Entrepreneurial Alertness among Business School Students

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Abstract
Entrepreneurial alertness has the potential to add substantially to our understanding of how new opportunities are identified and pursued. Empirical research identified significant association between entrepreneurial alertness and starting new firms. Lack of opportunity identification skill is considered as major hurdle for those who intend to start their new venture in Pakistan. Considering the role of entrepreneurial alertness in identifying the opportunity and significantly positive association with intent to start new firms. This study analyses the different factor which affect the entrepreneurial alertness of business students in Pakistan. The data was collected from the 499 final year business school students of nine universities from Sindh, Pakistan using cross-sectional survey. The results of this study revealed that information accumulation, selection and transformation ability have positive and significant effect on entrepreneurial alertness. These findings signify that development of information accumulation, transformation and evaluation ability is vital for entrepreneurial alertness ability for identifying the entrepreneurial opportunities among the students. The findings have implication for the students who want to choose entrepreneurship as a career, educators who design and teach entrepreneurship course, and policy makers for developing policy guidelines on entrepreneurship.

Key Words: Entrepreneurship, Entrepreneurial Alertness, Information Accumulation, Information Transformation, Information Evaluation.

1. Introduction: Opportunity identification for starting new venture is the most important ability of the successful entrepreneur (Stevenson&Gumpert.,1985). Empirical research on entrepreneurship concluded that opportunity identification is considered as the most fundamental and distinctive for entrepreneurial behavior (Ardichvili, Cardozo & Ray, 2003; Vekatraman, 1997 ; Gaglio& Katz,2001). Entrepreneurial alertness, which is “a concept that has the potential to add substantially to our understanding of how new ideas get initiated and pursued” has been considered vital for understanding the opportunity identification process (Tang , Kcamar & Busentiz, 2012:P.77). Empirical research identified significant association between entrepreneurial alertness and starting new firms (Langowitz and Minniti, 2007). According to van Gelderen et al., (2008) entrepreneurial alertness have
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positive and significant effect through perceived behavioral control on entrepreneurial intention. Therefore, entrepreneurial alertness is considered significant feature of entrepreneurial process of identifying the opportunities for starting new venture (Puhakka, 2011). Fiet (1996, 2001) suggested that we can learn and improve the entrepreneurial alertness which is a skill and ability of individual; it can be a useful guide on opportunity recognition for aspiring entrepreneurs. This process of learning is based on cognitive element like learning from past experience and knowledge acquired directly and indirectly through education and experience (Shane, 2000). Thus, alertness develops an aptitude for perceiving the change of signals in the environment for improving the decision making quality (Gaglio, 2001). According to Valliere(2011) entrepreneurial alertness is not an unusual quality which is owned by few individual but it is simply result of advancement and application of schemata which is utilized to make sense of the world. This perception is acquired by schema which is construct of psychology founded on cognitive process of learning, thinking and memorising (Aviram, 2010). The work of Valliere (2011) describe that prior knowledge, education and experience develop schematic alertness of an individual which is rich in possibilities of value creation. This can be developed by teaching opportunity spotting and alertness to potential entrepreneurs (Valliere, 2011). Thus, potential entrepreneurs can develop entrepreneurial alertness for identifying the opportunities by accumulating, selecting and transforming new information and knowledge about the world (Tang et al, 2012). Therefore, for identification of opportunity future entrepreneurs has the idiosyncratic challenge because those students may not have relevant schema for acquiring it (Valliere, 2011).

In developing countries the like Pakistan for lower level of entrepreneurial intent among the students is due to lack of ability to identify the business opportunity and required skills to become founder as a major hurdles who intend to start their new venture (GUESS,2011). Tanveer et al. (2013) in their study argued that students of universities in Pakistan are not capable of identifying the opportunities available in the market. According to (Fatima et al., 2011) entrepreneurial alertness is necessary condition for opportunity identification triad in Pakistan. Therefore, entrepreneurial alertness can play an important role in developing entrepreneurial intentions among Pakistani students.

Considering the important role of entrepreneurial alertness in entrepreneurial process for identifying the opportunity, lack of opportunity identifying skill among the students in Pakistan, This study will analyze information accumulation, selection and transformation process effect on the development of entrepreneurial alertness among the higher education students in Pakistan.

The organization of this paper is as following. First, we will discuss the theoretical framework and hypotheses by explaining the entrepreneurial alertness and its different dimensions effect on entrepreneurial alertness. The methodology section will discuss the sample and method used for analyzing the data. The findings section will describe the results and discuss them. Final the conclusion section will briefly describe the concluding remarks.
2. Theoretical Framework: In the contemporary literature Israel Kirzner’s (1979) concept of entrepreneurial alertness “The ability to notice without search opportunities that have hitherto overlooked” is considered as a key in understanding the entrepreneurial opportunities. Academic literature on entrepreneurship suggests that person can identify the opportunity when he is alert and motivated. Entrepreneurial alertness has been explored in the literature for investigating the entrepreneurial differences (Kaish & Gilad, 1991) and to build up schemata which enable the individual to organize the information meaningfully related to different domains (Gaglio & Katz, 2001).

Accordingly Tang et al. (2012: p.78) “Alertness is a concept that has the potential to add substantially to our understanding of how new ideas get initiated and pursued”. Valliere (2011) suggested that entrepreneurial alertness is not an unusual quality which is owned by few individual but it is simply result of advancement and application of schemata which is utilized to make sense of the world. Thus, the intuition component accomplished through schema can characterize the entrepreneurial mind which can help substantially in understanding of how new idea are initiated (Tang, 2008). In the entrepreneurship literature different schools of thought reveal the three different aspects of entrepreneurial alertness.

2.1 Austrian Perspective: The main focus of this Austrian researcher on alertness was on the entrepreneur’s extraordinary sense of “sniffing” which developed due to possession of distinctive information about markets (Kirzner, 1997). Accordingly alertness is considered like an “antenna” transmitting signals which helps in detecting the gaps in the market that lead to opportunity discovery. As compared to others, entrepreneur position himself in such away so that he can receive these signals of opportunities easily (Gilad, Kasih, & Ronnen, 1988). The ability to catch the signals and smell the opportunities distinguish an entrepreneur from non-entrepreneur (Kirzner, 2008). The ability of an individual to differentiate between useful and not useful information selection is the key in discovering opportunities, which are objective realities according to the Austrian perspective (Foss & Klein, 2009).

2.2 Behavioural Perspective: Researchers attempted to comprehend alertness from behavioural context which resulted in the new idea emergence. The focus was on to characterize it as information seeking behaviour resulting to understand how entrepreneurs go differently to do things by entrepreneurs. Kaish and Gilad (1991) in their work tried identify the differences in the behaviour, which can be accredited to alertness. The work of Kaish and Gilad (1991) conceptualized alertness from two aspects: verbal “Search” and nonverbal “Search” refers to passive rather than a systematic search for identifying the opportunities for business. According to Kaish and Gilad (1991) it occurs when entrepreneurs are receptive to opportunities but not do any premeditated search of opportunities. The information seeking behaviour of the entrepreneur was the focus of behavioural researchers on alertness which can be unusual and “unplanned” but it is uninterrupted resulting in enhancing the knowledge base of the individual (Kaish & Gilad, 1991). Information accumulation behaviour is the key in describing that why “some people”
entrepreneurs identify the opportunity than others (Tang et al., 2012). In their study Ko and Butler (2003) concluded that the flow of creativity and opportunity is recognised from information, knowledge and alertness, which come from acquaintances and friends. This study elaborate that entrepreneurial alertness is an ability of entrepreneur to search for information in an unconventional way.

2.3 Cognitive Perspective: Cognitive perspective revolves around the different and distinguishes perception and processing of information skill which resulting in opportunity identification process. The scholars by trying to understand the cognitive perspective of alertness explore the market situation as it is understood by entrepreneurs and how such understanding is different from non-entrepreneurs (Tang, 2008).

The focus of cognitive perspective on alertness is not only “active” or “passive” search but discovering the opportunities (Tang et al. 2012). It happens, when the individual perception of the environment is precise as well good at concluding the consequences and implications. The cognitive aptitude of information transformation develops entrepreneur’s capabilities of identifying the something that is innovative and different in the external environment which helps him in discovering the new opportunities (Puhakka, 2011). Therefore focus of the individual information processing approach identifies the phenomenon while acquiring, storing, retrieving and using the information. Vaghely and Julien, (2010) integrated the constructionist and Cognitive perspective of information processing to develop the entrepreneur's opportunity recognition and information processing mechanism. According to their study entrepreneur used both approach of information process to identify the opportunities. Valliere (2013) consider entrepreneurial alertness demonstrate the differences in the schemata and cognitive frameworks which develop abilities in an individual to understand the environmental changes due to this ability the alert entrepreneurs identify the opportunities.

2.4 Dimensions of Entrepreneurial Alertness: On the basis of Austrian, behavioural and cognitive perspective alertness is defined by Tang (2008: P.21) as “An individual’s ability to accumulate, transform and select information leading to potential business opportunities”. Tang et al. (2012) has based this definition on information processing model in cognitive psychology which cover three perspective of alertness which are different but complimentary in understanding the role of alertness in discovering an opportunity. Opportunity discovery process is well mapped by the entrepreneurial alertness; the steps in opportunity discover process can be based on above three dimensions of alertness which are essential part of identifying the signal and interpreting them accordingly (Tang et al, 2012).

2.4.1 Information Accumulation (Scanning and Searching): This refers to stock of the knowledge that individual have during the opportunity discovery process (Tang et al., 2012). This includes prior knowledge which is individual’s idiosyncratic information about particular subject and field which enable him/her to identify or discover the opportunities (Shane, 2000). Accordingly individual develops habit of scanning environment for identifying and accumulating information which is essential for identifying and discovering the opportunities (Tang et al., 2012).
2.4.2 Information Transformation (Association and Connections): This dimension of entrepreneurial alertness refers to how one can think about specific idea or problem by applying the stock of knowledge acquired (Tang et al. 2012). Here individual not solve the problem but evaluate different options and possibilities. It is the time when individual try to develop connection between dots (Barron, 2006) in nonlinear or consequential logic rather than linear. This is done by arranging information in different sequence of adding, interpreting and deleting in different way. Baron (2006) suggested the ability create link between dots by connecting them for developing pattern based on different events is vital aspect of discovering /identifying the opportunities. This allows the individual to detect the unusual information to change the existing schema (Gaglio & Katz, 2001).

2.4.3 Information Selection (Evaluation and Judgment): This dimension of entrepreneurial alertness refers to creating and organizing knowledge from the information available to him in such a way that it is new and helpful in identifying the profitable opportunities (Tang et al. 2012). This equips individual to select the patterns when multiple patterns developed simultaneously from the various pattern (Reed, 2007). The resulting unusual sense of “smelling” opportunities (YU, 2001) enable entrepreneur to select among various opportunities the profitable business opportunity (Kirzner, 1985). The alert the individual is intuitively in better position for selecting the pertinent information which enhances the probability that he will identify the right opportunity (Tang et al. 2012).

3. Hypothesis:

H1: Information accumulation ability has effect on entrepreneurial alertness of students.

H2: Information transformation ability has effect on entrepreneurial alertness of students.

H3: Information evaluation ability has effect on entrepreneurial alertness of students.

H4: Information accumulation, transformation, and evaluation develop entrepreneurial alertness of students.
4. Methodology:

4.1 Sample: The data for the study was collected randomly through cross sectional survey from the final year business school students from nine universities of Sindh, Pakistan. The study distributed 650 questionnaires to the students and received back 523 questionnaires from the students of which 499 found usable for data analysis purpose. The effective response rate was 80% and usable questionnaire was 77%.

4.2 Measurement of Variables: The study adapted construct of entrepreneurial alertness construct on developed by (Tang et al. 2012). All the measures of the study used seven point likert scale for where 1 denotes “strongly disagree” and 7 denotes “strongly agree”.

4.3 Method: This study used structural Equation Modeling (SEM) Path analysis, using AMOS to test the inter-relationship between dependent and independent Variables. This study applied two step approach as suggested by (Anderson & Gerbing, 1988).

   (1) The assessment of the measurement model
   (2) The assessment of the structural model.

5. Findings: This study assessed the measurement model for entrepreneurial alertness by conducting confirmatory factor analysis (CFA). The results of goodness of fit suggested the measurement model was not adequate fit. Moreover, validity analysis also suggested the validity issues in the model. Therefore, steps were taken to modify the measurement model to make it good fit. These steps include deletion of indiscriminant items, items with higher standardized residual and modification indexes. According to Hooper, Coughlan and Mullen (2008) the deletion of indiscriminant items in the model likely to improve it and advantageous, if they don’t have any major theoretical repercussions.

   The goodness of fit test of the modified model was GFI =0.975, Ratio = 1.937, p=.000, SRMR=.0326, TLI=0.977, CFI=0.984 and RMSEA=.043. These indicators for goodness of fit indicate the model is good fit.

   The next step was to analyze the convergent and discriminant validity, as well as composite reliability.

   Tabe5.1: Convergent and Discriminant Validity of Constructs

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA → EA</td>
<td>.769</td>
<td>.155</td>
<td>8.972</td>
<td>***</td>
</tr>
<tr>
<td>IT → EA</td>
<td>.830</td>
<td>.096</td>
<td>8.638</td>
<td>***</td>
</tr>
<tr>
<td>IE → EA</td>
<td>.664</td>
<td>.080</td>
<td>8.972</td>
<td>***</td>
</tr>
</tbody>
</table>

   a. All correlations were significant.
   b. Diagonal elements (bold figures) are the square root of the variance shared between the constructs and their measures. Off-diagonal elements are the correlations among the constructs. For discriminant validity, diagonal elements should be larger than off-diagonal(Chin 1998).
As shown in the table 5.1 all the dimensions demonstrated good composite reliability above the threshold value of 0.70 (Hair et al. 2010). According to (Hair et al. 2010) when composite reliability is higher than average variance extracted and value of average variance extracted is higher than 0.5 than it is the significant evidence of convergent validity. The result shown in table satisfy the criteria as suggested by (Hair et al. 2010) for convergent validity. Moreover, highest average variance shared among these dimension was from 0.282 to 0.355. The average variance extracted was much higher than average variance shared and could easily satisfy the Fornell and Larcker’s (1981) criterion of robust evidence of discriminant validity. The maximum variance shared was also lower than the average variance extracted which is also evidence of discriminant validity (Hair et al. 2010).

**Table 5.2: Relationship between entrepreneurial alertness and different dimensions**

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>IT</th>
<th>IA</th>
<th>IE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>0.777</td>
<td>0.537</td>
<td>0.407</td>
<td>0.355</td>
<td>0.733</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA</td>
<td>0.811</td>
<td>0.524</td>
<td>0.407</td>
<td>0.334</td>
<td>0.638</td>
<td>0.724</td>
<td></td>
</tr>
<tr>
<td>IE</td>
<td>0.805</td>
<td>0.582</td>
<td>0.304</td>
<td>0.282</td>
<td>0.551</td>
<td>0.510</td>
<td>0.763</td>
</tr>
</tbody>
</table>

The study further analyzed the different relationship among the varaibles as specified in the path model for study. The model results as shown in the tables 5.2 suggest that the relationship between information accumulation and entrepreneurial alertness was ($\beta= 0.769$, $p<.001$). The relationship between information transformation and entrepreneurial alertness was ($\beta= 0.839$, $p<.001$) and the relationship between information evaluation and entrepreneurial alertness was ($\beta= 0.664$, $p<.001$). These findings suggest positive and significant relationship between information accumulation, transformation, evaluation and entrepreneurial alertness.

5. Discussion: The findings of this study suggested that information accumulation, transformation, evaluation are the predictor of entrepreneurial alertness among the Pakistani business students. These finding are consistent with the findings of (Tang et al., 2012 and Marina et al., 2013). These findings signify that development of information accumulation, transformation and evaluation ability is vital for entrepreneurial alertness among the students. Moreover, final year business students who are being taught different business courses including entrepreneurship and having an opportunities to listen to different guest speaker and done internship in different field of business were able to accumulate information, develop connection among the different pieces of information and evaluate the information. Thus, theoretical knowledge and practical exposure given to the business students developed entrepreneurial alertness. This reconfirmed the study of (Shane, 2000) that the capability for identifying the opportunity can be enhanced through education and experience. As Gaglio (2004) pointed that entrepreneurial alert individual examine the events which keep changing the market situation because they cannot close eyes to happenings in the market for identifying opportunities. According to Ardichvili, Cardozo, and Ray (2003) opportunity identification consists of an interrelated triad of opportunity recognition, development, and evaluation of business opportunities. In contrast to EI,
opportunity identification thus represents more behaviorally oriented components in the entrepreneurship process. Hence, students who report more opportunity identification behavior are not just stating a general interest or intention toward becoming entrepreneurs but are actually engaged in enacting their intention and interests.

6. Implication of the Study: The findings of this study may have implication for the students who want to choose entrepreneurship as a career considering the development of entrepreneurial alertness as ability to identify the opportunities for starting new business. The educators who design and teach entrepreneurship programs focus on developing opportunity identification ability through entrepreneurial alertness along with opportunity exploitation. The policy makers for developing policy guidelines on entrepreneurship by considering development of entrepreneurial alertness as an important factor in developing entrepreneurial process.

This study may also be among the one of the very limited studies which studied the entrepreneurial alertness of the students from developing countries perspective and may be the first in Pakistan. This study may contribute to human capital theory literature by suggesting that investment in human capital for developing specific assets like entrepreneurial alertness resulted in development of entrepreneurial capital as suggested by (Martin et al., 2013).

7. Limitations of the Study and suggestion for future research: First, the participants for this study were business students from universities in Sindh, Pakistan. Moreover, study focused only final year students. Hence, the results of this study may not be generalized to students of all years and subjects. It is proposed to extend new studies on different disciplines students in the various campuses in universities (Katz 2008). Second, The respondent of this study were the adults students of the universities, so the results might not be identical for working adults, unemployed and adults not in the university. Therefore, future research can be extended for working adults. Third, Entrepreneurial alertness was studied in isolation without analyzing the effect how much entrepreneurial alertness effect on development of entrepreneurial intentions. Therefore, future study may look to the effect of entrepreneurial alertness on entrepreneurial intentions.

8. Conclusion: The main objective of this study was to analyze the effect of information accumulation, transformation and evaluation on entrepreneurial alertness of the business school students in Pakistan. The findings of this study suggest that information accumulation, transformation and evaluation has positive and significant effect on the entrepreneurial alertness. This suggest that theoretical knowledge and practical exposure given to the business school students play a key role in developing entrepreneurial alertness. These findings have implication for the students who want to choose entrepreneurship as a career, educators who design and teach entrepreneurship course and policy makers for developing policy guidelines on entrepreneurship.
References:


