments they also increase the difficulty in employing and deploying them to particular ends (Holcomb et al., 2009; Penrose, 1959; Sirmon et al., 2011) and this may account for the

reduced benefits. An alternative explanation could be that as entrepreneurial firms increase in their resource endowments they become restricted in the paths they can pursue and are unable to fully benefit from optimal resource deployments because of this restriction (e.g., Bergek & Onufrey, 2014). Lastly, it is likely that these resources have different functions. While creativity-related resources are great in increasing the quality of the innovation, management-related resources are optimal to increase output. Thus, creativity-related resources hinder the ability of the management-related resources to increase innovative output. In other words, entrepreneurial firms need to pick their approach to innovation between a “numbers game” or a “quality game.” My results provide further evidence of the quintessential trade-off between efficiency and effectiveness, or exploitation and exploration.

In light of the findings discussed in the previous paragraph, it is not surprising that I did not find support for some of our hypotheses revolving around innovative uniqueness. Hypothesis 1f theorized a positive relationship between industry tenure and innovative uniqueness, but found mixed support for a negative relationship. First, it must be noted that mixed support may indicate that the true relationship between industry tenure and innovative uniqueness is not distinguishable from zero. In this case, OLS failed to find a significant relationship, but SEM found a significant ($p < .05$) negative relationship. Since SEM accounts for the correlation between constructs additional weight should be given to its conclusions. The negative relationship between industry tenure and innovative uniqueness may be related to enhanced learning (Bruderl & Schussler, 1990; Luo & Deng, 2009; Stinchcombe, 1965) that likely results in the

establishment of core rigidities (Leonard-Barton, 1992). As entrepreneurial firms find successful routines due to their long presence in an industry, they may emphasize them over exploratory processes that would enhance uniqueness in their innovations. Furthermore, the tendency to establish routines may override the preferences for innovative uniqueness in creative industries that was originally hypothesized (Taylor & Greve, 2006).

Hypothesis 2d proposed a positive relationship between IORs and innovative uniqueness but found a negative relationship. This negative relationship might exist for several reasons. First, as noted by Eisenhardt and Schoonhoven (1996), IORs are often driven by the strategic needs of the entrepreneurial firm. While this means that the entrepreneurial firm seeks out other firms to meet its needs, it also suggests that the entrepreneurial firm may be sought out for its own specialties which could result in reduced innovative uniqueness for joint projects. Alternatively, it may be the case that entrepreneurial firms that engage in IORs favor their areas of relative strength and as a result experience reduced innovative uniqueness when partnering. Agarwal and Shah (2014) found a similar effect when looking at the formation of entrepreneurial firms. These researchers argued that entrepreneurs are likely to focus their efforts in areas where they experience greater efficiencies. This explanation finds further support when considering the negative interaction between IORs and knowledge breadth and the positive interaction between IORs and knowledge depth. The positive relationship between the entrepreneurial firm's knowledge breadth and its innovative uniqueness is reduced when the firm has a large number of IORs while knowledge depth only impacts

innovative uniqueness when considering the interaction with IORs. This might occur because greater knowledge breadth is likely to increase the probability that an entrepreneurial firm has found its area of greatest efficiency and partners are willing to provide increased authority to experiment when knowledge depth is higher in that area. Finally, it may be the case that the additional coordination costs associated with multiple partners may substantially increase process losses (Lavie & Drori, 2012; Lavie, Lechner, & Singh, 2007) to the point where entrepreneurial firms intentionally reduce innovative uniqueness in order to reduce the negative impact of conflict. Once more, as it was stated above, it appears that IORs – a management-related resource – are better suited for producing innovation numbers (output) and, therefore, hinder the ability of the firm to use its knowledge breadth – a creativity-related resource – to enhance its innovation quality (uniqueness).

Implications of Empirical Findings

The results of this dissertation lead to several important implications for both practitioners and researchers. In the instance of practitioner implications, the most important implication is likely to reside in the impact of certain resources and innovative output on substantive performance. Although acquiring resources is important, more relevant to the entrepreneurial firm is its ability to generate innovative output with its' resource endowments. This is, in line with research on entrepreneurial bricolage, the ability of resource-constrained firms to innovate successfully despite its' resource constraints (Senyard et al., 2014). My results support the conclusion that general wealth

in resource endowments is less important than particular kinds of resources in improving innovative outcomes and ultimately in driving substantive performance.

Further, for the practitioner, it becomes evident that while increasing resource endowments is important, not all resources have the same or even a positive marginal impact on innovative outcomes. For instance, management experience provided the largest positive marginal impact on innovative output followed by industry tenure, time-related competencies, and IORs. However, IORs substantially reduced innovative uniqueness, while management experience, industry tenure, and time-related competencies had only insignificant relationships with innovative uniqueness. Similarly, while both knowledge breadth and knowledge depth had a negative marginal impact on innovative output, knowledge breadth and knowledge depth had positive marginal impacts on innovative uniqueness. Along these lines it becomes apparent that although innovative output is important to increase both substantive and symbolic performance for an entrepreneurial firm, innovative uniqueness failed to find any impact except in strong institutional environments. Finally, my empirical findings highlight an important, but often overlooked area, time-related competencies. Of the variables considered, time-related competencies was the only construct whose marginal impact was greater after considering interactions with other resources. In industries such as mine, where strong pacers are present – in the case of my sample the Grammy's – time-related competencies should be nurtured by entrepreneurial firms. Such resources are likely less expensive to develop than others (Perez-Nordtvedt et al., 2014), but they can provide an advantage to entrepreneurial firms. Time-related competencies would seem to enable the

entrepreneurial firm to be more effective at pursuing substantive performance given a set of resource endowments.

For the researcher a few issues become apparent. Among one of the first implications is the ability of entrepreneurial firms to pursue symbolic performance through innovative outcomes. This is especially important considering the empirical support for a positive relationship between symbolic performance and substantive performance. My empirical findings support the idea that a greater number of innovations directly impact symbolic performance. In addition, while explanations concerning the importance of innovative outputs tend to revolve around their direct impact on substantive performance, post-hoc informal mediation analysis suggests that the relationship between innovative output and substantive performance is partially mediated by symbolic performance. As such, researchers need to more rigorously explore this area. The mixed support for a negative relationship between innovative uniqueness and symbolic performance may also highlight an original conclusion: while more innovation is better, more novel innovation may not always be better.

An additional implication for the researcher is the role of institutional environments in the success of entrepreneurial firms. I measured institutional environments as institutional strength using three separate operationalizations, either as genre age, percentage of albums released in a genre, or listener tags. These operationalizations were designed to capture different facets of institutional strength, either through the impact of large institutions (genre age), professionalization (percentage of albums released in a genre), or consumer expectations or perceptions (listener tags).

These three facets yielded inconsistent results in terms of statistical significance. As previously noted, genre age and percentage of albums released in a genre produced SEM models with poor fit statistics. As a result, only listener tags was measured in SEM. In all cases where institutional strength (and its corresponding measure) was included in the estimation, the interaction between innovative uniqueness and symbolic performance was negative as predicted. However, only when institutional strength was measured as listener tags was the interaction between institutional strength and innovative uniqueness significant ($p < .05$). Post-hoc analysis of the three operationalizations suggests that the three facets do not represent a single construct yet they are all significantly and positively related ($p < .01$) and as a result further research should be done to explore and harmonize each facet.

Limitations and Recommendations for Future Research

The study has several different limitations that should be recognized. One of the primary limitations of this study is the use of secondary data. Using secondary data limits the range of possible operationalizations due to data availability. Also, in most cases, secondary data results in imperfect construct measurement and in obtaining potentially biased estimates. For instance, as noted by one of my committee members, I was unable to control for quality in my analysis. The quality of innovative outcomes is likely to impact relationships with both symbolic and substantive performance. However, I did not have access to variables that would allow me to control for innovative quality. My measure of innovative uniqueness to some extent taps into the notion of innovative quality. However, an experienced music connoisseur would argue that not all unique

compositions are of good quality. While biased estimation was addressed by rigorous analysis of model assumptions and by the use of multiple estimation methods, the inability to include actual quality in my hypothesized model affects future theorizing. In addition, the use of secondary data limited me to cross-sectional estimation techniques due to data availability. The use of cross-sectional data weakens my ability to make causal inferences and prevents me from using estimation methods that could otherwise control for unobserved firm-specific heterogeneity. Another key limitation may lie in sample selection. By using entrepreneurial firms that appeared in Billboard, I may have inadvertently estimated models of non-typical successful entrepreneurial firms as opposed to the typical entrepreneurial firm. Although, I do not believe this should be a source of too much concern considering that the range between the most successful entrepreneurial firms and the least successful entrepreneurial firms in my sample is quite large. Furthermore, there was enough variance in my measures of symbolic and substantive performance indicating that my results apply to entrepreneurial firms with a wide range of levels of success.

Each of the limitations of this study presents opportunities for future research. One opportunity for future research is the collection of primary data that may better capture constructs. Another opportunity for future research revolves around the use of time-series analysis, especially in the context of this study's findings in the importance of time-related competencies. The collection and analysis of data with time-related markers would allow for impact analysis to better estimate the temporal effects of innovative outcomes. Sample selection also presents an opportunity for future research. Identifying

the typical entrepreneurial firm as opposed to firms that have experienced non-typical entrepreneurial success would allow for the comparison of relationships across both groups.

Other opportunities for future research, not related to limitations of this dissertation, became apparent during empirical analysis. As previously noted, the inconsistent impact of institutional strength based upon the underlying mechanism being operationalized presents an opportunity for future research. Institutions are represented in a variety of ways and operate through different mechanisms. Identifying how different facets of institutions are expressed, how these facets work together and in what context is important to address the impact of institutional environments on entrepreneurial firms. An additional opportunity is an examination of the impact of time-related competencies. Although time-related competencies themselves failed to find statistical support under regression analysis – SEM found them to be positively linked to innovative output - the marginal effect experienced through interactions with other resources represents a tremendous opportunity. It seems that time-related competencies help firms to make better use of their existing resources and further exploration of related issues is warranted. Finally, an additional opportunity for research may lie in examinations of innovative uniqueness. Despite constant calls for firms to differentiate themselves in order to increase substantive performance, my study failed to find evidence of a direct relationship. It is possible that a different operationalization of innovative uniqueness that focuses upon product characteristics may yield different results and warrants further

exploration. Alternatively, the relationship may not exist apart from other environmental characteristics.

Concluding Remarks

This dissertation sought to explore the relationships between resources, innovative outcomes, and performance for entrepreneurial firms. Empirical support was found for the importance of management-related resources, creativity-related resources, and innovative output for the entrepreneurial firm's symbolic and substantive performance. At the same time, several new questions have arisen that provide opportunities to continue research along these lines. For instance, how do institutions that arise from different origins impact symbolic and substantive performance? What other characteristics of a firm's innovative outcomes might impact symbolic and substantive performance? What processes might enable entrepreneurial firms to generate innovative output at a higher rate given the same level of resource endowments? For the entrepreneurial firm, this dissertation offers a comforting message. High-capital resource endowments and related constraints are less important than what the firm is able to do with their relatively-easier-to-obtain resource endowments such as management experience, IORs, time-related competencies, and industry tenure.

Appendix A

OLS Regression with Robust Standard Errors

Table A-1. OLS Regression on substantive performance (play counts) with robust standard errors.

VARIABLES	(35 Robust)	(36 Robust)	(37 Robust)	(38 Robust)	(39 Robust)
Band Size	0.1900*** (5.968)	0.1432*** (4.408)	0.1888*** (5.935)	0.1454*** (5.060)	0.1189*** (3.967)
Percent Male	-0.0131 (-0.480)	-0.0242 (-0.923)	-0.0141 (-0.518)	-0.0271 (-1.074)	-0.0325 (-1.330)
Prior Relationships With Big 3 and Subsidiaries	0.2068*** (7.401)	0.1086*** (3.574)	0.2072*** (7.426)	0.1054*** (3.927)	0.0479† (1.727)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes
Log(Innovative Output)		0.2426*** (7.369)			0.1604*** (5.137)
Innovative Uniqueness			-0.0188 (-0.606)		0.0170 (0.617)
Log(Symbolic Performance)				0.3920*** (12.456)	0.3619*** (11.225)
Constant	*** (27.795)	*** (10.934)	*** (20.705)	*** (4.540)	† (1.853)
Observations	800	800	800	800	800
F	-	-	-	-	-
Adjusted R-squared	0.404	0.447	0.404	0.536	0.553
Change in R-squared		0.043***	0.000	0.132***	0.149***
Standardized beta coefficients reported. Robust T-statistics in parentheses.					
*** p<0.001, ** p<0.01, * p<0.05, † p<0.10					

Table A-2. OLS Regression on substantive performance (play counts) with robust standard errors.

VARIABLES	(40 Robust)	(41 Robust)	(42 Robust)	(43 Robust)	(44 Robust)
Band Size	0.1362*** (4.209)	0.0722* (2.289)	0.1323*** (4.072)	0.0888** (3.175)	0.0454 (1.589)
Percent Male	-0.0541+ (-1.776)	-0.0692* (-2.527)	-0.0575+ (-1.931)	-0.0690* (-2.453)	-0.0798** (-3.152)
Prior Relationships With Big 3 and Subsidiaries	0.3446*** (12.094)	0.2102*** (6.895)	0.3460*** (12.169)	0.2366*** (8.646)	0.1506*** (5.377)
Country Dummies Included	Yes	Yes	Yes	Yes	Yes
Genre Dummies Included	Yes	Yes	Yes	Yes	Yes
Log(Innovative Output)		0.3319*** (10.173)			0.2469*** (8.052)
Innovative Uniqueness			-0.0653* (-1.971)		-0.0263 (-0.909)
Log(Symbolic Performance)				0.4171*** (13.270)	0.3657*** (11.869)
Constant	.*** (22.842)	.*** (6.723)	.*** (16.339)	.* (2.086)	.* (-2.369)
Observations	800	800	800	800	800
F	-	-	-	-	-
Adjusted R-squared	0.342	0.424	0.346	0.492	0.535
Change in R-Squared		0.078***	0.004**	0.143***	0.185***
Standardized beta coefficients reported. Robust T-statistics in parentheses.					
*** p<0.001, ** p<0.01, * p<0.05, † p<0.10					

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