Entrepreneurial Competencies: Do Entrepreneurs Use Them More Frequently Than Employees?

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ABSTRACT

This study utilizes data from 119 survey respondents to assess a set of previously published entrepreneurial competencies and how frequently they are used by entrepreneurs and employees. Three hypotheses are developed specifying expected differences between entrepreneurs and employees. We also take into account whether the entrepreneur or employee innovate on a daily or intermittent basis. Comparing these four groups we find partial support that entrepreneurs some of the competencies significantly more often than employees. Daily innovators also use some competencies more often than intermittent innovators. We also compare these four groups and find significant differences between them as well. This research contributes the first test of these competencies comparing entrepreneurs and employees and indicates that only certain competencies are unique to entrepreneurs.

Keywords: innovation, entrepreneurial competencies, entrepreneurship, intrapreneurship

JEL Codes: D91, L26, M13

Introduction

A significant part entrepreneurship research focuses on how an individual discovers and exploits opportunities (Shane, 2003). Frequently, the exploiting of opportunities stems from some type of innovation leading to a new market for an existing firm or the formation of a new company. As innovation is a key component of entrepreneurial developments in the market, examining the individuals involved in the process of innovation is a frequent starting point for researchers. Those entrepreneurial activities or competencies used most frequently in the process of innovation may help to determine which are more important in fostering within the organizational culture.

Entrepreneurial competencies are identified as a specific group of abilities relevant to achieving successful entrepreneurship (Mitchelmore & Rowley, 2010). These competencies are often related to the development of new businesses as well as corporate entrepreneurship, also called intrapreneurship (Colombo & Grilli, 2005; Hayton and Kelley, 2006; Zahra *et al*., 1999). Some researchers suggest that entrepreneurial competencies are needed to start a business while managerial competencies are needed to sustain and grow the business (Man *et al*., 2002).

Researchers tend to agree that entrepreneurial competencies are important to business success and that understanding the nature surrounding them would benefit practitioners, yet the analysis of such is in its early stages and much more work needs to be done in this research area (Mitchelmore & Rowley, 2010). There is some disagreement about which competencies are distinct from managerial competencies and the specific competencies that support the creation of a venture remain elusive (Morris *et al*., 2013).

The primary purpose of this study is to assess whether there is indeed a difference in the use of the entrepreneurial competencies between entrepreneurs and non-entrepreneurs, i.e., employees. Due to the nature of the survey design, we are not comparing entrepreneurs and employees working in the same organization but comparing them in general across several industries. We begin by reviewing

existing literature on the topic of entrepreneurial competencies and provide justification for our choice of the set of competencies to be tested. We utilize data collected from a survey we designed and distributed to founders and employees of organizations and ultimately collected 119 responses. We then report on the results which provide partial support for all of our hypotheses.

Theory and Hypotheses

What are Entrepreneurial Competencies?

Terms such as competencies, capabilities, resources, and skills are often used interchangeably (Colombo & Grilli, 2005). A competency is defined as, "an ability to accomplish something by using a set of material and immaterial resources" (Danneels, 2002, p. 1102). The term competency is defined as behaviours that an individual demonstrates and as a minimum standard of performance (Strebler *et al*., 1997).

Older studies examined differences between entrepreneurial and managerial competencies found them to be similar (Chandler & Jansen, 1992; Herron & Robinson, 1993). However, both studies found that in addition to the traditional managerial competencies, entrepreneurial competencies included self-management and opportunity related competencies. Man, *et al.* (2002) purport that individuals with entrepreneurial competencies also must possess managerial competencies suggesting that entrepreneurial competencies include managerial competencies. They also propose that both are often cited as the most influential factors related to the performance of a firm.

Lerner and Almore (2002) examine various functional differences and found innovation and marketing to be unique to entrepreneurs in terms of skills. Bird (1988) argues that perseverance is a key competence distinct for entrepreneurs. Similar skills such as drive and an ability to put forth intense effort are also cited as key competencies (Sandberg & Hofer, 1987). Other studies suggest that recognition and exploitation of opportunities are key differentiating competencies (Misra & Kumar, 2000; Shane & Venkatarman, 2000).

Building upon previously mentioned studies, Man, *et al.* (2002) suggest six main areas of entrepreneurial competencies: opportunity, relationship, conceptual, organizing, strategic, and commitment. For start-ups that originate from an academic environment as a result of academic research, Rasmussen, *et al.* (2011) identified competency clusters such as opportunity refinement, leveraging, and championing. Rezaei-Zadah, *et al.* (2014) also examined competencies in the university environment and found that positivity and competitiveness drive all other competencies in their model. Sanchez (2011) mentions self-efficacy, pro-activeness, and risk taking as entrepreneurial competencies. Mitchelmore and Rowley (2009) identified identification and definition of a viable market, development of products and services appropriate to chosen firms, understanding market niche and product innovation, idea generation, environmental scanning, recognizing and envisioning taking advantage of opportunities, and formulating strategies for taking advantage of opportunities as entrepreneurial competencies. Table 1 provides a summary of previous studies conducted on entrepreneurial competencies along with the method used for developing them.

Table 1 - Summary of Previous Competency Studies

Authors	Method	Competencies
Man, Lau, & Chan (2002)	Literature review	Opportunity competencies, relationship competencies, conceptual competencies, organizing competencies, strategic competencies, commitment competencies
Lerner & Almore (2002)	Surveyed 220 Israeli female entrepreneurs	Marketing, innovation
Mitchelmore & Rowley (2009)	Literature review	Identification of a viable market, development of products/services appropriate to firms chosen, understanding market niche and product innovation, idea generation, environmental scanning, recognizing taking advantage of opportunities, formulating strategies for taking advantage of opportunities
Rasmussen & Wright (2011)	Longitudinal case study of university spin-offs	Opportunity refinement, championing, dynamically interacting, leveraging resources (tangible and intangible)
Sanchez (2011)	Survey of training vs. control student groups (800+ students)	Self-efficacy, pro-activeness, risk-taking
Morris et al. (2013)	Delphi interview of 20 academics and 20 entrepreneurs, pre/post-test with 25 students	Opportunity recognition, opportunity assessment, risk management/mitigation, conveying a compelling vision, perseverance, creative problem solving, resource leveraging, guerrilla skills, value creation, maintain focus yet adapt, resilience, self-efficacy, building and using networks

For the purposes of this study, the competencies listed by Morris *et al*. (2013) were chosen for analysis because they were developed by means of a multi-round Delphi technique, they are the most recent, and they are also the most extensive list of entrepreneurship competencies.

Innovation, Entrepreneurship, and its Relationship to Entrepreneurial Competencies

Drucker (1985) states that innovation is the main instrument of entrepreneurship and Elbaz et al. (2013, p.2) reinforces this, calling "innovation a tool of entrepreneurship." The entrepreneur is not necessarily the inventor, but the one involved with implementation, cooperation, learning, and diffusion (Sledzik, 2013). According to Kelmar and Wingham (1995), the entrepreneurial talents of the founder are not as likely to be found in in the purchasers or inheritors of businesses (i.e. employee), whose expertise may be directed at a specialized level of control or function.

Innovation is a multi-stage process whereby organizations (or individuals) transform ideas into new/improved products, service, or processes in order to advance, compete, and differentiate themselves successfully in their marketplace (Baregheh *et al*., 2009). Additionally, "new business formation and its subsequent growth" are thought to be largely dependent on innovation (Vyas, 2005). Researchers agree that the entrepreneurial activities of employees are an important focus when trying to understand how firms take advantage of opportunities in the market environment (Gawke, *et al.*, 2017; Miles, *et al.*, 2010).

This study examines an individual's frequency of involvement in innovation, but it also examines the competencies used by those individuals. Case studies show that entrepreneurship and innovation are "dynamic and holistic processes that are not confined to the initial stage of a start-up" (Zhao, 2005, p. 25). This study examines whether entrepreneurship and innovation are complementary or at least, simultaneously working together.

Competencies of Employees and Entrepreneurs

It is generally accepted that the influence of a founder on the firm plays a significant role in the performance and culture of that firm (Bates, 1990; Horne *et al.*, 1992; Stoner, 1987). Additionally, entrepreneurs tend to behave differently than non-entrepreneurs, particularly in terms of their time horizon for decision-making as it relates to their risk tolerance (Das & Teng, 1997). Costa *et al.* (2016) found that workers who have positive intentions and a willingness for entrepreneurship do report higher levels of entrepreneurial competencies. While there is conflicting evidence on personality traits of entrepreneurs, there is evidence to suggest entrepreneurs differ from non-entrepreneurs in their creative abilities and self-efficacy (Thompson, 2004).

The Morris *et al.* (2013) study develops entrepreneurial competencies specifically "to distinguish entrepreneurial from managerial competencies and attempt to isolate and then measure the entrepreneurial competencies" (p. 356). Thus, it is expected that entrepreneurs will report utilizing theses competencies more frequently than non-entrepreneurs (or employees).

Hypothesis 1: Entrepreneurs will report utilizing all thirteen entrepreneurial competencies more frequently than employees.

Individual's Frequency/Extent of Involvement in Innovation

Firms innovate for reasons such as desiring market growth, responding to competitive pressure, needing efficiency, or seeking new markets (Gunday *et al*., 2008). Innovation is also a key dimension of the entrepreneurial strategic posture of the firm (Li & Atuahene-Gima, 2001; Zahra & Covin, 1993).

Organizations are known to rely on founders and top-level managers for developing innovations (Andries & Czarnitzki, 2014). Additionally, employee involvement in innovation in the workplace is a critical component for organizations to be able to maintain their competitive edge in the marketplace (Anderson, *et al.*, 2004; Anderson *et al*., 2014; Wallace *et al*., 2016; West, 2002).

Founders and top-level managers play a vital role in the high-level implementation of innovation because they are involved with the overall operating culture of the organization, but employees play a significant role in the innovation realm because they are often on the front line with customers and view first-hand the opportunity for innovation to take place (Wallace *et al.,* 2016). However, there is not much attention given to how the frequency of involvement of the entrepreneur or the employee in innovation would affect their use of entrepreneurial competencies. Arshi and Burns (2018) note that critical dimensions of innovation, such as frequency, have not been well investigated and need empirical studies. As a result of this gap, we incorporate the frequency of involvement in innovation as a measure for this survey.

It is expected that the frequency with which individuals (founders or employees) within organizations are involved in innovation will affect in the frequency of the use of entrepreneurial competencies.

Hypothesis 2: Entrepreneurs and employees who are involved daily in innovation will report utilizing the thirteen entrepreneurial competencies more frequently than entrepreneurs and employees who are involved intermittently.

Given our first two hypotheses, we also extend our theorizing and propose that the combined effect of being an entrepreneur and being involved daily in innovation will lead to the highest amount of entrepreneurial competency use. In effect, we propose four distinct groupings of individuals based on our independent variables of interest: entrepreneurs reporting daily innovation, entrepreneurs reporting intermittent innovation, employees reporting daily innovation, and employees reporting intermittent innovation. Further, we expect employees that practice intermittent innovation to report the lowest uses of entrepreneurial competencies and entrepreneurs with infrequent innovation and

employees with frequent innovation to report moderate usages of entrepreneurial competencies. We formalize these differences in the following hypotheses:

Hypothesis 3a: Entrepreneurs who are involved daily in innovation will report utilizing the thirteen entrepreneurial competencies more frequently than any other group.

Hypothesis 3b: Entrepreneurs who are involved intermittently in innovation and employees who are involved daily in innovation will report utilizing the thirteen entrepreneurial competencies more moderately compared to other groups.

Hypothesis 3c: Employees who are involved intermittently in innovation will report utilizing the thirteen entrepreneurial competencies less frequently than any other group.

Methodology

A survey was designed and sent out to both entrepreneurs as well as employees. The survey was used (a) to measure the frequency of using the thirteen entrepreneurial competencies, (b) to determine whether the respondent was an entrepreneur or employee, and (c) to determine how often the respondent practiced innovation. The size of the organization in terms of revenue and number of employees were included demographic questions in the survey; varying from under $5 million in revenue to above $250 million and under 10 employees to over 2,500. Survey respondents were also asked how old their organization was from less than 10 years to 50 years or more.

The survey was distributed to local contacts who in turn forwarded the survey to other entrepreneurs/employees in their network. By virtue of this distribution, the survey was sent out to approximately 1,200 people. There were 208 respondents that began the survey, and 119 completed survey responses were received. This provided an overall response rate of approximately 9%, which is

typical for blind surveys that are sent out to large numbers of potential respondents. Out of the 208 surveys that were initially attempted, the completion rate was 57.21%.

Out of the total number of respondents, about 58% were entrepreneurs and 42% were employees. 46.94% of the companies that the respondents were affiliated with had revenue of less than $5 million, 44.22% had 19 employees or less and 55.06% were in business 10 years or less. The survey respondents reported companies across a wide spectrum of industries such as aerospace, education, financial services, marketing and sales, media and entertainment, non-profits, professional services, and software/information technology. The maximum number of respondents was from the software/information technology industry, at 19.05% of all responses. Respondents from financial services and professional services tied in next at 7.48%. When the level of the respondent in the organization was considered, a large percentage of all respondents (43.54%) were top management including CEOs, presidents, board of directors, etc. Middle management comprised of 21.09% of the respondents.

Measures

Independent Variables

Respondents were asked to self-identify themselves as either an entrepreneur or an employee with the following question:

Which statement describes your current profession?

I am the founder or one of the co-founders of my current company. (63 respondents)

I am currently an employee of a company and not a founder. (56 respondents)

In order to be sure respondents were founders and not successors or just leaders of the organization in question, we were sure to include the word “current” in the question and in the answers to help avoid any confusion. Respondents were also asked how frequently they were involved in

innovation at their respective firms with the definition of innovation provided as "a new product, service, or process that creates value." The range for the "frequency of use replies" were daily, weekly, monthly, a few times a year or never. Out of the 119 completed survey responses received, 59 respondents (49.58%) said they were involved in innovation daily, while the remaining respondents indicated they engaged less frequently in innovation. No respondents stated that they never were involved. This variable was coded as one for those that indicated daily innovation and zero as for those that indicated less frequent innovation.

Dependent Variables

Respondents were also asked how frequently they found themselves using the thirteen competencies previously discussed. The measures for the use of the competency are: Daily (5), Weekly (4), Once or Twice a month (3), a Few Times a Year (2), or Never (1). The higher number indicates a more frequent use of the competency. Due to the percentages of the responses, we compare the 49.58% of daily innovators to the remaining intermittent innovators (weekly, bi-monthly, and a few times a year). This allowed us to create four distinct groups:

- Entrepreneurs that innovate daily
- Entrepreneurs that innovate intermittently
- Employees that innovate daily
- Employees that innovate intermittently

The terms "self-efficacy" and "guerrilla skills" are terms used to describe two of the thirteen competencies. We did not use the exact terminology in the survey to avoid confusion from the respondents. "Self-efficacy" was changed to "self-confidence" and "guerrilla skills" was changed to "employing low-cost tactics," both of which were taken directly from Morris *et al.* (2013) definitions of the terms.

Control Variables

We controlled for the following variables in the analysis. First, we controlled for size of the organization the entrepreneur or employee was a member of in terms of revenue where a response of one indicated a revenue of less than $5 Million USD and a response of zero indicated all other responses. We controlled for the number of physical locations the organization had by coding responses of 1 – 19 as one and all other responses as zero. We controlled for the age of the organization where one indicates a response of five years or younger and zero indicates all other responses. We also controlled for those organizations reporting that they were part of the "Software/IT" sector coded as one given that a large portion of respondents reported activity in the industry and since it may predispose those industries to certain entrepreneurial competencies or use of innovation.

Analysis

We tested our hypotheses using One-Way and Two-Way MANCOVA. MANCOVA being the appropriate statistical method given that we are attempting to assess the differences in means for two or more groups along multiple dependent variables while factoring out the error introduced by control variables.

Results

Means, standard deviations, and correlations for all of the variables included in the analysis are reported in Table 2. Table 3 presents the results from the One-Way MANCOVA for hypothesis one. We find partial support for hypothesis one in that after factoring out the noise introduced by the control variables, the adjustment mean estimates support the idea that entrepreneurs report more frequent use of the entrepreneurial competencies than employees for five of the thirteen competencies.

TABLE 2
Means, Standard Deviations, and Correlations

	Variable	Mean	SD	1	2	3	4	5	6	7	8
1	Revenue Less than $5 Million	0.52	0.50								
2	Locations 1 - 19	0.48	0.50	0.65							
3	Age Less than 5 Years	0.41	0.49	0.36	0.39						
4	Software/IT Industry	0.23	0.42	0.00	-0.08	0.16					
5	Entrepreneur	0.53	0.50	-0.63	-0.61	-0.31	0.03				
6	Daily Innovation	0.50	0.50	0.50	0.38	0.18	-0.03	-0.33			
7	Opportunity Recognition	3.94	1.09	0.15	0.11	0.01	0.14	-0.07	0.15		
8	Opportunity Assessment	3.85	1.15	0.21	0.14	0.02	0.00	-0.05	0.15	0.68	
9	Conveying a Compelling Vision	3.71	1.12	0.19	0.04	0.07	0.07	0.04	0.27	0.41	0.33
10	Creative Problem Solving	4.38	0.81	0.16	-0.03	-0.05	-0.06	0.07	0.21	0.26	0.30
11	Resource Leveraging	4.08	1.05	0.03	-0.03	0.10	-0.01	0.13	0.06	0.14	0.24
12	Employing Low-Cost Tactics	3.50	1.29	0.23	0.17	0.17	-0.10	-0.11	0.08	0.16	0.15
13	Value Creation	3.97	1.04	0.20	0.16	0.11	0.02	0.03	0.23	0.35	0.42
14	Maintain Focus Yet Adapt	4.24	0.89	0.06	-0.02	0.04	-0.04	0.11	0.06	0.19	0.19
15	Resilience	4.32	0.89	0.04	-0.04	-0.07	-0.01	0.04	0.00	0.19	0.15
16	Self-Confidence	4.49	0.76	0.02	-0.02	-0.07	-0.14	0.07	0.06	0.29	0.23
17	Building and Using Networks	4.00	1.09	0.08	0.14	0.05	-0.13	-0.02	0.08	0.31	0.40
18	Tenacity/Perseverance	4.36	0.92	0.18	0.10	0.04	-0.02	-0.05	0.08	0.24	0.15
19	Risk Management/Mitigation	3.55	1.21	0.21	0.14	0.13	-0.15	-0.08	0.19	0.09	0.32

Note: All correlations +/- 0.18 are significant at the 0.05 level (two-tailed)

TABLE 2 (Cont'd)
Means, Standard Deviations, and Correlations

		9	10	11	12	13	14	15	16	17	18
9	Conveying a Compelling Vision										
10	Creative Problem Solving	0.37									
11	Resource Leveraging	0.29	0.45								
12	Employing Low-Cost Tactics	0.07	0.40	0.44							
13	Value Creation	0.47	0.47	0.35	0.31						
14	Maintain Focus Yet Adapt	0.25	0.41	0.41	0.26	0.33					
15	Resilience	0.31	0.34	0.35	0.22	0.30	0.60				
16	Self-Confidence	0.35	0.40	0.28	0.21	0.30	0.41	0.40			
17	Building and Using Networks	0.22	0.12	0.22	0.04	0.41	0.19	0.16	0.44		
18	Tenacity/Perseverance	0.30	0.27	0.36	0.23	0.29	0.39	0.55	0.40	0.21	
19	Risk Management/Mitigation	0.22	0.32	0.47	0.33	0.47	0.17	0.22	0.20	0.36	0.26

Note: All correlations +/- 0.18 are significant at the 0.05 level (two-tailed)

TABLE 3
MANCOVA Results for Founder Versus Employee Comparison

	Mean Estimate				
	Entrepreneur	Employee	Univariate F		Post-Hoc Analysis
Opportunity Recognition	4.06	3.97	0.11		
Opportunity Assessment	4.04	3.70	1.39		
Conveying a Compelling Vision	3.97	3.44	3.81	*	Entrepreneur > Employee
Creative Problem Solving	4.59	4.26	2.89	^	Entrepreneur > Employee
Resource Leveraging	4.29	3.76	4.05	*	Entrepreneur > Employee
Employing Low-Cost Tactics	3.62	3.40	0.44		
Value Creation	4.32	3.67	6.54	*	Entrepreneur > Employee
Maintain Focus Yet Adapt	4.45	4.03	3.34	^	Entrepreneur > Employee
Resilience	4.43	4.33	0.17		
Self-Confidence	4.63	4.46	0.90		
Building and Using Networks	4.16	3.92	0.78		
Tenacity/Perseverance	4.49	4.32	0.52		
Risk Management/Mitigation	3.68	3.40	0.84		

*Significant at the 0.05 level; ^Significant at the 0.10 level

Note: Post-hoc pairwise comparisons are significant at the 0.05 level

Table 4 then presents the results of the One-Way MANCOVA for hypothesis number two. Similar to hypothesis one, we also find partial support for hypothesis two. After accounting for the error of the control variables control variables, the adjustment mean estimates support the hypothesis that individuals practicing daily innovation report more frequent use of the entrepreneurial competencies than those that practice innovation more intermittently for two of the thirteen competencies.

TABLE 4
MANCOVA Results for Daily Versus Intermittent Innovation Comparison

	Mean Estimate				
	Daily	Intermittent	Univariate F		Post-Hoc Analysis
Opportunity Recognition	4.11	3.93	0.65		
Opportunity Assessment	3.93	3.81	0.22		
Conveying a Compelling Vision	3.97	3.44	5.53	*	Daily > Intermittent
Creative Problem Solving	4.57	4.27	3.30	^	Daily > Intermittent
Resource Leveraging	4.11	3.94	0.56		
Employing Low-Cost Tactics	3.45	3.57	0.20		
Value Creation	4.16	3.83	2.44		
Maintain Focus Yet Adapt	4.29	4.19	0.24		
Resilience	4.35	4.41	0.13		
Self-Confidence	4.59	4.50	0.27		
Building and Using Networks	4.07	4.01	0.08		
Tenacity/Perseverance	4.39	4.43	0.04		
Risk Management/Mitigation	3.67	3.42	0.98		

*Significant at the 0.05 level; ^Significant at the 0.10 level
Note: Post-hoc pairwise comparisons are significant at the 0.05 level

Finally, Table 5 reports the results of the Two-Way MANCOVA that tests for difference between the four groups of interest and hypothesis 3a, 3b, and 3c. We find partial support for hypothesis 3a, 3b, and 3c in that six of the thirteen competencies do have significant mean

differences and the pattern is largely as expected. Entrepreneurs that practice daily innovation are higher than other groups for five of thirteen competencies. Employees that practice innovation intermittently are lower on five of thirteen competencies as well. There are then specific competencies in which entrepreneurs that practice innovation intermittently are either higher or lower than other groups.

TABLE 5
MANCOVA Results for Four Group Comparison

	Mean Estimate						
	Ent/Day	Ent/Int	Emp/Day	Emp/Int	Univariate F		Post-Hoc Analysis
Opportunity Recognition	4.40	3.73	3.82	4.13	2.25	^	Ent/Day > Ent/Int
Opportunity Assessment	4.20	3.89	3.66	3.74	0.85		
Conveying a Compelling Vision	4.29	3.65	3.66	3.22	3.30	*	Ent/Day > Emp/Int
Creative Problem Solving	4.90	4.28	4.24	4.27	3.95	*	Ent/Day > All three other groups
Resource Leveraging	4.24	4.34	3.97	3.55	1.96	^	Ent/Int > Emp/Int
Employing Low-Cost Tactics	3.61	3.62	3.29	3.52	0.28		
Value Creation	4.63	4.01	3.69	3.65	4.01	*	Ent/Day > Emp/Day; Emp/Int
Maintain Focus Yet Adapt	4.52	4.38	4.06	4.01	1.25		
Resilience	4.58	4.27	4.11	4.56	1.73		
Self-Confidence	4.87	4.40	4.31	4.61	2.90	*	Ent/Day > Emp/Day
Building and Using Networks	4.34	3.99	3.81	4.03	0.97		
Tenacity/Perseverance	4.62	4.36	4.15	4.49	1.19		
Risk Management/Mitigation	3.81	3.54	3.52	3.29	0.62		

*Significant at the 0.05 level; ^Significant at the 0.10 level

Ent/Day - Entrepreneur/Daily Innovation; Ent/Int - Entrepreneur/Intermittent Innovation; Emp/Day - Employee/Daily Innovation; Emp/Int - Employee/Intermittent Innovation

Note: Post-hoc pairwise comparisons are significant at the 0.05 level

Discussion

This study produces results that provide partial support of our hypotheses and offers several contributions to the entrepreneurship and innovation literature. First, this study represents the first comparative test of the thirteen competencies between entrepreneurs and employees. We show partial support for all of our hypotheses, but only six of the thirteen competencies showed significant differences between the four groups. Looking at the overall results, in all cases that showed significant differences, entrepreneurs reported more use of the competency. There was no case where employees reported using any of the competencies more often than entrepreneurs. This may indicate that the remaining seven competencies without differences between the groups are not unique to entrepreneurs and therefore perhaps more in line with management competencies. This would support Man *et al.* (2002) study that purports entrepreneurial competencies include some managerial competencies. This also provides evidence that the goal in the Morris *et al.* (2013) of distinguishing entrepreneurial competencies from manager is not quite accomplished.

Based on the initial results that were obtained from the 119 respondents, we can see that the competencies that have significant differences between entrepreneurs and employees are: conveying a compelling vision, creative problem solving, resource leveraging, value creation, and maintain focus yet adapt. These five competencies can easily be associated with the early stages of a business, which is typically before the entrepreneur has expanded his/her business and hired additional staff/employees. Due to this, it is likely that creative problem solving, resource leveraging, and value creation are more likely to be done by the entrepreneur versus the employees. However, the process of value creation is likely to be met with different viewpoints, due to which the process is anything but smooth, which may be when maintain focus yet adapt might be utilized. At this juncture, while the entrepreneur is trying to pivot his/her product and trying to make an entry into the market, problem solving, value creation, and the conveyance of a compelling vision are needed (Bird, 1988).

Sinha and Srivastava (2013) investigated specific traits and values that influence innovative employee behaviour and found that extraversion, altruism, creativity, management and achievement to positively influence innovation. Our results show conveying a compelling vision and the primary difference between daily and intermittent innovators. As daily innovators self-reported using creative problem solving more frequently than their intermittent innovators, it also lends support to the notion that when one enjoys thinking; they tend to be more innovative (Wu, *et al.*, 2014). Additionally, Figl and Recker (2016) strongly associate process innovation with creative problem solving.

Overall, creative problem solving and conveying a compelling vision were consistently significantly different in all three comparisons. In the post-hoc analysis of the four-group comparison, creative problem solving was distinct with daily innovating entrepreneurs reporting more frequently than all three other groups. Conveying a compelling vision was distinct between daily innovating entrepreneurs and daily innovating employees. This may be an indication that creative problem solving is a key competency related specifically to early stages of entrepreneurship. This may be an indication that the daily innovating entrepreneurs may be actively seeking (and trying to recognize) new opportunities, where the intermittent innovating entrepreneurs may be more focused on their current opportunities. Additionally, the ability to communicate the potential of these newer opportunities to potential stakeholders would also require the ability to convey a compelling vision. While only significant at the 0.10, opportunity recognition was also distinct between daily innovating entrepreneurs and intermittent innovating entrepreneurs, which provides support for early stage development as opportunity recognition, creative problem solving and conveying a compelling vision all work together at this stage.

Entrepreneurs also reported conveying a compelling vision and utilizing self-confidence more often than employees in the sample. This makes some intuitive sense as entrepreneurs are likely leading others in their organization and research shows that vision articulation is a key component of effective

leadership (Papalexandres & Galanaki, 2008). In regard to the remaining cases where entrepreneurs were using the competencies more often than employees, they reported creative problem solving, resource leveraging and value creation as the remaining competencies they use more frequently. This result also provides support to previous studies that identify these competencies as key parts in the entrepreneurship process itself (Corbett, 2005; Ardichvili, Cardozo, & Ray, 2003; Ireland, Hitt, & Simon, 2003).

The five competencies that entrepreneur use more frequently than employees may indicate that these are the competencies necessary for the role of the entrepreneur in the organization or it may simply imply that these five competencies are not as important for the typical management of a business. Another possible implication could be that if business leaders wanted their organizations to be more entrepreneurial, they might consider encouraging and valuing these five competencies in their employees. While further research is needed, a better understanding of these five competencies may help both entrepreneurs and employees help lead their companies to be more entrepreneurial. Additionally, if they wish their organizations to become more innovative, a focus on vision and problem solving would seem to encourage that outcome.

Future Research Directions

This initial empirical test of the competencies provides some evidence that all thirteen competencies may not be unique to entrepreneurs or perhaps the process of entrepreneurship. Further exploration is needed in order to determine if the six competencies are truly the differentiation between entrepreneurship and management. One way to explore this would be to examine founders and employees of the same organization. Additionally, we could compare firms where the founder is still active in the day-to-day operations of the firm to those where the founder is not active. We could also explore the firm's innovativeness as it compares to others in order to further test the competencies of its employees.

One limitation of the study is a possible social desirability bias that may have caused respondents to over report on some of the more favorably sounding competencies, such as resilience or perseverance. A future study may involve further rewording of the competencies to reduce this bias. An additional expansion of the current study could also include cross-country comparison. This cross-country comparison could also include a contrast to Hofstede's work on the dimensions of culture. When comparing our results to those cited in this paper, we find some overlap, but we also find more work is needed to come to a more harmonized framework for those abilities that are unique to entrepreneurs. We believe this study furthers that initiative.

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