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CUSTOMER-FIRM INTERACTION AND THE SMALL FIRM: EXPLORING INDIVIDUAL, FIRM, AND ENVIRONMENTAL LEVEL ANTECEDENTS

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ABSTRACT

Customer-firm interaction (CFI) has been extensively studied in the past for its effects on customer satisfaction, new product success, and firm performance. Research on the factors that facilitate or inhibit firms from interacting with their customers, however, is sparse. In this paper, we explored individual, product/service, and environmental factors that influence customer-firm interaction. Analyses are based on data from 172 small firms. Findings suggest that significant association exists between CFI and numerous individual, firm, and environmental factors, supporting the notion that in entrepreneurial and small firms CFI is used in a strategic fashion, to support market position. A set of post-hoc analyses showed that CFI antecedents vary by context such as entrepreneurs' gender, experience, or firm performance. Results, their implications, and future research opportunities are discussed.

INTRODUCTION

Customer- firm interaction (CFI) is considered a communication process through which firms and customers share information and knowledge (Gales & Mansour-Cole, 1995). CFI has been considered the core of customer-firm relationship (Gronroos, 2004) that plays a crucial role in building trust and relationship through communication (Anderson & Narus, 1990). The relationship between a firm and its customers creates a competitive setting through which firms can enjoy long term success (Gotlieb, Levy, Grewal, & Lindsey-Mullikin, 2004, Lehmann & Neuberger, 2001; Mills & Margulies, 1980).

Over the past decade, much research has been done on the interaction between firms and their customers (Bonner, 2010; Foss, Laursen, & Pedersen, 2011; Huffman & Skaggs, 2010; Ramani & Kumar, 2008; Song, Wang, & Parry, 2010). The research revolved around the nature, characteristics, and effects of those interactions. Overall, research supports the notion that interaction between a firm and its customers yields positive outcomes for the firms (Gruner & Homburg, 2000; Foss, Laursen, & Pedersen, 2011).

The research on customer-firm interaction has been conducted in a variety of contexts. CFI has been extensively studied in the past for its effects on customer satisfaction (Ramani & Kumar, 2008; Wang & Feng, 2012), new product success (Bonner, 2010; Grumer & Homburg, 2000; Narver, Slater, & MacLachlan, 2004), and firm performance (Moorman, 1995; Ramani & Kumar, 2008; Skaggs & Galli-Debicella, 2012). However, current research is lacking in two respects. First, only little attention has been given to the antecedents of customer interaction or to the factors that facilitate or inhibit firms from interacting with their customers. Second, not much research exists that focuses specifically on entrepreneurial and small firms, especially on the role that the entrepreneur's/owners and the firm's characteristics play in customer-firm interaction. This paper addresses those gaps. In this paper we argue that CFI is a strategic and deliberate action of a firm, and therefore, the extent to which it is used can be affected by certain factors that are unique to the firm. We specifically analyze CFI in entrepreneurial and small firms because the orientation of such firms is different from that of large firms (Coviello, Brodie, & Munro, 2000). Entrepreneurial / small firms are an ideal candidate to study antecedents of CFI because for entrepreneurs and small business owners, customer interaction is a primary source of customer information and knowledge that leads to strategic decision making. Because entrepreneurs and small business owners tend to experience greater resource constraints compared to larger and established firms, interaction with customers is of special importance in that it allows for direct and easy way to gain information and knowledge (Carson, Cromie, McGowan, & Hill, 1995; Hisrich, 2005).

Exploring the Antecedents of CFI in Entrepreneurial and Small firms

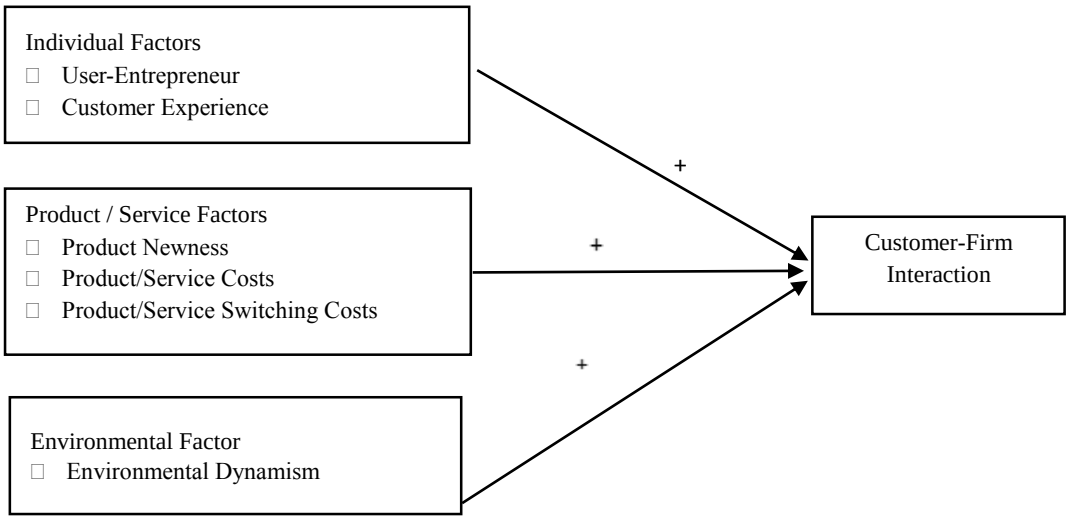
As a starting point, we propose that the antecedents of CFI be grouped into individual, firm, and environmental level factors. Entrepreneurs often mold the structure and system of their firms. They identify their business as an extension of their beliefs and personality, and make strategic decisions accordingly. Since CFI is strategic in its disposition, it is highly influenced by the entrepreneur's individual characteristics. Firm level characteristics such as the product

or service provided by the firm are another central factor around which firms weave their strategic decisions. As such, a firm's product or service is a critical link between a firm and its customers. Lastly, the environment is also a key factor affecting strategic decisions that constitute a third category in the framework.

The paper thus addresses the following general research question: a) do entrepreneurs' individual experiences affect the degree to which their firm engages in interaction with its customers? b) what is the relationship between the specific characteristics of the product/service offered and the degree of customer-firm interaction? and c) do perceptions of external environment affect the degree to which firms engage in customer interaction? A pictorial display of the research model is presented in Figure 1.

Figure 1

The Research Model



The paper is organized as follows: first, the literature on customer-firm interaction is discussed, followed by the development of testable hypotheses. The method section is then introduced, and results are presented. Post hoc analyses are then reported to shed further light on the antecedents. The discussion of the results follows along with the implications and suggestions for future research.

THEORETICAL BACKGROUND AND HYPOTHESES

Customer-Firm Interaction

The relationship of a business with its customer is a decisive factor in the success of a business. In turbulent markets, entrepreneurs / small business managers need to be in constant and direct contact with existing and potential customers to identify rapidly changing customers' needs and demands. The

firm's interaction with its customers is extremely important in order to receive information that is utilized to identify customers' requirements, needs, feedback etc. Furthermore; through interacting with customers, entrepreneurs can gain information about new business opportunities, as well as on competitors or other critical players in the industry. Indeed, past research on CFI and customer relationship provides extensive support for its importance in firm performance and success (Gruner & Homburg, 2000). The relationship between a firm and its customers helps with customer retention and satisfaction (Ennew & Binks, 1996) and long term success (Gotlieb et al., 2004, Lehmann & Neuberger, 2001; Mills & Margulies, 1980), while communication through interaction plays a crucial role in building trust and cooperation among partners (Anderson & Narus, 1990). Other studies show that interaction is the core of customer-firm relationship and that such interaction bears directly on the type of information and knowledge the firm has of its customers (Gronroos, 2004; Mills & Margulies, 1980), as well as on the information customers have on the firm (Mills & Margulies, 1980; Durkin, McCartan-Quinn, O'Donnell, & Howcroft, 2003). Interaction is associated with high quality and reliability of information exchanged and improved ability to effectively target customers by tailoring products and services to customers' needs, identifying new opportunities for products and services, or improving customer satisfaction (Hagel & Rayport, 1997). CFI has also been found to be directly related to the degree of service innovation and innovation success (Martin & Horne, 1995) and to the reduction of uncertainties associated with the firms' products and services (Jones, Mothersbaugh, & Beatty, 2000). Lastly, researchers also found that high customer-firm interaction is positively related to the various performance aspects of the firm (Ramani & Kumar, 2008).

Researchers dealing with the interaction between firms and their customers define the interaction patterns in various ways. Bonner defined customer interactivity as "the degree to which interactions between potential customers and project team members are bidirectional, participative and involve joint problem solving" (2010, p. 486). Huffman and Skaggs mentioned that "customer-firm interaction occurs when there is direct face-to-face contact between the consumer and the service firm" (2010, p. 152). Williams, Rice, and Rogers referred to interactivity with customers as "the degree to which participants in a communication process have control over, and can exchange roles in, their mutual discourse" (1988, p. 10). Drawing on the existing research, in this work customer–firm interaction is defined as the direct interaction between firm and its customer for the purpose of improving products or services.

Some of the entrepreneurship and small firm literature also addresses the role of CFI (Song et al., 2010). For example, Chrisman, McMullan, and Hall (2005) found that CFI has a significant positive effect on new venture success. Entrepreneurial and small firms experience limited resources, different scope of operation and management practices, and different operational and structural patterns (Schollhammer & Kuriloff, 1979), which allow greater influence of the entrepreneur on firm activities (Carrier, 1994; Carson et al., 1995). Indeed, research showed that entrepreneurs and small business owners have higher tendency towards developing direct relationships with their customers (Coviello et al., 2000). Given that the small business owners face high resource constraints and are

low on flexibility and opportunity (Hisrich, 1992), they rely on personal contacts and face-to-face interactions in order to be closer to their customer base (Carson et al., 1995). Marketing practices of such firms are also most likely based on interpersonal relationships at individual level (Coviello et al., 2000).

Given the theoretical justifications and existing evidence supporting the importance of CFI (e.g., Biemans, 1991; Parkinson, 1982; Ramani & Kumar, 2008; Shaw, 1985), in this paper we focus on customer-firm interaction itself as an outcome variable and argue that factors influencing CFI are as important as its consequences, especially in the entrepreneurship/small business literature. Accordingly, CFI is conceptualized as a deliberate activity that is performed by an entrepreneur or his firm strategically, to gain information and improve the firm's products or services, and ultimately enhance the firm's performance (Moorman, 1995).

Individual Level Antecedents of CFI

User entrepreneurs. Entrepreneurs often start their venture based on an unfulfilled need or based on some unsatisfactory experience with a product or service. This type of personal experience underlies the emergent and personal nature of new venture startup. Shah and Tripsas (2007) coined the term *accidental entrepreneurs* in reference to individuals who were users of a product or service and transformed it into an entrepreneurial venture. Such users realize an idea through their own use and then share that idea with other users (Shah & Tripsas, 2007). Similar to past definitions, in this work we identify user entrepreneurs as an individual or a group of individuals who commercialize a new or modified product or service that they use / have used in their day to day life.

User entrepreneurs are commonly distinguished into two categories; end-users and professional-users. End-user entrepreneurs use the product or service in their daily life and feel a need for improvement or identify beneficial improvements. Such entrepreneurs start commercializing their own product or services. In contrast, professional-user entrepreneurs use the product or service in professional context or at their job, and leave their job to make changes in the product and service and commercialize it. In this study, we considered user-entrepreneur as an overarching category, reflecting both types, because the motive of an end-user or a professional-user is same – to build on a previous user experience – and once they decide on developing a product or service, their course of action will be similar (e.g., Huefner & Hunt, 1996; Liang & Dunn, 2007). Past research has provided an array of evidence for effects of user entrepreneurship, and end-user research has recorded the success of end-user entrepreneurship in such areas as automobile (Franz, 2005), mountain bicycle (Luthje, Herstatt, & Von Hippel, 2005), or rodeo kayaking (Baldwin, Hienerth, & Von Hippel, 2006). Similarly, professional-user entrepreneurship research documented its role in ice harvesting industry (Utterback, 1994), typesetting (Tripsas, 2008), and probe microscopy (Mody, 2006).

Consistent with past research, it is proposed that this individual level factor will affect customer-firm interaction. Specifically, CFI level will be higher in firms started or managed by a user-entrepreneur because the personal experience associated with end-user

renders the entrepreneur more open to and appreciative of input from customers. Further, former end-users turned entrepreneurs are more likely to recognize the potential benefits associated with listening to customers and incorporating their input into the firm's existing products or services. Finally, given the relatively large impact that entrepreneurs have on their firm's processes, it is likely that those personal experiences will translate into established processes and mechanisms in the firm that encourage user productive and continuous customer and firm interaction. Therefore,

Hypothesis 1: *CFI is higher in firms started or managed by user-entrepreneurs compared to firms started or managed by individuals who were not user-entrepreneurs.*

Entrepreneur's/owner's work experience. A second factor that likely affects the extent of CFI is the decision maker's prior experience with customer interaction. Prior experience affects perceptions of success feasibility and the ease with which one can engage in a behavior, making a behavior more habitual and easy to perform (Ajzen, 1991; Ajzen & Fishbein, 2000). Familiarity with the process of customer interaction will likely lead to confidence and self-efficacy towards the behavior (Bandura, 1977a; Bandura & Wood 1989), which will influence the intentions to engage in it. Further, situations that emerge and that are similar to ones experienced in the past likely trigger habitual response sequence further enhancing the likelihood of engaging in behavior in question (Ouellette & Wood, 1998; Ajzen, 2002).

It is thus posited that an entrepreneur's / owner's past experience in interacting with customers enhances the self-efficacy regarding managing the CFI process. Entrepreneurs who have job experience specifically in areas where they come in direct contact with the customers such as customer service, sales, retail etc. will be more inclined to interact with customers. Prior customer experience also provides knowledge and skills in handling the variability in CFI. Since in entrepreneurial / small firms- the entrepreneur / owner carries much influence on the policies and procedures carried by the firm, it is expected that the pattern of interaction with customers will be consistent with and reflect the interaction orientation of the key managing individual Therefore,

Hypothesis 2: *CFI is positively related to the customer experience of the firm's key manager.*

Firm Level Antecedents

Product/service newness. When a product/service is new and not familiar to the potential customers, it is associated with ambiguity and uncertainty regarding its features and benefits, its overall quality and usefulness, and its application. In fact, Veryzer noted that resistance could develop in part, due to "products not fitting with the customers' knowledge structure or schema for products or current consumption patterns"(1998, p. 144). The degree of incompatibility of a new product with customers' current life or business situation increases customer resistance, and the greater the adjustment required for the new product/service on behalf of customers, the lower will be its acceptance rate (Veryzer, 1998). Further, when products or services are new, not only is it difficult to predict the product's true and practical applicability but it is also difficult for the customer to provide the accurate feedback. The lack of feedback

information from the customer further increases the difficulty of understanding the use of the product in actual customer environment (Narver et al. 2004).

The reality of resistance and ensuing lack of communication in face of product/service newness underscores the importance and potential benefits of effective customer-firm interaction. CFI facilitates communication and sharing of feedback, and allows customers to provide input to improve and enhance new product/service development and refinement. Further, CFI contributes to increasing customers' familiarity with the new product/service and facilitates its acceptance. CFI not only enhances the validity of the new product, but also provides customers' feedback and reaction towards the product which in turn can be used by the firm to modify and align the product based on customers' need. Accordingly, it can be argued that, because the benefits embodied in effective CFI become even more important when products or services are new, greater degrees of customer-firm activities will be expected.

Hypothesis 3: *CFI is positively related to product/service newness.*

Costs and investments. When firms invest a high amount of capital in producing or generating a product or service, their risk in case of failure is also greater. Usually, entrepreneurs use their equity to fund their product or service. However, most of them need resources from external stakeholders at some stage of the development of their ventures (Zott & Huy, 2007), and when the cost of production or operation is high, the resources from external stakeholders are also at risk. When risk is high, there would be increased pressure to mitigate the risk, and it is likely that firms will seek means to lower the risk, such as by increasing interaction with potential customers to share information and product details. In other words, CFI becomes a strategic tool for entrepreneurs/owners to lower risk and increase chances for positive returns on invested costs in that it facilitate the dissemination of product or service information to the customers. Accordingly, the greater the costs (and risks), the more important it is to inform customers about the associated benefits and potential value from the products/services. Notably, because customers acquire a good amount of knowledge about a firm or business through CFI (Mills & Margulies, 1980; Durkin et al., 2003), CFI alleviates the perceived uncertainties associated with the firms' products and services (Jones et al., 2000). Lastly, it is expected that the knowledge disseminated through interaction will facilitate the purchase decision and may reduce customer's hesitation due to uncertainty or prices. Therefore,

Hypothesis 4: *CFI is positively related to the cost of the firm's product/service.*

Switching costs. Entrepreneurial/small firms face great challenges associated with drawing customers, especially when the customers already have a relationship with another competitor. Consumers' switching cost from existing product/service to the firm's product/service can be a considerable hindrance for firm success. When consumers incur considerable costs by switching from existing provider to a new one, the costs may serve as "an indicator of consumers' reluctance to switch from one brand to another" (Lee & NG, 2007, p, 330). When consumers' switching cost is high,

entrepreneurs/managers trying to launch product/services will have to exert extra efforts and resources to persuade buyers to buy their product (Lieberman & Montgomery, 1988). In such instances, entrepreneurs/managers will seek means to convey the benefits of their products by interacting with the potential customers. For instance, firms can offer training and free presentations to new users in order to familiarize with the product or service, reducing learning costs. CFI constitutes such a means to facilitate information and potentially reduce the switching costs that customers encounter.

Hypothesis 5: *CFI is positively related to the switching cost associated with the firm product/service.*

External Antecedents

Environmental Dynamism. The volatility of external environment affects the nature and scope of information available to decision makers. From a decision making perspective, when making decisions in contexts of stable environments, decision makers can make optimal decisions even if few alternatives and limited information is available (Mintzberg, 1973). However, environmental dynamism or volatility threatens the rationality in decision making process, and predictions become more challenging while causality becomes more ambiguous (Dess & Beard, 1984; Priem, Rashid, & Kotulic, 1995). In order to make sense of the environment, decision makers must invest greater resources in studying the environment (Miller & Friesen, 1983). Eisenhardt (1989) found that in dynamic environments, firms accentuate the cognitive processing of comprehensive decision making by collecting and using more information and seek more alternatives. Using higher levels of information increases the chances of recognizing environmental changes (Sutcliffe, 1994) which in turn enhances the sense of controllability over the environment (Thomas, Clarke, & Gioia, 1993). Personal contacts and face-to-face interaction with customers further become highly important in dynamic environment because of the resource constraints and low flexibility faced by entrepreneurs (Hisrich, 1992). Due to constantly changing customer preferences in the dynamic environment, resource orchestration becomes critical (Sirmon, Hitt, & Ireland, 2011) hence firms need higher level of information to effectively channel the resources to the relevant activities that are crucial in a dynamic environment. Therefore, we argue that CFI will increase in entrepreneurial / small firm if they perceive that the environment is highly dynamic.

Hypothesis 6: *CFI is positively related to the dynamism of the environment in which the firm operates.*

METHOD

Sample

The data were obtained from 172 entrepreneur / small business owners. Gender distribution of the participants was 122 males and 50 females. The average age of respondents was 43 years and the average work experience in their firm was 11 years. Participants stated that they were owners of the business and that they were involved in the day to day operations of their business.

Twenty one percent of the businesses were from the retail sector, 51% were from the personal and business services sector, and 13% were from manufacturing,

construction, transportation, or technology. The remaining participating businesses were spread across various other industries such as music, healthcare, media, or multi-sectors. Please see the respondents demographic in Table 1.

Data Collection Procedure

Students in an upper level undergraduate entrepreneurship class at a large southwestern university in the United States were given a class assignment that included as one of its components interviewing entrepreneurs/small business owners. The snow ball sampling technique was used to identify the relevant respondents (Heckathorn, 2011). Past research, specifically entrepreneurship and small business research has used snowball sampling technique to collect the data from entrepreneurs (e.g., Peake, Davis, & Cox, 2015; McGee, Peterson, Mueller, & Sequeira, 2009; Schindehutte, Morris, & Brennan, 2003). In this technique, individuals that fall under a specified criteria are identified and are approached to get information for similar individuals. Despite of lacking the randomness in the sampling, the snowball sampling technique allows to reach more diverse sample (McGee et al., 2009). Accordingly, the students were instructed to arrange for interviews with individuals who are business owners. Part of the assignment was to interview an entrepreneur / small business owner and administer a survey. The interview involved going through a structured interview document that included open-ended questions as well as close-ended, scaled questions. The close-ended questions in the survey consisted of demographic and business profile questions and questions about business practices, whereas the open-ended questions pertained to the respondent's personal experience as an entrepreneur and business

Table 1

Respondent Demographic

	Frequency	Percentage
Gender		
Male	122	71
Female	50	29
Ethnicity		
Caucasian, Hispanic	28	16
Caucasian, Non-Hispanic	106	61
African American	22	12.6
Asian or Pacific Islander	7	4
Other	11	6.3
Education		
High School or less	13	7.5
Some college or technical training	53	30.5
Associate's degree	17	9.8
Bachelor's degree	64	36.8
Master's degree	17	9.8
Doctorate	9	5.2
Age		
19 - 34	48	27.6
35 - 49	56	32.2
50 - 64	59	33.9
65+	7	4
Entrepreneurial Experience		
Novice	101	58
Experienced	71	32
Strategic Orientation		
Growth	102	58.9
Family Business	67	39.9
Industry		
Retail	36	21
Service	88	51
Manufacturing, construction, transportation, or technology	22	13
Other	26	15

owner. The typical process was one where the student contacted the interviewee, introduced him/herself and the purpose of the interview, and arranged for a meeting. In the course of the meeting the student went over the structured interview document. The interviewee either answered/completed all questions at that time, or another meeting was arranged with the student. Students had approximately 4 weeks from the time the assignment was given to complete it. Once due, the student turned in the assignment along with a copy of the structured interview document. The data from the survey instrument was reviewed and entered, and was then used for statistical analyses. All businesses were in the United States, and the vast majority was in the southwest. The structured interview documents were completed by an individual only if he/she fulfilled the criteria of being an owner of the business, typically a founder or co-founder of the business, and who was involved in the day-to-day operation of the business.

Measures

Dependent variable. The dependent variable was *Customer-Firm Interaction (CFI).* This measure is based on the Customer-Firm interaction scale used by Huffman and Skaggs (2010) and consisted of five items asking the respondent about the extent to which she/he agrees with statements regarding the firm's interaction with its customers (see Appendix). The five items were rated on a 7-point Likert type scale. The five items had a reliability of Cronbach $\alpha = .84$, and were averaged to create the CFI indicator.

Independent variables. Six independent variables were used, two reflecting individual characteristics, three reflecting product characteristics, and one reflecting the environment. Individual characteristics were gauged by a) whether respondent is a user-entrepreneur, and b) the respondent's prior experience interacting with customers. The *user-entrepreneur* indicator was measured by asking the respondent to think about the product or service around which the company was founded and to indicate a) whether a close variation of the product/service was used by the respondent or other founders for personal use – personal end user, and, b) whether a close variation of the product/service was used by the respondent of other founders at previous business or job – professional end user (Shah, Winston Smith, & Reedy, 2012). Answers were coded as 1, *yes* and 0, *no.* Forty seven respondents (27%) indicated yes to being an end-user, 52 respondents (29.9%) indicated yes to being a professional-user, and 7 respondents (4%) indicated yes to being both. Given the distribution of the responses, *user-entrepreneur* was defined as a respondent who answered yes to one or both of the items, which reflected 81 individuals or 46.6% of the respondents, while a non-user-entrepreneur was an individual who did not indicate being either an end-user or professional-user (92 individuals or 52.9% of the respondents. The second individual level indicator was based on the extent to which the respondent had prior experience with customer interaction. A measure was created asking the respondent to think about their work experience over the past 5 years and indicate the extent to which their work experience involved six types of behaviors associated with working with customers (see Appendix). Answers were coded on a 7-point Likert type scale. The six items (Cronbach $\alpha = .83$) were averaged to create the *Customer Experience* measure.

Three variables were used to gauge the effect of product/service characteristics.

Product/service switching costs were measured using the scale introduced by Yang and Peterson (2004). This scale is based on 5 items that ask respondents to indicate their agreement with various manifestations of high switching costs (see Appendix). The scale was based on a 7-point Likert type scale, where higher values suggest higher switching costs from competitors to the firm's product/service. The five items (Cronbach α = .77) were averaged to create the *Switching Costs* measure. *Product newness* measure was assessed based on a measure used by the Panel Study of Entrepreneurial Dynamics. This is a single item measure where respondents were asked to indicate their agreement (on a 7-points scale) with the statement "*When we target new customers, they typically consider our product/service to be completely new and unfamiliar." Product/service costs* is a newly developed measure which was assessed by asking respondents to assess how their firm compares to its close competitors on three items indicating the financial product or service investments (see Appendix).The three items (Cronbach α = .73) were averaged to create a single indicator of product costs. *Perceived Environmental Dynamism* is measured using a scale developed by Schilke (2014). The scale was modified in the context of present study. This scale is based on 5 items that ask respondents to indicate whether they perceive external environment highly dynamic (see Appendix). The scale was based on a 7-point Likert type scale, where higher values suggest higher environmental dynamism. The five items (Cronbach α = .75) were averaged to create the *Perceived Environmental Dynamism* measure.

Control variables. Five demographic control variables were included. a) respondents' work experience in the industry was assessed, measured in years; b) respondents' highest education level was included, coded as 1, *high school or less*, 2, *some college, or technical training*, 3 *Associate's degree,* 4 *Bachelor's degree*, 5, *G=Master's degree / professional,* and 6 - *doctorate.* c) Company size was controlled for, measured as the number of full time employees in the firm. Lastly, to control for possible industry effects, the type of venture was coded as being in the retail, service, product based sectors, or other. A dummy variable was created and was included in the analyses as control. Descriptive statistics and correlations of study variables are presented in Table 2.

RESULTS

Means, standard deviation, and correlations of all the variables used in this study are presented in Table 2. It is evident from the correlation table that there is merit to further evaluate the antecedents for the CFI. For example, the individual level variables *customer experience* and *user-entrepreneur* have significant correlation with *CFI* ($p<0.01$ and $p<.05$ respectively). Also, *product newness* is significantly correlated with *CFI* ($p< 0.05$). Although we do not see very high correlation between individual variables we examined the variance inflation factor (VIF) for all the regressions, just to ensure that there are no potential multicollinearity issues. Among all regressions, the range of VIF values was 1.03 to 2.28 which is well within acceptable range and suggests that there are no serious problems of multicollinearity.

Table 2
Intercorrelation and Descriptive Statistics for Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Industry Experience	17.23	12.31	_											
2 Education	3.27	1.33	.07	_										
3 Firm Size	24.45	110.63	.33**	-.05	_									
4 Sector - Retail	0.21	0.41	.06	-.04	.03	_								
5 Sector - service	0.51	0.50	.06	.03	-.13	-.52**	_							
6 Sector - Production	0.14	0.35	.07	-.04	.21**	-.20**	-.40**	_						
7 User-Entrepreneur	0.53	0.50	-.07	.02	-.16*	.00	-.09	.07	_					
8 Customer Experience	5.75	1.25	-.05	.01	-.08	-.05	.04	.00	.10	_				
9 Product/Service Newness	3.36	1.93	-.15	.12	-.05	.11	-.07	-.04	.00	.10	_			
10 Product/Service Costs	3.70	1.27	.16*	.06	.06	.06	.01	-.05	-.05	.06	.00	_		
11 Product/Service Switching Costs	2.34	1.17	.00	-.04	.02	-.09	.00	.09	.14	-.02	.27**	.11	_	
12 Environmental Dynamism	4.26	1.35	-.13	.09	-.09	-.05	-.16*	.07	.11	.17*	.22**	.09	.14	_
13 Customer-Firm Interaction	5.38	1.44	-.07	.11	-.04	.07	.02	.01	.18*	.21**	.17*	.14	-.01	.22**

*p<.05, **p<.01. ***p<.001.

Table 3 presents the regression results for the antecedents of CFI. We tested four different models. The purpose of the different models was to analyze and gain information separately on individual antecedents, product related antecedents, and environmental antecedents, as well as on all antecedents in combination. We used hierarchical OLS regression, where the control variables were entered in the first block, and the independent variables entered in the second block.

Individual Level Variables

The first two hypotheses dealt with the effects of individual level variables – user-entrepreneur and customer experience and results are presented in Table 3 Model 2. Hypothesis 1 states that user-entrepreneurship will be positively associated with the CFI. Results show that the coefficient for user-entrepreneur is positive and significant (Table 3, Model 2, $\beta = 0.16$, $p < .05$). This predictor remains significant in the full model when all independent variables are included (Table 3, Model 5: $\beta = 0.17$, $p < .05$). These results support hypothesis 1. Hypothesis 2 proposed that the entrepreneur/manager's customer experience is positively related to the CFI. Results show that this predictor is positive and significant (Table 3, Model 2: $\beta = 0.19$, $p < .05$). This predictor remains positive and significant in the full model as well (Table 2, Model 5: $\beta = 0.13$, $p < .05$), supporting hypothesis 2. Notably, Model 2 shows that the unique contribution of the individual level variables to explaining CFI variance is 10%, lending support to the research model proposing individual level variables as a relevant antecedent for CFI.

Table 3

Regression Analyses for Effects of Independent Variables on CFI

	Model 1	Model 2	Model 3	Model 4	Model 5
Step 1: Control variables					
Industry experience	-0.10	-0.09	-0.10	-.08	-.08
Education level	0.12	0.12	0.09	.10	.08
Firm size	0.01	0.03	-0.02	-.01	.03
Industry – retail	0.20†	0.21*	0.17	.25*	.22
Industry – service	0.18	0.19†	0.18	.26*	.25
Industry – Production	0.14	0.12	0.15	.15	.15
Step 2: Independent variables					
User entrepreneur		0.16*			.17*
Customer experience		0.19*			.13*
Product newness			0.16*		.12†
Costs			0.15*		.13*
Switching costs			-0.07		-.09
Environmental dynamism				.25**	.18*
Equation *F*	1.16	2.45*	1.69†	2.48*	2.82**
R^2	.04	0.10	.08	.09	0.17
R^2 Change		.06	.04	.06	0.13
F change		6.13**	2.69*	10.10**	4.35**

N=172 Entries are βs, standardized regression coefficients.

†$p < .1$, *$p<.05$, **$p<.01$. ***$p<.001$.

Product/Service Level Variables

The next three hypotheses dealt with the effects of product/service related factors (product newness, product/service cost, and switching cost) and results are presented in Table 3 Model 3. Hypothesis 3 proposed that product newness is positively related to the CFI. As shown in Model 3, the coefficient for product newness is positive and significant (Table 3, Model 3: $\beta = 0.16$, $p < .05$).

This result remain moderately significant in the full model (Table 3, Model 5: $\beta = 0.12$, $p < 0.1$). Therefore, hypothesis 3 is supported. Hypothesis 4 proposed that product/service cost is positively related to the CFI. Results show that the regression coefficient for product/service cost is positive and significant (Table 3, Model 3: $\beta = 0.15$, $p < .05$). This predictor remains positive and significant in the full model, (Table 3, Model 5, $\beta = 0.13$, $p < .05$). Hypothesis 4 is thus supported. Hypothesis 5 posited that switching costs will be positively related to CFI. Results show that the coefficient is not significant (Table 3, Model 3, $\beta = -0.07$, n.s., and Table 3, Model 5, $\beta = -0.9$, n.s.). Hypothesis 5 is therefore not supported. Observing Model 3, we note that the variance of CFI explained uniquely by product/service predictors is 8%, which lends support to the research model proposing product/service factors as relevant predictors for CFI.

Environmental Variable

The last hypothesis deals with environmental dynamism. Hypothesis 6 proposed that environmental dynamism is positively related to the CFI. Results show that the regression coefficient for environmental dynamism is positive and significant (Table 3, Model 4: $\beta = 0.25$, $p < .01$). This predictor remains positive and significant in the full model, (Table3, Model 5, $\beta = 0.18$, $p < .05$). Hypothesis 6 is thus supported.

POST HOC ANALYSES

In attempt to shed further light on why and when different antecedents play a role in the decision to engage in customer-firm interaction, we conducted a series of analyses in which the sample was parsed based on specific variables and compared the degree to which the antecedents identified indeed have an effect. We chose four variables: two individual – gender and start-up background – and two firm related factors – strategic orientation and performance. The analyses are post hoc, and are therefore exploratory in nature. They are appropriate in the present context which is characterized by paucity of research on antecedents of CFI, and are intended to provide further insights that can explain the role of the antecedents and to trigger further research.

Gender

Customer-firm interaction draws on the relationship and ongoing interaction and collaboration between two firms. In entrepreneurial/small firms, the inclination of the entrepreneur/owner likely affects the overall openness towards establishing an ongoing interaction process with partner firms. As such, the relational tendencies of the entrepreneur /owner play a role, and such relational abilities may differ as a function of gender. Further; men and women differ in their business abilities and come into the business context with different sets of skills. According to the social feminist theory, a key explanation for gender differences has to do with differences in socialization processes between the genders. The implication is that men and women can develop equally effective

yet different traits (Fischer, Reuber, & Dyke, 1993). Men and women were found to have different experience and background, their objectives of starting and running a business are different, and the process of entrepreneurship is also different (Verheul, Van Stel, & Thurik, 2006). Additionally, female entrepreneurs are found to be more risk-aversive as compared to their male counterparts especially when it comes to the personal assets (Coleman, 2007). Studies have also suggested that men and women differ in their propensity to grow the business and attitudes toward failure such that men tend to pursue a more competitive-fast pace growth whereas women tend to grow their business at slower rate (Grilo & Irigoyen, 2006; Jennings & Cash, 2006). Accordingly, it is expected that different business or personal factors will affect the tendency to engage in CFI across the genders.

Hypothesis 7a: *Different antecedents of CFI will be observed in firms run by male and female entrepreneurs/owners.*

Start-up Background

We wanted to explore whether the personal entrepreneurial capital and knowledge plays a role in moderating the effects of the antecedents on CFI. We suspected, for example, that experienced entrepreneurs will have greater appreciation for CFI due to their past experience. Therefore, it is expected that among individuals with less entrepreneurial experience (novice entrepreneurs), CFI will be driven mainly by their personal individual experience, whereas among more experienced entrepreneurs the business and environmental factors may play a more important role in driving the CFI.

Hypothesis 7b: *Different antecedents of CFI will be observed in firms run by individuals who have started a business in the past and those who have not.*

Strategic Orientation

We split the sample based on whether the firm was intended to become a growth firm focused on great profit, or whether it was primarily to provide family income. One hundred and three of the firms indicated founding purpose of high profit and growth, whereas 68 indicated the purpose of providing family income. We suspected that the factors that drive entrepreneurs/key manager to engage in CFI may differ, for example, due to increased pressures to innovate in growth oriented firms, or due to increased importance of the personal capabilities and experience of the entrepreneur/owner in the small firm. Further, it may be that growth oriented firms deploy a more aggressive strategy in attempt to capture markets and because of that make different decisions regarding the nature of their interaction with their customers.

Hypothesis 7c: *Antecedents of CFI will be different between firms with growth orientation and firms with family/small business orientation.*

Performance

The last factors we explored are the performance factors. We wanted to see if high and low performing firms utilize CFI to different degrees and if the relationship between antecedents and CFI is different between high and low performing firms. Our focus was on perceptions of strategic performance. We suspected that it is possible that different antecedents will have stronger effect on the firm, depending on its overall performance, and that entrepreneurs will have different pressures driving their decision

depending on the strategic and financial performance of their firms.

Hypothesis 7d: *Antecedents of CFI will be different between high and low performing firms.*

Measures

Individual level factors. Gender was measured by asking the respondent to indicate their gender. The sample consisted of 123 men (70.7%) and 51 women (29.3 %). *Personal entrepreneurial Experience* was measured by asking the respondent to indicate if they have ever started a business. One hundred and two respondents (58.6%) indicated they have never started a business (*novice* entrepreneurs), while 72 respondents (41.4%) indicated that they had started a business.

Firm level factors. Performance was measured by three items to which the respondent indicated their agreement to on a 7-point Likert type scale adapted from Schilke (2014). The three items had a reliability of 0.726, and were averaged to create the *performance* measure. The sample was split at the median (4.51) to create the high strategic performance group (average = 5.33) and the low strategic performance group (average = 3.33). *Strategic orientation* was measured by asking the respondents about the primary purpose for establishing the business. It was measured as a dichotomous variable with "1" representing the purpose of profit and growth and "2" represents the purpose of providing family income.

RESULTS

Results for the post hoc analyses are presented in Table 4. Model 1 presents the results for the gender factor, showing that different antecedents of CFI are prevalent among men and women entrepreneurs. For males, product newness and environmental dynamism are significant predictors of CFI ($\beta = 0.22$, $p < .05$ and $\beta = 0.20$, $p < .05$, respectively) whereas, among female entrepreneurs, being a product user and higher product costs positively predict CFI ($\beta = 0.43$, $p < .05$ and $\beta = 0.26$, $p < .10$, respectively). It was also hypothesized that antecedents for CFI will be different depending on the respondents' experience. Results (Table 4 Model 2) show that the regression model is not significant for novice entrepreneurs, whereas for experienced entrepreneurs, having a product/service that is new is typically positively associated with increased CFI ($\beta = 0.30$, $p < .05$).

Analysis of the antecedents' effects as a function of the firm's strategic orientation (Table 4 Model 3) show that among businesses oriented towards profit and growth, being a user-entrepreneur, having higher product costs, and experiencing dynamic environment is positively associated with higher levels of CFI ($\beta = 0.22$, $p < .05$, $\beta = 0.21$, $p < .05$, and $\beta = 0.17$, $p < .10$, respectively) while switching costs is negatively associated with CFI ($\beta = -0.27$, $p < .05$). The model for businesses oriented as a family business is not significant. Lastly, when analyzing the antecedents as a function of firm performance (Table 4 Model 4). Results show that a positive association between costs and CFI and between environmental dynamism and CFI in the high performance firms ($\beta = 0.21$, $p < .05$ and $\beta = 0.27$, $p < .05$ respectively) but no significant association in the low performance firms.

A summary of the hypotheses and the findings is presented in Table 5.

Table 4
Post Hoc Analyses for Effects of Independent Variables on CFI

	Model 1 Gender		Model 2 Entrepreneurial experience		Model 3 Strategic Orientation		Model 4 Firm Performance	
	Males (N=122)	Females (N=50)	Novice (N=101)	Experienced (N=71)	Growth business (N=102)	Family business (N=67)	Lower half (N=86)	Upper half (N=86)
Step 1: Control variables								
Industry experience	-.01	-.23	-.08	-.10	-.05	-.11	-.02	-.08
Education level	.18*	.02	-.02	.21†	.12	-.11	.03	.17
Firm size	.01	.23	.08	.03	.00	.01	-.01	.05
Industry – retail	.19	.26	.10	.52**	.18	.41*	.31*	.14
Industry – service	.11	.48†	.13	.47**	.23	.43*	.33*	.15
Industry – Production	.17	-.01	.03	.34**	.19	.14	.35*	-.07
Step 2: Independent variables								
User entrepreneur	.11	.43*	.19†	.06	.22*	.16	.14	.15
Customer experience	.06	.14	.20†	.02	.15	.07	.15	.13
Product newness	.22*	-.02	.02	.30*	.10	.12	.18	.05
Costs	.08	.26†	.14	.02	.21*	.05	-.01	.21*
Switching costs	-.20*	-.11	-.07	-.02	-.27*	.17	-.13	-.03
Environmental dynamism	.20*	.07	.18	.17	.17†	.23†	.09	.27*
Equation *F*	2.55**	1.89†	1.37	2.55*	2.17*	1.42	1.30	2.28*
R^2	0.22	.37	0.16	.34	0.23	.24	0.17	.27

Entries are βs, standardized regression coefficients.
†$p < .1$, *$p<.05$, **$p<.01$. ***$p<.001$. 2-tailed.

Table 5
Summary of Hypotheses and Findings

Hypothesis	Independent Variable & expected effect	Finding
H1	User-entrepreneur positively related to CFI	Supported
H2	Prior customer experience positively related to CFI	Supported
H3	Product newness positively related to CFI	Supported
H4	Product/service cost positively related to CFI	Supported
H5	Switching costs positively related to CFI	Not supported
H6	Environmental dynamism positively related to CFI	Supported
	CFI to a significantly greater extent than the	
H7a	Antecedents will defer by entrepreneur's gender	Supported
H7b	Antecedents will differ by entrepreneurial experience	Supported
H7c	Antecedents will differ by venture's strategic orientation	Supported
H7d	Antecedents will differ by firm performance	Supported

DISCUSSION & IMPLICATIONS

Our research questions dealt with the factors that influence customer-firm interaction (CFI). The results support the notion that CFI is used by entrepreneurs and small business managers in a strategic fashion, to promote strategic goals and positions. The findings from our research contribute to the overall literature on CFI by developing and testing the hypotheses that connect CFI with individual, firm, and environmental factors, and have implications for management and strategy.

As expected, firms owned or managed by user-entrepreneurs were found to engage in firms started or owned by individuals that are not end-users. This finding supports the idea that user-entrepreneurs are more open to CFI and are possibly more appreciative of its potential benefits. This result also validates the positive relationship found between prior experience in customer related jobs and CFI, and is consistent with research that shows the relationship between prior experience and managerial decision making.

Results for the product related variables supported the notion that firms that introduce new products or services and that firms that incur greater production costs engage in CFI to a greater degree. We hypothesized that this would occur due to the higher risk associated

with investments and uncertainty in new and high-cost products, and that the risk will drive firms to try and mitigate it through customer interaction. Results support this logic, and suggest that CFI may be a way for risk mitigation for small businesses. Interestingly, the notion that firms may consider CFI a way to mitigate risk is consistent with the positive association between CFI and environmental dynamism. Our hypothesis was based on research that showed that in turbulent and fast changing environments it is critical for firms to be proactive and dynamic in responding to the changes in order to sustain competitive advantage (Rapp, Trinor, & Agnihotri, 2010), and we posited that CFI will facilitate environmental understanding and responsiveness on the part of the firm. The positive effects found between CFI and environmental dynamism supports the notion that, when information is changing rapidly, CFI is perceived as an effective tool for collecting information and responding to customers. As such, CFI can be perceived as a means for facilitating efficient responsiveness to market changes, and as delivering responsiveness that is critical to business success especially in dynamic and competitive contexts.

We did not find support for the hypothesis that the firms whose products'/services' switching cost is high will have higher CFI. The logic behind the hypothesis was that in instances where the costs for consumers to switch to the entrepreneurial firm are high, the firm will engage in more CFI in attempt to lower the cost to the consumer and to make it easier for them to switch. Results did not support this hypothesis. It may be that the respondents in our sample considered customer commitment to established brands a strong bond to break and found no merit in trying to use CFI to win such customers. Alternatively, it may be that in our sample, respondents are using methods other than CFI to overcome the barriers of switching cost. For instance, benefits to encourage switching include welcoming perks, contract termination fees, or various online activities and marketing tactics (Bakos, 1997; Lynch & Ariely, 2000; Yang & Peterson, 2004). Clearly, the above explanations have not been directly tested, but do warrant further research.

Results from post hoc analyses lend support to the notion that CFI is not universal and that its antecedents vary as a function of context. The exploratory investigation showed that CFI is triggered by different antecedents in firms run by men versus women entrepreneurs and that the effect is different for novice and experienced entrepreneurs. Post hoc analyses also show that the antecedents are more predictive of CFI among firms pursuing growth orientation (compared to firms focused on lifestyle/family orientation) and that costs and environmental antecedents drive CFI among the higher performance firms compared to lower performance. These findings suggest that CFI may be related to firm outcomes such as performance or growth, and further research is needed to establish the processes underlying such effects.

Normative Implications

Individual experience. Our results show that prior exposure to customer interaction and that being a user entrepreneur is positively associated with CFI. Both these factors are essentially characteristics of individuals who had an opportunity to gain insight on business activity from the customer perspective, either by interacting with customers or by being a user of the product/service. It appears that openness toward CFI increases among

entrepreneurs who had been in the role of customers/users in the past, and who are more aware of practical input that a firm may obtain from its customers. In other words, personal experience with customers and as user-entrepreneurs likely leads to greater appreciation of the value of engaging with customers to enhance product/service value, and perhaps even provides personal skills that facilitates such interaction. This finding not only correspond to other research on the effects of prior experience (Barnir, 2014; Shane, 2000; Venkataraman, 1997), but is also consistent with research on the value of managerial experience and its contribution to strategic decision making.

From practitioners' standpoint, the relationship between executives' personal background and CFI can shed light on why some firms choose to engage in CFI and others do not. Further, to the extent that personal experience is associated with CFI, it may also explain resistance to this process, and may suggest appropriate interventions, if CFI is a desirable strategic outcome. Lastly, practitioners may wish to explore if other personal experience related factors are associated with CFI and how they can be utilized in the business context.

Hiring and training. Evidence of the relationship between founders' and owners' previous user-entrepreneur and customer experience and firm CFI can be utilized by small businesses when making hiring decisions as well as for training purposes. For example, to the extent that a firm wants to promote CFI, it may want to boost its human resources with customer service experience. As such, this experience may become a factor in hiring and selection, or, alternatively training may be initiated to support such practices. Further, it may be useful to explore in research or experimental fashion the source of the effect of user-entrepreneur and customer experience on CFI. Does the effect stem from increased relational skills that enable improved communication and trust, or is it based more on informational resources and input received? Those issues were not the focus on this investigation, but can be valuable for practitioners and managers who wish to implement CFI.

Innovation and product design. Findings of the positive relationship between product/service novelty and CFI suggest the possibility that CFI may be a means for diffusing of innovations and facilitating new product acceptance. It is logical to assume that novelty comes with uncertainty for firms and customers, and when new products/services are being developed, a high degree of customer interactivity becomes an important factor in facilitating understanding and acceptance of the new product/service. Further, high CFI also enhances understanding of customer related issues, and increases the likelihood of effective market targeting and fit between a firm's products/services and customer needs. CFI can thus become an effective means for assisting in the introduction of new products of services. Firms should thus be made aware that enhancing CFI becomes especially important when the firm is attempting to introduce new products or services, and that CFI efforts may have direct effect on the successful acceptance of innovations and innovative products or services.

Risk and uncertainty. The positive association between CFI and innovation, CFI and product costs, and CFI and environmental dynamism suggests that CFI may be used as a means to

mitigate risks associated with volatile environment or product related uncertainties. Those effects support the notion that firms see CFI as a strategic tool that can be used to promote specific objectives. Those results have managerial implications as they suggest that when new products are introduced, when costs are high, and when the environment is volatile, CFI can become a useful resource for firms. For example, when the product/service is new to the market or when the environment is volatile, firms can create more customer oriented jobs where the focus is information and feedback, or train employees to be more receptive and analytical to sift useful information.

Inter-firm variation. Overall, findings from the post hoc analyses suggest that CFI is associated with specific characteristics of individual managers such as their gender or entrepreneurial experience, and that some individuals are more comfortable and are more likely to use it than others. Similarly, the variability found in CFI as a function of firms' strategic orientation or profitability suggests that CFI can serve strategic purposes and can be used to support strategic objectives. However, from a practical perspective, it is important for managers to recognize that CFI is not triggered by and is not associated with the same strategic factors in all firms. Further research is clearly needed that provides more information as to how and why firms differ as well as to the effects of CFI, and once this information is available it could be a useful tool for managers as they make strategic decisions.

LIMITATIONS AND FUTURE RESEARCH

The study explored an area that has not been studied as of yet, and has several limitations. First, in this study the focus was on main effects, to identify those categories of antecedents that affect CFI. We did not explore secondary effect of those antecedents, because our focus was on identifying the relevant antecedents. Exploring indirect effects is warranted to provide a more comprehensive understanding of the effects of the predictors. Second, our focus in this study was on specific factors that we considered especially relevant to understanding the construct. Clearly, those factors were found to play an important role in CFI, however, other factors such as other firm or individual factors, technology, or resources may also play a role. Lastly, our study focused on entrepreneurial / small firms. Such firms are different from larger more established ones, and the results therefore are not generalizable beyond the scope of the types of firms investigated. It may be that the individual factors identified, carry more weight in entrepreneurial / small firms given the central role of the entrepreneur/founder compared to larger firms. Those and such issues should be the focus of future studies.

This study provides initial results to a model that investigates the antecedents of customer-firm interaction. Our focus was on three categories of predictors – individual level, product/service level, and environment. Overall, results of the study support the model. Results suggest that, in entrepreneurial / small firms, the degree of a firm's interaction with its customers is affected by the entrepreneur's prior personal experience with customers as well as by the experience as user-entrepreneur. Results also suggest that certain product/service characteristics – namely

newness and costs – are associated with enhanced CFI.

The study suggests several avenues for future research. First, given that we included individual factors that explain a relatively large portion of the variance (R^2 = 0.11) of CFI, it is appropriate to further explore the role of additional individual factors. For example, are other individual factors such as abilities, attitudes, or other demographics important? Or, what role do relational and interpersonal skills play, if any, in affecting the extent of the firm's CFI? Second, it would be interesting to explore moderating factors to the effects of personal and product factors. For example, does industry volatility or uncertainty affect the way in which firms use CFI given personal and product characteristics? Third, results from post-hoc analyses suggest that different antecedents are prevalent among men and women entrepreneurs. Future research should explore these differences to see why these differences exist. For example, men may be more outward oriented and focus on market and environment whereas, women are more inward oriented and rely on their own experience. Lastly, future research should expand the model used in the present study to include not only additional predictors but also additional outcomes. For example, including firm performance as a final outcome would place CFI as a possible mediating variable. In such instances, researchers could explore both the direct effects of predictors such as user-entrepreneurs or product newness on performance as well as their mediated effect through CFI. Such studies will provide greater understanding of the role that CFI play is in firm performance. Hopefully, these research streams will be carried out in future.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I. (2002). Residual effects of past on later behavior: Habituation and reasoned action perspectives. *Personality and Social Psychology Review*, *6*(2), 107-122.

Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European Review of Social Psychology*, *11*(1), 1-33.

Anderson, J. C., & Narus, J. A. (1990). A model of distributor firm and manufacturer firm working partnerships. *The Journal of Marketing*, *54*(1), 42-58.

Bakos, J. Y. (1997). Reducing buyer search costs: Implications for electronic marketplaces. *Management Science*, *43*(12), 1676-1692.

Baldwin, C., Hienerth, C., & Von Hippel, E. (2006). How user innovations become commercial products: a theoretical investigation and case study. *Research Policy*, *35*(9), 1291–1313.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bandura, A., & Wood, R. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, *56*(5), 805-814.

BarNir, A. (2014). Pre-venture managerial experience and new venture innovation: An opportunity cost perspective. *Management Decision*, *52*(10), 1981-2001.

Biemans, W. G. (1991). User and third-party involvement in developing medical equipment innovations. *Technovation, 11*(3), 163– 182.

Bonner, J. M. (2010). Customer interactivity and new product performance: Moderating effects of product newness and product embeddedness. *Industrial Marketing Management, 39*(3), 485-492.

Carrier, C. (1994). Intrapreneurship in large firms and SMEs: A comparative study. *International Small Business Journal, 12*(3), 54–61.

Carson, D. Cromie, S., McGowan, P., and Hill, J. (1995). *Marketing and Entrepreneurship in SMEs: An Innovative Approach.* Hemel Hempstead: Prentice Hall (International) Ltd.

Chrisman, J. J., McMullan, E., & Hall, J. (2005). The influence of guided preparation on the long-term performance of new ventures. *Journal of Business Venturing, 20*(6), 769-791.

Coleman, S. (2007). The Role of Human and Financial Capital in the Profitability and Growth of Females-Owned Small Firms. *Journal of Small Business Management, 5*(3), 303–319.

Coviello, N.E., Brodie, R.J., Munro, H.J. (2000). An investigation of marketing practice by firm size. *Journal of Business Venturing, 15*(5), 523–545.

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly, 29*(1), 52-73.

Durkin, M., McCartan-Quinn, D., O'Donnell, A., & Howcroft, B. (2003). Retail bank customer preferences: Personal and remote interactions. *International Journal of Retail & Distribution Management, 31*(4), 177-190.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal, 32*(3), 543-576.

Ennew, C. T., & Binks, M. R. (1996). The impact of service quality and service characteristics on customer retention: small businesses and their banks in the UK. *British Journal of Management, 7*(3), 219-230.

Fischer, E., Reuber, A., & Dyke, L. (1993). A theoretical overview and extension of research on sex, gender, and entrepreneurship. *Journal of Business Venturing, 8*, 151–168.

Foss, N. J., Laursen, K., & Pedersen, T. (2011). Linking customer interaction and innovation: the mediating role of new organizational practices. *Organization Science, 22*(4), 980-999.

Franz K. (2005). *Tinkering: Consumers Reinvent the Early Automobile*. University of Pennsylvania Press: Philadelphia, PA.

Gales, L., & Mansour-Cole, D. (1995). User involvement in innovation projects: towards an information processing model. *Journal of Engineering Technology Management, 12*(1/2), 77–109.

Gotlieb, J., Levy, M., Grewal, D., & Lindsey-Mullikin, J. (2004). An examination of moderators of the effects of customers' evaluation of employee courtesy on attitude toward the service firm. *Journal of Applied Social Psychology, 34*(4), 825-847.

Grilo, I., & Irigoyen, J. (2006). Entrepreneurship in the EU: to wish and not to be. *Small Business Economics, 26*(4), 305–318.

Grönroos, C. (2004). The relationship marketing process: communication,

interaction, dialogue, value. *Journal of Business & Industrial Marketing*, *19*(2), 99-113.

Gruner, K. E., & Homburg, C. (2000). Does customer interaction enhance new product success? *Journal of Business Research*, *49*(1), 1-14.

Hagel, J., & Rayport, J. F. (1997). The coming battle for customer information. *McKinsey Quarterly*, *3*, 64-77.

Heckathorn, D. D. (2011). Comment: snowball versus respondent-driven sampling. *Sociological Methodology*, *41*(1), 355-366.

Hisrich, R.D. (1992). The need for marketing in entrepreneurship. *Journal of Business and Industrial Marketing, 7*(3), 53–57.

Huefner, J. C., & Hunt, H. K. (1994). Broadening the concept of entrepreneurship: Comparing business and consumer entrepreneurs. *Entrepreneurship Theory and Practice*, *18*(3), 61-75.

Huffman, F. A., & Skaggs, B. C. (2010). The effects of customer-firm interaction on innovation and performance in service firms. *Journal of Business Strategies*, *27*(2), 151-175.

Jennings, J., & Cash, M. (2006). Females's entrepreneurship in Canada: Progress, puzzles and priorities. In C.G. Brush, N.M. Carter, E.J. Gatewood, P.G. Greene, & M.M. Hart (Ed.), *Growth oriented females entrepreneurs and their businesses—A global research perspective*, (pp. 53–87). Cheltenham, UK: Edward Elgar.

Jones, M. A., Mothersbaugh, D. L., & Beatty, S. E. (2000). Switching barriers and repurchase intentions in services. *Journal of Retailing, 76*(2), 259-274.

Lee, K. S., & Ng, I. C. (2007). An integrative framework of pre-emption strategies. *Journal of Strategic Marketing*, *15*(4), 327-348.

Lehmann, E., & Neuberger, D. (2001). Do lending relationships matter? Evidence from bank survey data in Germany. *Journal of Economics Behavior and Organizations, 45*(4), 339-360.

Liang, C. L. K., & Dunn, P. (2007). Triggers of decisions to launch a new venture–is there any difference between pre-business and in-business entrepreneurs? *Academy of Entrepreneurship Journal*, *13*(1), 79-95.

Lieberman, M. B., & Montgomery, D. B. (1988). First-mover advantages. *Strategic Management Journal*, *9*(S1), 41-58.

Luthje C, Herstatt C, von Hippel E. (2005). User-innovators and 'local' information: the case of mountain biking. *Research Policy*, *34*(6), 951–965.

Lynch, J. G, & Ariely, D. (2000). Wine online: Search costs affect competition on price, quality, and distribution. *Marketing Science*, *19*(1), 83-103.

Martin Jr, C. R., & Horne, D. A. (1995). Level of success inputs for service innovations in the same firm. *International Journal of Service Industry Management*, *6*(4), 40-56.

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: refining the measure. *Entrepreneurship theory and Practice*, *33*(4), 965-988.

Miller, D. & Friesen, P.H. (1983). Strategy making and environment: The third link. *Strategic Management Journal*, *4*(3), 221-235.

Mills, P. K., & Margulies, N. (1980). Towards a core typology of service organizations. *Academy of Management Review*, *5*(2), 255-265.

Mintzberg, H. 1973. Strategy making in three modes. California Management Review, *XVI*(2), 44- 53.

Mody, C. C. (2006). Corporations, universities, and instrumental communities: commercializing probe microscopy, 1981-1996. *Technology and Culture*, *47*(1), 56-80.

Moorman, C. (1995). Organizational market information processes: cultural antecedents and new product outcomes. *Journal of Marketing Research*, *32*(3), 318-335.

Narver, J. C., Slater, S. F., & MacLachlan, D. L. (2004). Responsive and Proactive Market Orientation and New-Product Success*. *Journal of Product Innovation Management*, *21*(5), 334-347.

Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: the multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, *124*(1), 54-74.

Parkinson, S. T. (1982). The role of the user in successful new product development. *R&D Management*, *12*(3), 123–131.

Peake, W. O., Davis, P. E., & Cox, M. Z. (2015). Being Good for Goodness Sake: The Influence of Family Involvement on Motivations to Engage in Small Business Social Responsibility. *Journal of Small Business Strategy*, *25*(1), 1-25.

Priem, R. L., Rasheed, A. M., & Kotulic, A. G. (1995). Rationality in strategic decision processes, environmental dynamism and firm performance. *Journal of Management*, *21*(5), 913-929.

Ramani, G., & Kumar, V. (2008). Interaction orientation and firm performance. *Journal of Marketing*, *72*(1), 27-45.

Rapp, A., Trainor, K. J., & Agnihotri, R. (2010). Performance implications of customer-linking capabilities: Examining the complementary role of customer orientation and CRM technology. *Journal of Business Research*, *63*(11), 1229-1236.

Schilke, O. (2014). On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, *35*(2), 179-203.

Schindehutte, M., Morris, M., & Brennan, C. (2003). Entrepreneurs and motherhood: Impacts on their children in South Africa and the United States. *Journal of Small Business Management*, *41*(1), 94-107.

Schollhammer, H. & Kuriloff, A. (1979). *Entrepreneurship and Small Business Management*. John Wiley, Chichester.

Shah, S. K., & Tripsas, M. (2007). The accidental entrepreneur: The emergent and collective process of user entrepreneurship. *Strategic Entrepreneurship Journal*, *1*(1-2), 123-140.

Shah, S. K., Winston Smith, S., & Reedy, E. J. (2012). *Who are user entrepreneurs? Findings on Innovation, Founder Characteristics & Firm Characteristics, Kauffman Foundation Report.* Kauffman Foundation, Kansas City, MO.

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, *11*(4), 448–469.

Shaw, B. (1985). The role of the interaction between the user and the manufacturer in medical equipment industry. *R&D Management*, *15*(4), 283–292.

Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. (2011). Resource orchestration to create competitive advantage breadth, depth, and life cycle

effects. *Journal of Management*, *37*(5), 1390-1412.

Skaggs, B. C., & Galli-Debicella, A. (2012). The effects of customer contact on organizational structure and performance in service firms. *The Service Industries Journal*, *32*(3), 337-352.

Song, M., Wang, T., & Parry, M. E. (2010). Do market information processes improve new venture performance? *Journal of Business Venturing*, *25*(6), 556-568.

Sutcliffe KM. (1994). What executives notice: accurate perceptions in top management teams. *Academy of Management Journal 37*(5), 1360-1378.

Thomas, J. B., Clark, S. M., Gioia, D. A. (1993). Strategic sensemaking and organizational performance: linkages among scanning, interpretation, action, and outcomes. *Academy of Management Journal 36*(2), 239-270.

Tripsas, M. (2008). Customer preference discontinuities: A trigger for radical technological change. *Managerial and Decision Economics*, *29*(2-3), 79-97.

Utterback, J. M. (1994). *Mastering the Dynamics of Innovation*. Harvard University Press: Cambridge, MA.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship research: An editor's perspective. In J. Katz, & R. Brockhaus (eds.), *Advances in Entrepreneurship, Firm Emergence, and Growth*, 119–138, Greenwich, CT.

Verheul, I., Van Stel, A., & Thurik, R. (2006). Explaining female and male entrepreneurship at the country level. *Entrepreneurship and Regional Development*, *18* (2), 151–183.

Veryzer, R. W. (1998). Key factors affecting customer evaluation of discontinuous new products. *Journal of Product Innovation Management*, *15*(2), 136-150.

Wang, Y., & Feng, H. (2012). Customer relationship management capabilities: Measurement, antecedents and consequences. *Management Decision*, *50*(1), 115-129.

Williams, E., Rice, R.E., & Rogers, E.M. (1988). *Research Methods and the New Media*. Free Press, New York.

Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: the role of switching costs. *Psychology & Marketing*, *21*(10), 799-822.

Zott, C., & Huy, Q. N. (2007). How entrepreneurs use symbolic management to acquire resources. *Administrative Science Quarterly*, *52*(1), 70-105.

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APPENDIX

Measures

Measure	Items	Measurement
Customer Firm Interaction	*Please indicate the extent to which the following statements are correct and accurately depict your firm and its interaction with its key customers.* In comparison to our competitors… a) …our employees responsible for producing/providing the service/product spend the majority of their daily working time in face-to-face contact with customers; b) …our company's employees spend a lot of time dealing directly with customers; c) …our employees often meet directly with our customers to exchange information when producing the product/service; d) …the service/product we provide requires that our key customers work closely with our employees; e) …in order for our firm to produce high quality product/service, it is very important that close interaction be maintained between our company and our key customers.	7-point Likert type scale ranging from *not at all accurate* to *very accurate*
Customer experience	*To what degree has your work experience to date entailed the following activities?* a) Explaining product/service details to customers/potential customers; b) Working with customers to develop/improve products/services, c) Acting as a liaison between my company and its customers, d) Handling and dealing with customer complaints, e) Being involved in gathering customer feedback, f) Negotiating sales and terms with customers	7-point Likert type scale ranging from *minimal degree* to *very high degree*
Switching costs	*Please indicate your agreement with the following statements*: a) It is usually quite a bit of hassle for another firm's customer to change to our product/service; b) It takes a great deal of time and effort for customers to get used to our products/services; c) The cost, in terms of time, money, and effort, to change to our products is high for the customers; d) When new customers currently working with the competition switch to our company, they have to change costly ancillary processes (or products/services) associated with the main product/service; e) Customers are required to abandon many of their existing contracts in order to use our product/service.	7-point Likert type scale ranging from *strongly disagree* to *strongly agree*
Product / service costs	*To the best of your knowledge, please indicate how your firm ranks in comparison to its close competitors* on a) financial investment made in the company, b) costs of tools and equipment, c) costs of operation / manufacturing	7-point Likert type scale ranging from *much lower* to *much higher*