Promoting entrepreneurship in the Pakistan's dairy industry: An empirical testing of two predictive models of entrepreneurial intentions

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Abstract

This study examined the factors influencing the intention of agribusinesses to start up dairy related business in Pakistan. Using both the "Entrepreneurial Event Model" and "Determinants of Entrepreneurial Intentions" model, an integrative model is proposed and tested using survey data collected from 174 entrepreneurs in Pakistan's dairy industry. Results of partial least square structural equation modelling show entrepreneurial intentions are positively influenced by perceived desirability, perceived feasibility, perceived readiness, triggering event, and individual's conviction. However, the effects of perceived feasibility and conviction were found more significant and substantially related to intentions. Theoretical and practical implications of these findings are discussed in the context of agricultural industries in developing countries like Pakistan's dairy industry.

Keywords: Entrepreneurial intention; Entrepreneurial event model; Determinants of entrepreneurial intentions; Partial least squares structural equation modelling, Dairy Industry, Pakistan.

Introduction

The dairy industry has long been associated with a significant contribution to employment and GDP for Pakistan (PDDC 2006; FAO 2011; Younas 2013). However, as exemplified by Pakistan Dairy Development Company report (2006), it is now poised to be much more productive (FAO 2011; Younas 2013). It has witnessed a dramatic upsurge in the scale of entrepreneurial activities within the sector (PDDC 2006; FAO 2011) and, as such, there is a shifting focus towards entrepreneurship as an essential aspect of the sector's development.

The Pakistani dairy industry has demonstrated that entrepreneurship is one of the more powerful levers that can enhance agricultural sectoral competitiveness (PDDC 2006; FAO 2011). Enterprising individuals in the industry need to develop new skills and functional capabilities to drive initiatives focused on competitiveness (Mcelwee 2006; Brunjes & Revilla 2013). Thus, enterprising behaviour has been recognized as a catalytic element in capturing value within the industry.

There is a paucity of research on understanding entrepreneurship in agricultural and rural sectors (Wortman 1990; Mcelwee 2006; Brunjes & Revilla 2013) despite knowing that it is not an either-or phenomenon but rather a result of purposeful intent (Krueger et al. 2000). As such, the complexity of enterprising behaviours limits our ability to better understand 'what makes individuals start agriculture-related business" (Shapero & Sokol 1982; Bird 1988; Stevenson & Jarillo 1990; Krueger & Brazeal 1994). Further, this may constrain our ability to

promote entrepreneurship in agricultural sectors in developing countries such as Pakistan's dairy industry.

Scholars have employed a number of approaches to better understand what triggers new business start-up decisions. Most of the approaches stem from sociology (Thornton 1999), psychology (Ajzen 1991), economics (Schumpeter 1942), cognitive sciences (Baron & Ward 2004), and public policy (Aldrich & Fiol 1994). However, scholars have increasingly questioned the efficacy and consequences of existing studies to understand the factors shaping the entrepreneurial mindset (Krueger & Carsrud 1993; Krueger et al. 2000).

One way to develop an in-depth understanding of enterprising behaviour is by advancing research on entrepreneurial intention because starting business is a planned behaviour (Bird 1988; Krueger & Carsrud 1993). Planned behaviour can be predicted by observing intentions (Ajzen 1991) and therefore entrepreneurial intention as a subject of formal study has captured the interest of a variety of scholars (Bagozzi et al. 1989; Ajzen 1991; Davidsson 1995; Krueger et al. 2000).

The existing literature on entrepreneurial intentions falls into two categories. One group of researchers focused on understanding enterprising behaviour as a function of entrepreneurial activity (Learned 1992; Bandura 2012) while the other group focuses on how intentions contribute to the formation of entrepreneurial mindset (Shapero & Sokol 1982; Ajzen 1991; Davidsson 1995). However, the failure of personality and contextual influences to ground insights into the process of entrepreneurship (Bygrave 1989; Krueger et al. 2000; Lee et al. 2011) suggested intentions are crucial antecedents of enterprising behaviours (Katz & Gartner 1988; Bagozzi et al. 1989; Krueger et al. 2000).

Despite developments in theoretical explanations, entrepreneurial intention remains an under-researched area of investigation, particularly in developing countries (Iakovleva et al. 2011). This study contributes to filling a research gap by focussing on an agricultural industry in a developing country by combining the predictors of two intention based models, namely the entrepreneurial event model (Shapero & Sokol 1982) and the determinants of entrepreneurial intentions (Davidsson 1995) model. The first model is a type of behavioural-psychological model and the latter is economic-psychological.

This study was designed for two major reasons. First, the role and function of entrepreneurship is relatively underappreciated in developing countries. Second, there is a paucity of intention based models within the context of agribusiness and therefore requires further investigation.

The study explores the following three research questions:

RQ1. Do the antecedents of entrepreneurial intentions as explained by Shapero's entrepreneurial event model (EEM) predict enterprising behaviour in the context of agri-food sector of a developing country?

RQ2. Do the antecedents of entrepreneurial intentions as explained by Davidsson's determinants of entrepreneurial intentions (DEI) predict enterprising behaviour in the context of agri-food sector of a developing country?

RQ3. What is the combined explanatory power of the predictors of MEE and DEI model in explaining enterprising behaviour in the context of agri-food sector of a developing country?

This paper is organized in the following way. The first section summarizes the Pakistan's dairy industry context briefly. The second section reviews the extant theoretical assumptions relating to entrepreneurial event model and determinants of entrepreneurial intentions to develop a conceptual model, research hypotheses and a resulting structural model. The third section discusses the research methodology using partial least square structural equation modeling approach to test the proposed research hypotheses. The fourth section presents the results of the structural model. Finally, the last section presents discussion, conclusions and practical implications of the study.

1. Pakistan's dairy industry context

Significant changes have occurred in the dairy sector of Pakistan specifically in the areas of processing and marketing of value-added products to improve the industry competitiveness (PDDC 2006; Younas 2013). The government has prioritized the sector to be transformed by an all-inclusive approach (FAO 2011; Younas 2013). The traditional dairy system in Pakistan involves smallholder subsistence production and smallholder market-oriented systems (Garcia et al. 2003; FAO 2011) while commercial dairying relates to peri-urban commercial production and rural commercial systems (Burki et al. 2004; FAO 2011) and the all-inclusive transformation has been devised to allow greater returns and sustainability for the whole sector.

Increased urbanization, population growth, rising incomes, changing consumer preferences and other demand driven market signals are expected to grow the industry and there is strong evidence that the domestic market in Pakistan is experiencing much growth in the consumption of fresh milk and other value added dairy products (PDDC 2006; FAO 2011)

Despite several barriers to continued growth, entrepreneurship is viewed as a key driver to create and sustain sector growth thereby reducing rural poverty in Pakistan. Policy initiatives are reinvigorating farmer networking and entrepreneurship to strengthen modern dairy practices in Pakistan. As such, there is a call for a more entrepreneurial orientation within the Pakistan's dairy sector.

Consequently, Pakistan's dairy industry offers a viable context to study the process of entrepreneurship. There is a need to understand why some individuals are more productive in starting dairy businesses and our aim was to ground insights about discovery and exploitation of opportunities in the dairy industry by testing two entrepreneurship intentions based model.

2. Theoretical Assumptions and Hypotheses

A set of studies exist which examine opportunity exploitation as an intentional process (Ajzen 1991; Krueger et al. 2000; Iakovleva et al. 2011). Many scholars argue intention is the best predictor of entrepreneurial behaviour (Katz & Gartner 1988; Learned 1992; Lee et al.

2011) and it is argued that intention based models show a greater explanatory power and predictive validity in comparison with demographic and situational models (Krueger et al. 2000; Iakovleva et al. 2011). From a psychological and behavioural perspective, a number of factors including perceptions of desirability (Krueger 1993; Fitzsimmons & Douglas 2011), perceptions of feasibility (Krueger & Brazeal 1994; Fitzsimmons & Douglas 2011), cognition (Krueger et al. 2000; Baron & Ward 2004), and conviction (Davidsson 1995) have been explained as antecedents to entrepreneurial intentions.

A number of models have been proposed to predict entrepreneurial intention including the theory of planned behaviour (Ajzen 1991); entrepreneurial event model (Shapero & Sokol 1982), model of implementing entrepreneurial ideas (Bird 1988); expected utility model (Douglas & Shepherd 2002) and determinants of entrepreneurial intentions (Davidsson 1995). These models may have different foci thus may not mutually exclusive.

Much remains unknown about theory-driven intentions based models of entrepreneurship (Krueger et al. 2000; Lee et al. 2011). The existing literature provided little insights due to a number of weaknesses such as empirical evidences do not support that intentions are always translated into opportunity exploitation (Krueger et al. 2000; Sarasvathy 2001) and intentions based models fail to include the dynamic situational influences for pursuing an entrepreneurial career.

This study moved towards testing more complex models that allowed a better explanation of how the entrepreneurial mindset is constructed which can, in turn, translate into entrepreneurial behaviors. As such, Shapiro's Model of the Entrepreneurial Event (1982) and Davidsson's Model of Determinants of Entrepreneurial Intentions (1995) were used to develop an integrative framework of entrepreneurial intention. The synthesized framework better contributes to the understanding of the antecedents of intention through the combined explanatory power of both models for the purpose of entrepreneurial activity.

Figure1: Conceptual Framework
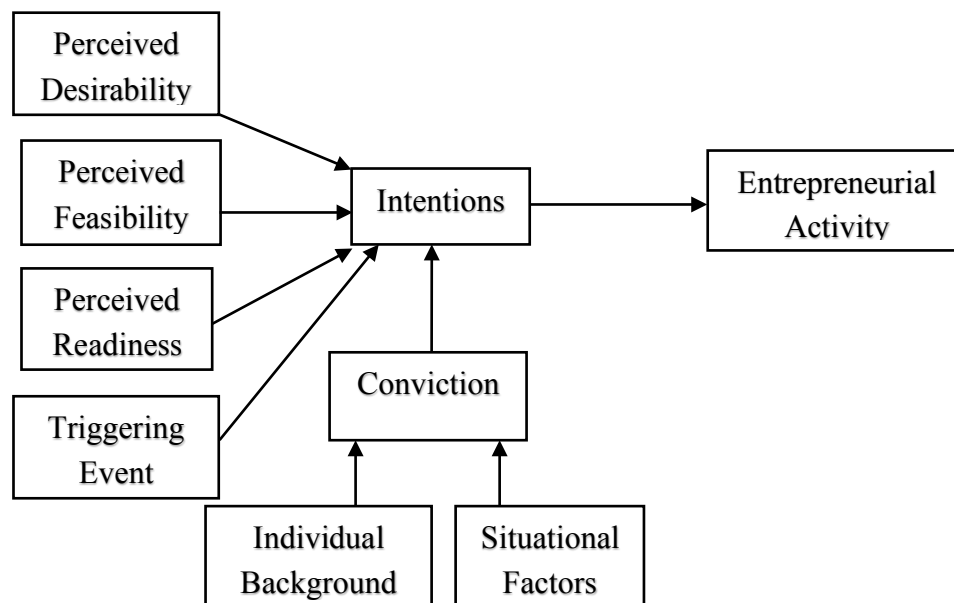
EEM states that the life paths of individuals often go hand in hand with the status quo (Shapero & Sokol 1982). The status quo is posited as binding inertia which is disrupted by triggering events such as major life changes (Shapero & Sokol 1982). The sources of major life changes can be personal or community based, and in many ways, these can be significant as "significant emotional events" that can affect behavior (Learned 1992).

EEM, while situating intention as a good predictor of subsequent entrepreneurial behaviors (Shane & Venkataraman 2000), the constructs of perceived desirability, (PD), perceived feasibility (PF) and perceived readiness (PR) act as catalysts of intentions to act (Shapero & Sokol 1982; Krueger et al. 2000). Further, the definition of PD and PF has similarities to internalized external norms (IEN) and perceived behavior control (PBC) proposed by planned behavior theory (Ajzen 1991; Krueger & Carsrud 1993).

The notion of a 'triggering event' initiating the entrepreneurial action is regarded as fundamental aspect of the entrepreneurial event model (Krueger et al. 2000). The triggering event underscores the importance of self-reflection and direct experiences during the major changes occurring in individual's life.

Perceived desirability is a form of value sought to start new business (Steel & Konig 2006). It is likely that an individual's intention to act will be stronger if the perception of the value of the outcome is higher (Shapero & Sokol 1982) and the perception of value is strongly influenced by socio-cultural factors and personal disposition. Further, a social network of the individual can influence the importance of new business start-ups (Shapero & Sokol 1982). Given the aforementioned reasoning, it followed that both social support and individual's own past experience, values and capabilities heavily influence perceived desirability thereby predicting intentions.

Based on the aforementioned logic it is hypothesized:

H$_1$: Perceived desirability is positively related to entrepreneurial intention.

Perceived feasibility is the second major predictive component in the entrepreneurial event model (Shapero & Sokol 1982; Krueger et al. 2000). As an attribute of intention in the given circumstances, it suggests that actions are driven by expected outcomes. This corroborates with perception of personal capability to start entrepreneurial activity (Fitzsimmons & Douglas 2011). The construct overlaps with self-efficacy posited by Bandura (2012) and highlights 'learned experiences' and 'failures' if success is not achieved during business creation. Therefore, the dynamics of perceived feasibility capture the complex interaction between behaviour, cognition and external social influences. The greater the control over the afore-said factors, the stronger and individual's intentions to start new business.

 Thus, it is hypothesized:

  H$_2$: Perceived feasibility is positively related to entrepreneurial intention.

Perceived readiness refers to deliberate efforts to act upon opportunities. Shapero and Sokol (1982) mentioned that readiness is a critical precursor for initiating behaviour for business creation. It is closely related to locus of control (Krueger 1993; Fitzsimmons & Douglas 2011) which, in turn, is closely linked with goal-directed behaviour thereby enhancing an individual's propensity to scan the environment. As such, it can be considered a dynamic and contextualized view of a proactive personality governed by self-efficacy beliefs (Bandura 2012). Such a personality is expressed in terms of taking willful initiatives, and persevering until they reach closure and bring about change (Bateman & Zeithaml 1989; Baucus & Human 1994). The afore-said reasoning can be hypothesized as follows:

H$_3$: Perceived readiness is positively related to entrepreneurial intention.

Shapero and Sokol (1982) posited the moderating effect of a triggering event, one the major conceptual contribution of the entrepreneurial event model. A triggering event significantly affects individual's beliefs, values and needs. Psychologically, people tends to become satisfied with a given life path thus they are reluctant to change (Levinson et al. 1978). Such reluctance is caused largely by motivational barriers or task difficulty thereby they prefer to maintain the status-quo (Shapero & Sokol 1982; Tushman & Romanelli 1985). A triggering event is a sudden burst which breaks the inertia thereby dislodges the individuals from the existing comfort course of life (Shapero & Sokol 1982; Osipow & Fizgerald 1996).

Triggering events may be positive such as inheritance, discovery of a market opportunity and career changes (Levinson et al. 1978; Osipow & Fizgerald 1996) or negative such as job loss, divorce, political upheavals (Bateman & Zeithaml 1989; Bygrave 1989; Baucus & Human 1994) but it can pull or push individuals out of their comfort zone to follow entrepreneurial activity (Shapero & Sokol 1982). Entrepreneurial start-ups involve incremental cumulative change or an abrupt shift with swings in between periods of inertia and dynamic changes. As such, in both cases, triggering events impacts the economic utility decisions of individuals.

Taking all foregoing propositions into account, the following hypothesis is postulated:

H$_4$: Triggering event is positively related to entrepreneurial intention.

Davidsson (1995) argued that an individual's conviction to become self-employed is the primary determinant of entrepreneurial intention. Such a conviction underscores the importance of self-expression and self-understanding to be able to perceive growth in the entrepreneurial career (Krueger 2000; Cope 2005). Scholars consider conviction similar to self-efficacy beliefs because it refers to self-evaluation of an individual's capabilities developed through modeling and experiences (Boyd & Vozikis 1994; Bandura 2012).

Given the argument of Wood and Bandura (1989, p. 63): "… much of the human learning is aimed at developing cognitive skills on how to acquire and use knowledge", an individual's conviction underlines the importance of perceived usefulness of learned behavior which may shape the mindset that an entrepreneurial career will not only help them to control their lives but also will improve their current economic conditions (Boyd & Vozikis 1994; Krueger 2000). As such, conviction triggers analytic judgments about the success in the pursuit of entrepreneurial career (Wood & Bandura 1989; Krueger 2000; Winkler 2014).

Thus, it hypothesized that:

H$_5$: Conviction is positively related to entrepreneurial intention.

A major conceptual contribution of the Davidson's determinants of entrepreneurial intentions (DEI) model is conviction towards entrepreneurial activity (Davidsson 1995). Providing a more dynamic understanding of entrepreneurial intentions, the DEI model displays individual background as an exogenous construct referring to multiple factors influencing an individual's general attitude towards change and domain specific attitudes affecting change.

General attitude includes age, gender, education (Storey 1994; Reynolds 1995), prior experience impacting on cognitive beliefs (Boyd & Vozikis 1994), perceived human capital and social ties (Reynolds 1995) while domain specific attitudes encompass expected pay-off from the opportunity (Vroom 1964), value (Campbell 1992), the societal contribution of entrepreneurship and perceived know-how (Ajzen 1991). As such, the afore-mentioned variables represent an individual's entrepreneurial background and conviction and are represented in following hypotheses:

H$_6$: Individual's background is positively related to conviction.

While building on models such as implementing entrepreneurial ideas (Bird 1988), and entrepreneurial event (Shapero & Sokol 1982), the authors realized that situational factors affect entrepreneurial decisions and employment status was posited as an influential situational factor (Davidsson 1995). Therefore, the DEI model operationalized situational influences such as employment status because of its greater usefulness in explaining how new choices are made.

Therefore, the proposition of situational influences suggested the following hypothesis:

H$_7$: Situational factors are positively related to conviction.

Entrepreneurial activity can also be intentional (Katz & Gartner 1988; Ajzen 1991; Krueger et al. 2000). Starting entrepreneurial activity is a key task which is subject to a strong intention to take the initiative because the environment can be filled with uncertainties and asymmetric information which can lead to an individual to not consider an entrepreneurial career. As such, and in the context of this study, the formation of intention is required to start new dairy farming businesses, which can be a challenging process (Krueger et al. 2000; Lee et al. 2011) .

Given the proposition that intention and outcome expectation are strongly correlated, it is hypothesized:

H$_8$: Intention is positively related to entrepreneurial activity.

The summary of the study hypotheses is given as under:

Table 1: Model Hypotheses

H₁: Perceived desirability is positively related to entrepreneurial intention.	**H₅:** Conviction is positively related to entrepreneurial intention.
H₂: Perceived feasibility is positively related to entrepreneurial intention.	**H₆:** individual's background is positively related to conviction.
H₃: Perceived readiness is positively related to entrepreneurial intention.	**H₇:** Situational factors are positively related to conviction.
H₄: Triggering event is positively related to entrepreneurial intention.	**H₈:** Intention is positively related to entrepreneurial activity.

3. Research Design

This study was conducted with three objectives. First, we want to assess the antecedents of entrepreneurial intention as explained by EEM and DEI model. We expect all four components (PD, PF, PR, and Conviction) to contribute significantly and substantially to the focal construct under investigation. Second, we want to illustrate the predictive validity of the intention with the question: "Does intention have an impact on entrepreneurial activity in the dairy industry? If so how strong it is? Third, we want to shed light on the combined explanatory power of the EEM and DEI with respect to the Pakistani dairy industry.

3.1 Data Collection

The study employed a survey based quantitative method, in particular, a self-administered questionnaire. The questionnaire was administered to entrepreneurs within the dairy related businesses including milk production, processing, and support services. Using the members list of Pakistan Dairy Association, SMEDA (small and medium enterprising authority) and PDDC (Pakistan Dairy Development Company) as a sampling frame. Individuals who started dairy related medium and small sized businesses in or after 2007 were targeted for the study. The strategic choice of these individuals was that they had presumably adopted modern dairy practices, were fairly profit-driven and as such entrepreneurial.

A stratified random sampling design was used to draw a sample of 208 entrepreneurs from the province of Punjab. 34 samples were removed due to the response error leaving the final dataset containing 174 valid responses. The first set of questions in the questionnaire was used to qualify the respondent as an entrepreneur. Face-to-face mode of inquiry was used to record data. The demographic profile of the survey is given as under:

Table 2: Demographics Profile of the Survey

Demographic Variables	Category	Percent Counts (%)
Age	≥30 years	23%
	<30 and ≥ 40 years	34%
	<40 and ≥ 50 years	26%
	<50 years	17%
Education	≥10 years	24%
	<10 and ≥ 14years	46%
	>14 years	30%
Localization	Multan Region	21%
	Lahore region	43%
	Faisalabad Region	25%
	Rawalpindi Region	11%
Type of Business	Dairy Farming	46%
	Dairy Processing	18%
	Milk Collection Centers	30%
	Dairy support Services	6%

3.3 Operational Measures

The questionnaire contained 27 items measured on a five point Likert scale with end points of "strongly agree" and "strongly disagree". The latent variables in the model were operationalized with reflective measures and these were adapted from prior studies. The indicators are listed in the following table 3:

Table 3: Measurement Items

| Constructs	Measurement Items	References
Perceived Desirability	PD1: I will easily become an entrepreneur if I wish.	(Tkachev & Kolvereid 1999)
	PD2: It is entirely up to me whether or not I become an entrepreneur.	(Tkachev & Kolvereid 1999)
	PD3: There are very few circumstances outside my control that may prevent me from becoming an entrepreneur.	(Tkachev & Kolvereid 1999)
	PD4: I can exert sufficient control over my business if I become entrepreneur.	(Tkachev & Kolvereid 1999)
Perceived Feasibility	PF1: It is feasible for me to become an entrepreneur.	(Krueger et al. 2000)
	PF2: I have specific know-how thus it is a realistic option for me to become an entrepreneur.	(Krueger et al. 2000)
	PF3: It is possible for me to gather sufficient resources for starting my own business.	(Krueger et al. 2000)
Perceived Readiness	PR1: It is an attractive idea for me to start my own business.	(Krueger et al. 2000)
	PR2: My family and friends want me to start my own business.	(Krueger et al. 2000)

Constructs	Measurement Items	References
	PR3: It is valuable for me to start my own business as soon as possible.	(Krueger et al. 2000)
Triggering Event	TE1: I respond quickly if something affects my life.	Self-constructed
	TE2: I make choices immediately if unexpected occurs.	Self-constructed
Conviction	CV1: I can make big money if I am self-employed.	(Davidsson 1995)
	CV2: I will be successful if I try new things.	(Davidsson 1995)
	CV3: I am willing to achieve difficult goals in life.	(Davidsson 1995)
Individual Background	IB1: I consider education important to start business	(Kolvereid 1996)
	IB2: I consider experience important to start business	(Kolvereid 1996)
	IB3: I want to start business because my parents are self-employed.	(Kolvereid 1996)
Situational Influences	SI1: I find well- functioning support infrastructure in my place to support the business start-ups.	(Iakovleva & Kolvereid 2009)
	SI2: There are sufficient subsidies available for new business start-ups.	(Iakovleva & Kolvereid 2009)
Entrepreneurial intention	EI1: I am very serious in starting my own business.	(Liñán & Chen 2009)
	EI2: I intend to start my own business within five years after completing my education.	(Liñán & Chen 2009)
	EI3: I prefer to become self-employed if I have to choose to become a business owner or being employed by someone.	(Liñán & Chen 2009)
	EI4: I will make every effort to start and run my own business.	(Liñán & Chen 2009)
Entrepreneurial Activity	EA1: I have started my business and becoming successful as I am doing differently.	Self-constructed
	EA2: I am actively involved in running my business.	Self-constructed
	EA3: It is possible to deal with all problems that may occur during launching and running business.	Self-constructed

Adapted and rephrased from the given sources for the study

Partial least square structural equation modeling (PLS-SEM) approach was used for estimating the relationships between the latent variables under investigation (Hair et al. 2011; Hair et al. 2014). For the purpose, SmartPLS 2.0 M3 software was used (Ringle et al. 2005).

The structural model for the study is given as under:

Figure 2: The Structural Model
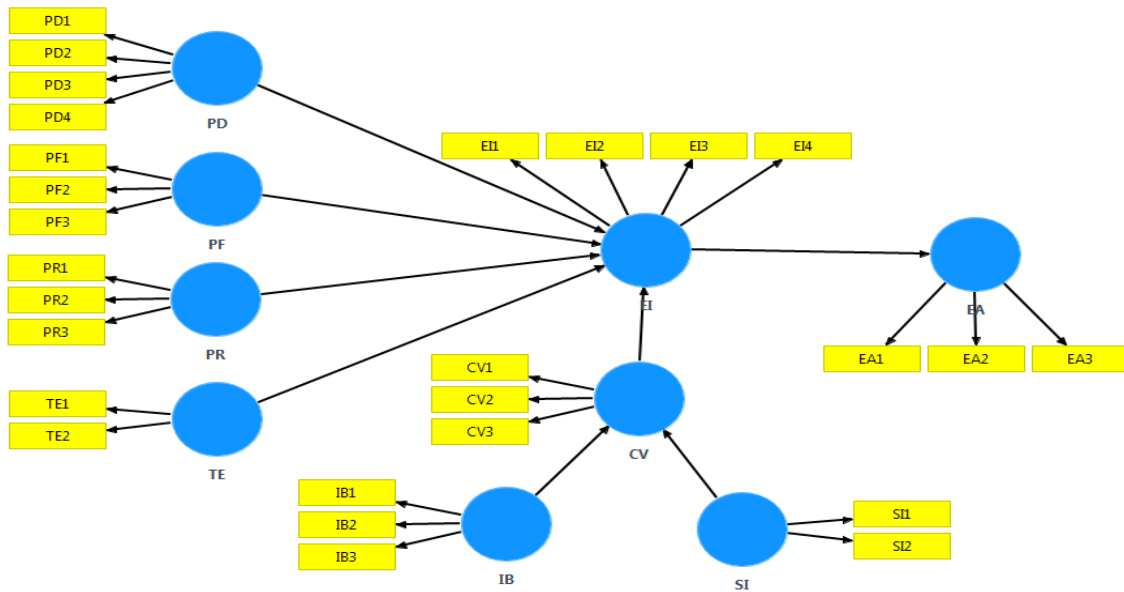
4. Results and Analysis

Due to the nature of the data, PLS-SEM was used for the purpose of model estimation and thus contained 9 latent variables. The small sample size (174 respondents), non-normal distributional properties of the data and prediction were the primary reasons to use PLS-SEM for model estimation (Hair et al. 2011; Hair et al. 2014).

For the measurement model estimation, composite reliability exceeded 0.70 threshold point and Cronbach's alphas were found to be greater than 0.60 threshold point for all latent variables which provided evidences of internal consistency thereby confirming construct reliability (Hair et al. 2013; Hair et al. 2014).

Construct validity was assessed by convergent and discriminant validity (Hair et al. 2014). Average variance extracted (AVE) was used as a measure of convergent validity which exceeded the minimum threshold index of 0.5 for all constructs (Götz et al. 2010; Hair et al. 2014). The respective figures are shown in table 04.

Table 04: Measurement Model Results

Constructs	Indicators	Composite Reliability	Cronbach's Alpha	Average Variance Explained (AVE)
Perceived Desirability	4	0.82	0.73	0.69
Perceived Feasibility	3	0.94	0.92	0.74
Perceived Readiness	3	0.91	0.88	0.78
Conviction	3	0.95	0.94	0.83
Individual Background	3	0.84	0.79	0.81
Situational Influences	2	0.86	0.83	0.74
Triggering Event	2	0.74	0.68	0.73
Entrepreneurial Intention	4	0.88	0.84	0.66

Entrepreneurial Activity	3	0.91	0.89	0.83

Discriminant validity was assessed by determining whether every construct in the study was significantly different from the other measures (Bagozzi et al. 1991). In this vein, discriminant validity was evaluated by Fornell-Larcker test which compared the square roots of AVE are always higher than the absolute correlations between the latent variables (Hair et al. 2011; Hair et al. 2014). Table 05 highlighted the discriminant validity results.

Table 05: Latent Variables Correlation

----	PD	PF	PR	TE	CV	IB	SI	EI	EA
PD	*0.83*	0.67	0.75	0.58	0.79	0.54	0.72	0.64	0.70
PF		*0.86*	0.71	0.53	0.64	0.57	0.76	0.68	0.81
PR			*0.88*	0.49	0.77	0.61	0.65	0.73	0.71
TE				*0.85*	0.62	0.74	0.69	0.76	0.78
CV					*0.91*	0.66	0.47	0.55	0.56
IB						*0.90*	0.58	0.62	0.67
SI							*0.86*	0.74	0.72
EI								*0.81*	0.74
EA									*0.91*

PLS-SEM was also used to evaluate the structural model to estimate the relationships between the constructs specified by theory (Hair et al. 2013; Hair et al. 2014). The analysis provided path coefficients values for direct and total effects within the PLS path model and showed the explanatory power through determination of coefficient (R^2 values). Given the distribution free assumptions in PLS, non-parametric bootstrap procedure was used to obtain confidence intervals for significance tests for estimating the precisions of the path coefficients (Hair et al. 2011; Hair et al. 2014).

The results showed that perceived desirability ($\beta=0.26$, $p<0.05$), perceived feasibility ($\beta=0.54$, $p<0.05$), perceived readiness ($\beta=0.33$, $p<0.05$), and conviction ($\beta=0.37$, $p<0.05$) play a significant role in developing intentions to start entrepreneurial activity in the dairy industry of Pakistan. Further, individual background ($\beta=0.28$, $p<0.05$) and situational influences ($\beta=0.34$, $p<0.05$) accounted for substantial effect on conviction.

In the second step, intention ($\beta=0.57$ $p<0.05$) has a significant direct impact on entrepreneurial activity and triggering event $\beta=0.16$, $p<0.05$) moderately contributed to entrepreneurial activity. These relationships confirm the nomological validity of EI. As such, all hypotheses H_1 to H_8 are confirmed. Following table 06 shows path coefficients, stand error and significance of t- value at 95% confidence interval.

Table 06: Structural Model Results

Hypotheses	Paths	(β)	S.E.	t-value
H_1	PD -> EI	0.26	0.128	2.03
H_2	PF -> EI	0.54	0.142	3.80
H_3	PR -> EI	0.33	0.132	2.51
H_4	TE -> EA	0.16	0.070	2.28
H_5	CV-> EI	0.37	0.117	3.16
H_6	IB -> CV	0.28	0.138	2.03
H_7	SI -> CV	0.34	0.153	2.22
H_8	EI-> EA	0.57	0.122	4.67

Significant at p<0.05 level (two tailed test)

Predictive validity was assessed by means of R^2 values (Hair et al. 2014). The final PLS path model empirically proved to be a good fit as it accounted for 62% variance in entrepreneurial intention and 45% variance in entrepreneurial activity. Thus, the integrative model showed a high explanatory power for entrepreneurial intention (R^2=0.62) and entrepreneurial activity (R^2=0.45) respectively and weak explanation of conviction (R^2=0.23) by individual background and situational influences. Furthermore, we calculated the effect sizes (f^2) and relevance (q^2) for evaluating the predictive importance of each determinant thereby assessing the quality of model (Hair et al. 2013; Hair et al. 2014).

Given that threshold points of 0.02, 0.15; and 0.35 are considered small, medium and large effect sizes and relevance respectively (Hair et al. 2014), the effect sizes PF (f^2= 0.21) and CV (f^2= 0.18) was found large, the effect size of PD (f^2= 0.13) was found medium, and for PR (f^2= 0.07) it was found small. The effect size of IB (f^2= 0.05) was found small to explain conviction in comparison with medium effect size of SI (f^2= 0.16). The triggering event (f^2= 0.14) showed medium effect size and finally EI (f^2= 0.27) showed large effect size to explain entrepreneurial activity.

The results also showed that PF (q^2= 0.17) and CV (q^2= 0.11) are more relevant to explain EI in comparison with PD (q^2= 0.08) and PR (q^2= 0.08). SI (q^2= 0.10) is found more relevant to explain conviction as compared to IB (q^2= 0.02). TE (q^2= 0.12) is found relevant to explain to entrepreneurial activity but EI (q^2= 0.20) shows higher relevance to explain EA.

Following table 07 shows explanatory power, effect sizes and relevance of the determinants

Table 07: Predictive validity, effect sizes, and relevance of the determinants

Criterion	Predictor	R^2	f^2	q^2
EI	PD	0.62	0.13	0.08
	PF		0.21	0.17
	PR		0.07	0.04
	TE		0.14	0.12
	CV		0.18	0.11
CV	IB	0.23	0.05	0.02
	SI		0.16	0.10
EA	EI	0.45	0.27	0.20

5. Discussion and Conclusion

Three research questions were framed to test the predictors of entrepreneurial intentions posited by Shapero's EEM (Shapero & Sokol 1982) and Davidsson's DEI model (Davidsson 1995) in the context of the agri-food sector of a developing country, namely Pakistan's dairy industry. Eight hypotheses were formulated to answer the three research questions. All hypothesized relationships were confirmed and found to be positive.

A respondent's perceived desirability (H_1) is found moderately related (t-value: 2.03) to intentions. Regarding H_2, the respondent's perceived feasibility is significantly related (t-value: 3.80) to intention. Concerning H_3, the results show perceived readiness is moderately related (t-value: 2.51) to intentions to be engaged in entrepreneurial activities.

H_4 posits that triggering event, a variable from Shapero's model, is positively related to start-up activity and was confirmed (t-value: 2.28). Thus, four predictors which were taken from Shapero's model showed substantial contribution in determining the explanatory power of intention to start entrepreneurial activity.

H_5, which hypothesized conviction is positively related to intention, also was supported (t-value: 3.16). H_6 and H_7 were posited to test the predictors of conviction, a variable taken from Davidsson's DEI model. H_6 tested the contribution of individual background (t-value: 2.03) and H_7 tested the relationship between situational influences and conviction (t-value: 2.22). Finally, H_8 posits positive and direct role of intention for starting entrepreneurial activities and it was found significant and substantial (t-value: 4.67).

In summary, the integrative model developed for the specific context of Pakistan's dairy industry suggests that intention is the most robust and direct determinant of entrepreneurial activities in the dairy sector of Pakistan. Furthermore, the role of desirability and readiness is moderate while the role of perceived feasibility and conviction is substantial in developing entrepreneurial intention. Though, individual background and situational influences significantly related to conviction but explanatory power of the variables was found to be weak as it accounted for only 23% variance in conviction.

In line with prior studies, it is important to recognizes that entrepreneurial activity is largely driven by intention which itself explains 45% variance in activity in the integrative model of the study. Further, predictors from Shapero's model showed more strength and significance as compared to predictors of DEI model.

5.1   Research Implications

In their proposition of an entrepreneurship is a way of thinking, Krueger et al. (2000) postulated that entrepreneurial intention merits our attention to better explain and predict the process of business formation. This study adds to this notion in that it found strong empirical evidences supporting the hypothesis that intention significantly contributes to starting new entrepreneurial activities. As such, this is a promising approach to integrate two intention based models for understanding the process of entrepreneurship.

One of the important findings of this study is the relative higher importance of perceived feasibility and conviction in determining intention within the context of this study. Both yielded its highest efficacy when entrepreneurial activity was characterized by a triggering event. This finding provides a better understanding of the nature of the entrepreneurial activity construct. Furthermore, it was confirmed that intention is empirically different from a seemingly very similar construct such as self-efficacy (Bandura 2012). In contrast to self-efficacy, which does not consistently increase in entrepreneurial activities, intention has a consistent positive influence on entrepreneurial activity.

The practical implication of the study is in developing a much better understanding of how intentions are formed. As such, it becomes more important to understand why entrepreneurs have made certain specific choices. This will help the Pakistani dairy industry to launch education and training programs in changing personal attitude towards self-employment. Furthermore, the government of Pakistan can get benefit in launching new dairy business initiatives after a thorough understanding of the process, which is largely driven by perceptions of feasibility and conviction.

5.2   Limitations and Future Research

The study recognized several limitations. First, the generalizability of the research is limited due to the industry specific sample of only one developing country, namely Pakistan's dairy industry. Therefore, the generalizability of the findings should be appreciated by follow-up studies in other similar countries. Furthermore, the cross-sectional design of the study, self-reported data, common method biases, and spurious cause and effect inferences might have a basis for certain level of biases in the study. Lastly, in this study, we assumed a universal working mechanism which is as such not possible in the real world and this assumption comprises the absence of unobserved heterogeneity. Therefore, future studies should appreciate the power of contextual factors for generating more significant results.

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