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It's the company you keep that matters: A study on effects of friends and mentor on opportunity recognition

Wei Lee Lim
UCSI University, Kuala Lumpur, Malaysia
Mohar Yusof
Universiti Tun Abdul Razak, Kuala Lumpur, Malaysia
Siri Roland Xavier
Universiti Tun Abdul Razak, Kuala Lumpur, Malaysia
Leilanie Mohd Nor
BinaPavo, Shah Alam, Malaysia

Abstract

Purpose - the purpose of this study is to examine the relationships of social networks and entrepreneurial opportunity recognition of small technology firms in Malaysia. The study seeks to explore the gaps between the practice of mentoring in technology start-up firms.
Design/methodology/approach – this paper employs a quantitative research design involving self-reporting questionnaires. Founders and co-founders of technology companies (n=255) are surveyed as respondents and data collected are analyzed using PLS-SEM technique.
Findings – Findings have shown that both casual friends and mentors affect the entrepreneur's ability to recognize opportunity but each in its different ways. Entrepreneurs who possess wider social contacts benefits from a wide array of information which plays a key role to opportunity previously not recognized either due to lack of information or resources to exploit. Mentors, on the other hand, influence the entrepreneur's ability to recognize opportunity through the preparation of the mind in a state of readiness to recognize opportunities. To identify opportunities, a weak tie network is best suited to spark the imagination of the entrepreneur in novel ideas.
Practical implications – From a more practical standpoint, the use of mentorship programs in entrepreneurial and incubation initiatives needs to be clear on the expected role and outcome for the mentor. Without a doubt, mentors play an important role in the maturing process of a novice entrepreneur but the key to effective mentorship is the 'how' the mentors' influence.
Originality/value – The clear delineation of the opportunity construct within the entrepreneurship studies enables progress to be made in building a clearer opportunity recognition framework. The empirical results are also supporting the presence of entrepreneurial alertness as the mediator in the model. This relationship has not been explored and empirically proven.

Keywords Opportunity recognition, Mentor

Introduction

All businesses exist because they fulfill the needs of society through their offerings of products and services. Embedded in the concept of business survival is the necessity of procuring value to customers. The ability to add value to the process chain is often acted upon by entrepreneurs who discovered or created the opportunity that allows them to exploit the gaps within the market. Therefore, the cornerstone of a business venture is the ability of the entrepreneur in recognizing opportunities. Unsurprisingly, the focus of entrepreneurship research has been on the concept of opportunity (Shane and Venkataraman, 2000). Reviewing past opportunity recognition literature, various factors were found to have a strong influence on

the ability of the entrepreneur to recognize opportunities. Among the factors established are personality traits (Shane and Nicolaou, 2015), individual cognition (Edelman and Yli-Renko, 2010), prior knowledge (Shane, 2000), entrepreneurial alertness (Gaglio and Winter, 2017) and social capital (Lin, 2017).

Entrepreneurs do not work alone. The social network surrounding the entrepreneur plays an important role in determining their behavior and action. A social network is one of the sources for knowledge and business ideas and it is the characteristics of the network that helps facilitate the transfers of knowledge enabling entrepreneurs to spot opportunities better than others (Arenius and de Clercq, 2005). The social network has been studied by many researchers in pursuing the 'who' and 'what' influences the recognition of opportunities for entrepreneurs (Ozgen and Baron, 2007; Bhagavatula et al., 2010; Li et al., 2014). Despite past studies illuminating the effects of social networks on the opportunity recognition process, little is known about the actual 'how' or the operations of cognition leading to the recognition of opportunities. The purpose of this study is to examine the relationships of social networks on entrepreneurial opportunity recognition of small firms technology firms in Malaysia. The study seeks to explore the gaps between the practice of mentoring in new start-up firms. To further our understanding on the roles social network has on opportunity recognition process, this study seeks to uncover how mentors and weak ties affect opportunity recognition through dimensions of entrepreneurial alertness: scanning and search; association and connection; evaluation and judgment. From the practical viewpoint, the contributions from the current findings on the social network confirm the effect of mentors and weak ties on opportunity recognition in its way. Mentorship programs and networking sessions need to be better developed to harness the strength of each type of network.

The rest of the paper is as follows. First, the review of the literature on the opportunity recognition concept is presented together with entrepreneurial alertness which is a strong determining factor to opportunity recognition. Next, the types of social networks; mentors and weak ties are outlines on their roles and effect on the opportunity recognition process. The design of the research undertaken in this study is discussed in the methodology section followed by the presentation of the results of the analysis conducted. The paper concludes with discussions on the findings, in particular, relating to theory and practice.

Opportunity recognition from the cognitive perspective

As the key concept within entrepreneurship studies, opportunity recognition explains in part the difference between an entrepreneur and a non-entrepreneur. Most researchers agree that one of the most important functions of an entrepreneur is to identify and exploit opportunities taking advantage of market disequilibrium.

Hence, opportunity recognition can be defined as the cognitive process by which the entrepreneur through which an individual concluded that an opportunity has been identified (Baron, 2006).

The question of interest to researchers is how do the entrepreneur spot opportunities and not others? An indication of this emerges from the cognitive perspective study that proposes the human cognitive framework of the entrepreneur gathered from past experiences enables the entrepreneur to see a pattern in market changes. In their entrepreneurial journey, entrepreneurs gather both tacit and explicit knowledge about the market, technology, government policies, customer problems and industry, enriching the stock of knowledge and experience of the individual (Tang et al., 2012; Li et al., 2015). The information gleaned is inter-linked in its unique way to the entrepreneur and is described as a pattern. In a situation when a similar pattern of information emerges from the market, the entrepreneur is ready to recognize and identify the pattern. In that, the ability of the entrepreneur to recognize the opportunities from the market is termed entrepreneurial alertness (Tang et al., 2012). Alertness affects the ability of entrepreneurs to recognize opportunities directly. Entrepreneurs who possess higher levels of alertness can recognize more opportunities compared to others. The concept of alertness and opportunity recognition is deeply rooted in Kirzner's (1997) study. The Kirznerian view opportunities as something that is there to be discovered by the

entrepreneur who is highly alert to information gaps in the market. Hence, the ability of 'alertness' is what sets the entrepreneur apart from the general population (Kirzner, 1997).

The concept of alertness is presented in three dimensions extending the concept as part of the entrepreneurial cognitive process: Scanning and searching; association and connection; evaluation and judgement. As a cognitive process, an alert entrepreneur would be constantly scanning and searching the environment for any new information or shift in the market environment. Individuals who are better prepared with high levels of knowledge would be in a better position to see opportunities. In the second dimension, the alert entrepreneur can make connection and association between separate pieces of different information building from it variations of possibilities. In the last dimension, evaluation and judgment, the individuals process the information and evaluate the changes and shifts of the market in their value as a potential business opportunity (Tang et al., 2012). For the opportunity to happen, the entrepreneur goes through the cognitive process of gathering information making sense out of it and deciding if there exists an opportunity.

There have been some studies conducted on the relationship between alertness and opportunity recognition. However, the results are inconsistent partly attributed to the issues of conceptualizing the construct (Li et al.,2015; Gaglio and Winter, 2017). Moving towards the cognitive perspective, alertness is being studied in the context of the information processing model with various studies attempting to the skills and ability that drives alertness (Gaglio and Katz, 2001; Ko and Butler, 2006; Tang et al., 2012). In the latest study by Ali and Mohammaedreza (2016), the result confirms the positive relationship of alertness on opportunity recognition. Particularly, the study was made on biotechnology companies which highlighted the importance of information to a fast-paced industry such as a technology industry.

Mentors and weak ties

The network of relationships that surrounds the entrepreneur is an important aspect of business performance as the type of social network the entrepreneur possess determines the types of resources that are being channelled. Through social networks, entrepreneurs can gain various support, assistance and resources such as financial resources, human resources, equipment and machineries and even lend legitimacy for the new venture. Other than physical resources being mobilized through social network, information too are also channelled through. Different types of networks with different characteristics would affect the type of information and its impact on recognizing opportunities. One important type of social network to an entrepreneur is the weak ties relationship. A weak tie relationship refers to relationships with casual acquaintances such as customers, suppliers, government officials and strangers. The relationship is characterized by weak bonds, low interactions and low commitments. Such weak ties relationship though low on trustworthiness between the parties provides a rich structural holes network that is loose and diverse. The non-redundant nature of a weak ties network is that it allows for non-redundant information such as information on new market segments or products to be disseminated (Stam and Elfring, 2008). Such information are new information which is beyond the normal circle of the entrepreneur and it can bridge across to different network bringing diverse information from a variety of networks. Entrepreneurs with a high number of weak ties network will benefit from access to various knowledge which in turn increases the probability of spotting an opportunity.

In the study conducted by Ozgen and Baron (2007), it was found that informal network, mentoring as well as a professional association has a positive impact on opportunity recognition. Though mentoring has been studied in the management literature and much has been known about the benefits of a mentor, there however, exist deficiencies in our knowledge on mentorship in entrepreneurship (Wilbanks, 2015). Much less is currently known about the effectiveness of mentors in the entrepreneurial opportunity recognition context. In a study by St-Jean (2011), different groups of mentoring functions were found in developing relationships between the mentor and mentee (novice entrepreneurs). Therefore, the emphasis is placed in the need to examine further the phenomena of mentorship within a specific context. There are various

definitions of what constitutes as a mentor. However, most definitions tend to contain attributes such as: reciprocity, developmental benefits; and consistent interaction over some time (Wilbanks, 2015). Reciprocity can be referred to as a relationship of mutual social exchange where both parties work to maintain the relationship.

Considering the effect of entrepreneurial alertness on opportunity recognition and in turn, the impact of weak ties and mentors on alertness, this current study is driven to examine the mediating role of alertness with its different dimensions between social network and opportunity recognition. Such aspect of the relationship has yet to be empirically tested and explored by previous researchers. Past studies have acknowledged the positive impact of weak ties on the abilities of the entrepreneur in recognizing opportunities (Elfring and Hulsink, 2003; Wang et al., 2013). However, most of the studies have focused on the direct impact of weak ties on opportunity recognition neglecting the cognitive process of entrepreneurial alertness. The social network of the entrepreneur does not directly hand the entrepreneur with opportunities.

Rather, such realization of idea and opportunity is a product of cognitive process manifestation. Hence, entrepreneurial alertness is an essential concept and a vital component to the missing part of the opportunity recognition process.

New and inexperienced entrepreneurs are generally limited in their knowledge and ability. Due to this limitation, new entrepreneurs find themselves at a disadvantage in identifying potential opportunities. To overcome this limitation, new entrepreneurs can seek support from mentors who possess higher levels of experience and knowledge to help them to recognize opportunities. In the study by Baron and Ensley (2006), the results show differences in cognitive schemes between experienced entrepreneurs and new entrepreneurs. It was found that experienced entrepreneurs can develop new product and services which are more specific and hence more probable to generate revenues. Therefore, having a mentor which is an experienced entrepreneur could enhance the new entrepreneur's cognitive processing to be more effective in recognizing opportunities. Particularly, the recognition of opportunities is developed through the cognitive processing of information by being alert to market changes and new information that occurs. A mentor would better enhance the skills of a new entrepreneur in showing him or her where and how to look for relevant information that is particular to the industry and market. This widens the breadth of information received allowing for more connections between the information to be made. The more experienced mentor may also share and bridge pieces of information making the links visible to the new entrepreneur in understanding how the forces of the market influence each other. Studies have shown that each entrepreneur is unique in their way with a specific stock of capital which activates an idea into an opportunity for some while remaining as an idea only to others (Ko, 2004). An idea in its raw form holds little value and each idea has to be further refined and develop before it can be an opportunity. To transform such into a viable opportunity, the individual entrepreneur has to further evaluate the opportunity bridging the market needs with the resources attached to the particular entrepreneur. Like pieces of puzzles, an experienced mentor can show the protégé how an opportunity can be constructed from available resources currently held crafting economic value from the opportunity of an idea. Working through the cognitive process of entrepreneurial alertness, a mentor supports a new entrepreneur with better opportunity recognition skills. Hence, this study posits:

H1. Mentor supports higher recognition of opportunities through scanning and searching of information.

H2. Mentor supports higher recognition of opportunities through association and connection of information.

H3. Mentor supports higher recognition of opportunities through evaluation and judgment of information.

Casual acquaintances that are known as weak ties are unique sources of information for an entrepreneur. A loose network characterized with high structural holes provides information which is distinct and non-redundant from one network to another. The non-redundancy of information increases the breadth of information which in turn increases the possibility of obtaining the right complement of the necessary

information for opportunity recognition. Weak ties relationship can help entrepreneurs identify more opportunities with new information which are diverse. This widens the base of information available and discussion with weak ties generally tends to develop more new ideas and are of radical innovations.

To date, there have been very few studies relating weak ties and opportunity recognition which are empirically tested and none with entrepreneurial alertness as a mediator. A diverse network with volumes of non-redundant information allows the entrepreneur a better probability of spotting opportunities through scanning and searching. Entrepreneurs who possess more weak ties relationship have access to a wide variety and distinct information which increases the chances of making connections between the disparate pieces of information into viable opportunities. Beyond connecting the dots of various information, weak tie brings radical ideas to the fore of discussion among people with differing mindsets. Benefitting from different mindsets, the entrepreneur may evaluate and judge potential opportunities differently then otherwise from discussions with close family and friends. An entrepreneur already engaged cognitively by being alert to environmental changes will benefit from having a diverse and wide network of information prompting the skills to recognize a higher number of opportunities. Hence, this study posits:

H4. Weak tie supports higher recognition of opportunities through scanning and searching of information.

H5. Weak tie supports higher recognition of opportunities through association and connection of information.

H6. Weak tie supports higher recognition of opportunities through evaluation and judgment of information.

Methodology

This section describes the sample used as well as the measurements adapted for the analysis of hypotheses. This empirical study attempts to uncover the mediation relationships of entrepreneurial alertness between social network and opportunity recognition. The research subject identified for this study is the technology industry which is heavily reliant on knowledge-based industry. It is a suitable target as entrepreneurs operating in the technology industry face strong pressure to continuously innovate and discover new opportunities. The targeted respondents are the founders and co-founders of technology companies. The sampling frame of this study totalling about 2,600 companies listed is obtained from the directory of Malaysia Digital Economy Corporation (MDEC), a government agency entrusted with the responsibility of overseeing the technology industry in Malaysia. To select the samples, a systematic selection method is employed for efficiency. Using a self-administered questionnaire, the distribution of the questionnaires was conducted through emails and personal interviews. In total, the number of usable responses collected and are used for further analysis was 255.

Most of the respondents of the survey are males (79.2%) with the females (20.8%) as minorities. They are mostly from the age group of 25 to 35 years (38%) and 36 to 45 years (30.2%) with the smallest group from the band of those below 25 years (5.1%). The sample mostly included entrepreneurs of ethnic Chinese descent (58.4%), followed by entrepreneurs of ethnic Malays (22.7%), Indians (12.2%) and others (6.7%). The technology-based entrepreneurs are also seen in general to be higher educated than the general population with the largest group educated with an undergraduate degree (59.2%) and the second-largest group with a post-graduate degree (23.5%).

The measures adapted in this study were based on previously published studies. To measure 7 variables, a total of 38 items were adapted with most using the 5 points Likert scale measuring level of agreeableness to the given statement.

To measure the variables of social network, respondents were asked to indicate their level of agreement to statements regarding various stakeholders in helping them to recognize opportunities. The measurement items for mentors were adapted from St-Jean and Tremblay (2011) and Ozgen (2003) with a total of 5 items reflecting the variable. To measure weak ties, a total of 5 items were adapted from Ozgen (2003) and Ko

(2004). To measure entrepreneurial alertness and the three dimensions of alertness, a total of 24 items were adapted from Tang et al. (2012) with 8 items to reflect on each of the 3 dimensions (scanning and searching, association and connection, and evaluation and judgment). The alertness construct represents the process that entrepreneurs experience in being aware of information and movement towards action as well. Lastly, the dependent variable of opportunity recognition represents the number of opportunities recognized and exploited. It is measured by 4 items adapted from Ko (2004), Singh (2001) and Tong (2006). The items are measured with a 10 point scale where respondents are required to select the number of ideas or opportunities ranging from "0" to "11 and above". The construct is made up of items such as "on average, how many business ideas did you have in this past year?" and "Based on the ideas that you have had in the past year, how many are potential business opportunities?". The final number is regarded as an index measure of entrepreneurial opportunities recognized.

The analysis of this study employs the Structural Equation Modelling technique (SEM-PLS) using SmartPLS software. Using SEM, the measurement model and structural model of the proposed model are examined. An advantage of the SEM technique is its ability to simultaneously model relationships among multiple constructs. In addition, SEM-PLS can account for constructs which are formative such as the construct of weak ties used in this study. The employment of SEM-PLS is also due to its reliability and accuracy in handling mediation effects as it accounts for errors that are capable of improving the validity of theory (Henseler et al., 2009).

Analysis and results

The measurement model is first established and examined on the latent and observed variables to determine the relationships between the construct and its indicators. To assess the fitness of the model, the cross-loadings of the indicators are checked followed by the reliability and validity of the data collected. Low loadings of values below 0.7 are eliminated. The analysis to confirm the reliability of the items is the composite reliability (CR) index. Results of the initial measurement model are shown in *Table 1*. As shown, all 5 variables achieve the recommended level of 0.7 for reliability index and items with low loadings are eliminated. Hence, the constructs are reliable.

For validity measure examines both the convergent and divergent validity of the measurements. Convergent validity is established by the examination of the Average Variance Extracted (AVE). According to Fornell and Larcker (1981), the recommended AVE value should be above 0.5 value. For divergent validity, the measures are evaluated by measuring the square root of AVE for each variable which is then compared to the correlation coefficient of other constructs. The diagonal value in bold should be of higher value then the correlation between that construct and the other construct in all cases. As shown in *Table 2*, all the 5 constructs achieved a good level of convergent and divergent validity. The construct weak ties are formative measurements which by nature do not correlate highly with each other. Hence, weak ties are assessed on its outer weights and collinearity of their indicators.

	Items	Loadings	AVE	Composite Reliability
Association & connection	AC2	0.719	0.622	0.920
	AC3	0.775		
	AC4	0.802		
	AC5	0.791		
	AC6	0.835		
	AC7	0.786		
	AC8	0.808		
Mentors	M1	0.714	0.708	0.923

	M2	0.817		
	M3	0.910		
	M4	0.896		
	M5	0.856		
Opportunity recognition	OR1	0.824	0.741	0.919
	OR2	0.920		
	OR3	0.890		
	OR4	0.805		
Scanning & searching	SS1	0.716	0.629	0.910
	SS2	0.776		
	SS4	0.724		
	SS5	0.806		
	SS6	0.874		
	SS7	0.852		
Valuation & judgment	VJ2	0.803	0.622	0.920
	VJ3	0.751		
	VJ4	0.778		
	VJ5	0.808		
	VJ6	0.842		
	VJ7	0.773		
	VJ8	0.760		0.000

Table 1: Reliability measure

In examining the weights of the weak ties items, 3 of the 5 items were found to be not significant with low weight values. However, on examining the collinearity among the indicators, the VIF values of all weak tie (1.279 – 1.969) indicators falls within the recommended band of between 0.2 and 5.0 with tolerance value all higher than 0.2 (0.508 – 0.782) as suggested by Ringle et al., (2013). All the 5 items of weak ties are maintained as the items do not pose any collinearity issues and any elimination of items may risk altering the content validity of the construct.

After the measurement model has been established, the study moves to establish the structural model with the graphical output which displays the overall fitness of model and the relationships between the variables. To assess the overall goodness of fit of the model, checks will be done on latent variables and the relationships between them. Analysis such as R^2 and Q^2 is employed to confirm the goodness of fit and the predictive power of the model whereas f^2 is employed to confirm the relative impact of the predictor on the endogenous construct.

	AVE	**Associate & connection**	**Mentors**	**Opportunity recognition**	**Scanning & searching**	**Valuation & judging**
Associate & connection	0.622	**0.789**				
Mentors	0.708	0.133	**0.841**			
Opportunity recognition	0.741	0.415	0.159	**0.861**		
Scanning & searching	0.629	0.661	0.354	0.339	**0.793**	

Valuation & judging	0.622	0.641	0.226	0.402	0.603	**0.788**

Table 2: Validity measures

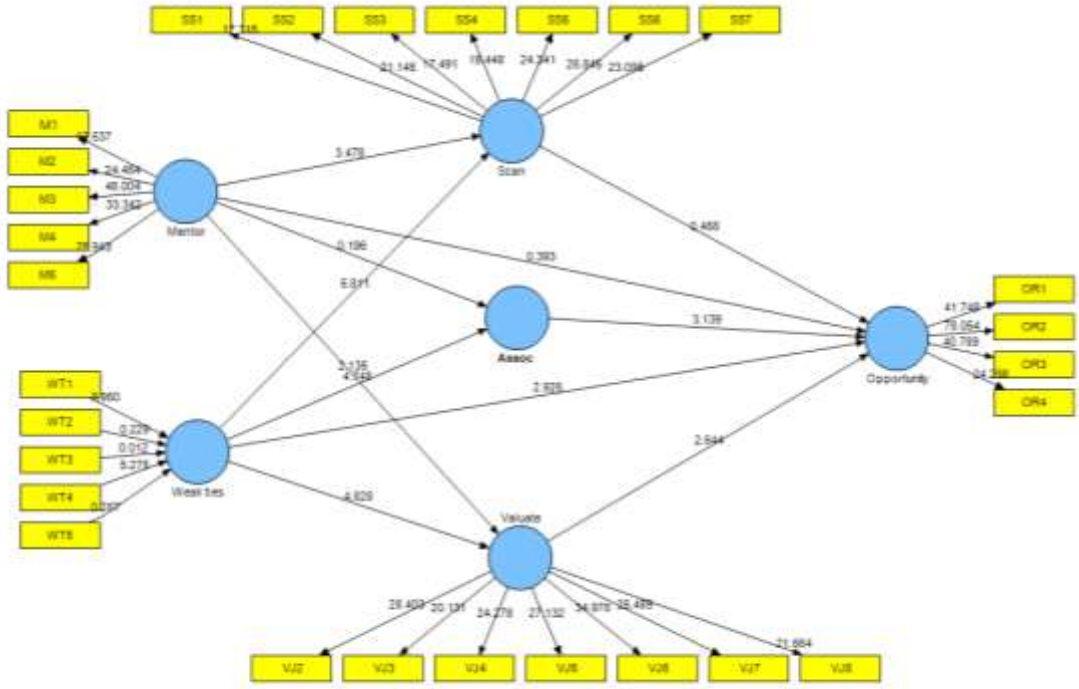

Figure 1: Structural model

The results indicated that the opportunity recognition constructs achieved a moderate effect of R^2 (0.242) as recommended by Cohen (1992) and establishes the predictive power of the model with Q^2 above 0. In addition, the effect size of the entrepreneurial alertness dimensions on opportunity recognition was found to be of small effect (0.131) as recommended by Cohen (1992).

Construct	**R^2**	**Q^2**	**f^2**
Associate & connection	0.127	0.002	
Opportunity recognition	0.242	0.102	0.131
Scanning & searching	0.249	0.056	
Valuation & judging	0.128	0.026	

Table 3: Structural model results

In order to confirm the hypotheses, the measurements of t-values will be examined by path analysis. The outcome of path analysis with the path coefficient is shown in Table 4. For mediation analysis, the procedures recommended by Preacher and Hayes (2008) for bootstrapping are employed with a re-sampling of 5000 samples. The results of the mediation analysis are shown in Table 5. The first group of hypotheses which involves the mediation relationships between mentors and opportunity recognition through dimensions of entrepreneurial alertness are set in H1 to H3. The results indicated no significant mediation

relationship for H1, H2 and H3. Confirming the results at 95% confidence interval, the bootstrapping confidence interval straddled zero in between indicating no mediation effect for H1 [LL=-0.045, UL=0.028] and no significant relationship (β =-0.008, t =-0.445). Similar results were found for H2 (β =0.003, t =0.182) and H3 (β =0.127, t =1.586) which showed no significant relationship and is further confirmed by the bootstrapping confidence interval which contained zero in between. Therefore, there were no significant mediation effects of mentors on opportunity recognition through searching and scanning; association and connection; and evaluation and judgment.

Relationship	Std.Beta	Standard Error	t-value
Mentor -> Scan	0.201	0.058	3.503
Mentor -> Assoc	0.014	0.072	0.195
Mentor -> Valuate	0.127	0.059	2.145
Weak ties -> Scan	0.394	0.070	5.656
Weak ties -> Assoc	0.351	0.074	4.754
Scan -> Opportunity	-0.041	0.086	0.482
Assoc -> Opportunity	0.244	0.075	3.266
Weak ties -> Valuate	0.295	0.062	4.774
Mentor -> Opportunity	0.027	0.068	0.394
Valuate -> Opportunity	0.194	0.073	2.671
Weak ties -> Opportunity	0.207	0.068	3.044

Table 4: Path analysis

In the second set of mediation hypotheses that are examined, the mediation relationship between weak ties and opportunity recognition through the dimensions of entrepreneurial alertness are analysed. H4, H5 and H6 are tested using the bootstrapping procedure and checking the spread of upper limit and lower limits of 95% confidence interval. The results found support for the mediation relationship of entrepreneurial alertness in H5 and H6. In H5, the hypothesis is supported (β =0.086, t =2.520) with results of 95% confidence interval spread not to contain zero. This indicates the presence of partial mediation (VAF = 29.2%) effect of the association of information between weak ties and opportunity recognition. Similarly, for H6 (β =0.057, t =2.071), the hypothesis is also supported as results from the confidence interval does not contain any zero. The effect of mediation is a partial mediation (VAF= 21.7%) as recommended by Hair et al. (2014). However, H4 (β =-0.016, t =-0.452) was not supported in the alertness (scanning) as a mediation between weak ties and opportunity recognition.

Relationship	Indirect Effect	Direct Effect	SE	t-value	95% LL	95% UL
H1: Mentor>Scanning> Opportunity	-0.008	0.027	0.019	-0.445	-0.045	0.028
H2:Mentor>Association> Opportunity	0.003	0.027	0.019	0.182	-0.033	0.040
H3:Mentor>Evaluate> Opportunity	0.025	0.027	0.016	1.586	-0.006	0.055
H4:Weaktie>Scanning> Opportunity	-0.016	0.207	0.036	-0.452	-0.087	0.054

H5:Weaktie>Association> Opportunity	0.086	0.207	0.034	2.520	0.019	0.152
H6:Weaktie>Evaluate> Opportunity	0.057	0.207	0.028	2.071	0.003	0.112

Table 5: Mediation analysis result

Discussion

This study aims to examine the effect of social network on opportunity recognition through the cognitive process of alertness. Mentors and weak ties both influence the type of information as well as how they are processed to lead to recognition of opportunities due to the nature of relationships. Scarce previous empirical results hampered by difficulties on conceptualization and measurements of opportunity recognition have limited our knowledge in this area. With the rising importance given to entrepreneurial activities in the technology sector, the role of a mentor is especially important to help guide novice entrepreneurs navigating the intricacies of a new venture in a fast-paced industry. The technology industry is driven by new information and knowledge which is subject to volatile conditions. Therefore, the ability of the entrepreneur to spot opportunities takes an important distinction from corporate managers.

Taking the cognitive perspective to opportunity recognition, entrepreneurial alertness construct is the mental framework that processes information leading to opportunity recognition. In H1, H2 and H3, the effect of mentors on opportunity recognition through alertness in 3 dimensions (scanning, association and valuation) are examined. The results found no support for all 3 mediation hypotheses. No previous studies are being conducted with alertness as a mediator as far as the authors are aware and this current study serves as the few empirical studies to shed light on our understanding of the effects of mentors on the opportunity recognition process. Results of data found that alertness has no mediation effect on the relationship between mentors and opportunity recognition. However, there are significant effects of mentors on opportunity recognition through scanning and the valuation dimension of alertness.

In a previous study by Ozgen and Baron (2007), mentors were found to impact opportunity recognition which this study contradicts. In Ozgen and Baron's (2007) study, the construct of opportunity recognition includes the concept of alertness. Hence, as shown in the results of this current study, mentors have an impact on alertness but not necessarily a direct relationship to opportunity recognition. A plausible explanation to this is the role of a mentor. A mentor teaches and guides the novice entrepreneur at various stages of start-up. They are particularly impactful when their guidance is an actionable objective with specific requirements as mentors can offer their network and bring legitimacy to the new start-up. Mentors are experienced in their cognitive framework and their behavior which enables them to better think from the perspective of business. However, this does not translate to a skill that can be transferred to the novice entrepreneur as cognitively, they need to experience the journey of cognitive recognition of opportunities. In mentorship programs offered in entrepreneurship development initiatives, clear objectives and milestones need to be set. New businesses at different stages of start-up must be matched to mentors of different skills and expertise. Needs and requirements of the novice entrepreneurs has to be clear to ensure the mentors can extend the right help and thus achieve the goals of the novice entrepreneur. The results also suggest that mentors do not contribute directly to the recognition of opportunities. This can be explained again by the role of a mentor which is to guide and to show the way rather than handing opportunities and ideas on a silver platter to the novice.

For H4, H5 and H6 hypotheses, the mediator hypotheses aim to examine alertness as a mediator between weak ties and opportunity recognition. The analysis of the data indicated a presence of entrepreneurial alertness as a mediator. The role of weak ties is an interesting relationship where strangers and acquaintances make an impact on the entrepreneur's business model. Unlike mentors, weak ties are not

accompanied with the need for trust whether affectively or cognitively. However, the structural characteristics of such a network bring an unexpected benefit, particularly when scanning for information, making connections between information and evaluating the information leading to an opportunity recognized. The results from the mediation relationship analysis indicated no mediation between of the scanning and search dimension (H4). However, H5 and H6 is supported with the presence of association and search; and evaluation and judgment as a mediator between weak-ties and opportunity recognition. In a study by Ren et al. (2014), the researchers found weak ties to have a stronger direct influence on opportunity discovery over opportunity exploitation when there is the presence of trust. Related to this current study, weak ties are found to impact directly the alertness of the entrepreneur. Due to the nature of information sharing of weak ties, such connections perform best in generating novel solutions through the cognitive process.

The effect of mentors and weak ties on the process of opportunity recognition poses a serious need for the government, industry and academia to examine the initiatives currently in place to increase the level of entrepreneurial innovations. A mentor is not a cure-all solution for the nation's drive in its bid to increase entrepreneurship activities. Entrepreneurship and innovation have long been seen to be hand in hand with each other but in reality, many entrepreneurial start-ups follow the imitation strategy rather than the innovative strategy. Once such careful differentiation is made to the nature of business strategy, it becomes clearer on the type of help required by the entrepreneur.

In most cases, an entrepreneur with an ongoing business requires a mentor specifically knowledgeable in their field of specific business needs such as how to display their goods, paperwork or accounting (Kent et al., 2003). Hence, as indicated by this study, a mentor assists in helping the business through obtaining and evaluating information for the management and expansion of business. Weak ties however impact directly on opportunity recognition. The unfamiliar acquaintances are more suited to spark opportunities that are more novelty in nature. The short serendipitous discussions may stimulate new insights to possible new opportunities not thought of before as the entrepreneur may make new information connections that change the feasibility and attractiveness of the opportunity.

The implication from this study points to a clear delineation of requirements and objectives of a mentor and a weak tie network. To improve the survival of new start-ups, mentors will be well suited to guide and to share their expertise and knowledge on specific issues relevant to the industry. Especially for technology start-ups, mentors will be able to contribute towards solving specific technical problems. On the other hand, promoting start-ups driven by innovative solutions may benefit more from social network that is loosely connected such as a weak tie network. For policymakers, efficiency in the opportunity recognition process can be further improved and strengthened through interactions with weak tie network beyond the specific industry such as different markets or institutions, or associations. Educators and trainers must be careful in differentiating the various needs of the entrepreneur at different stages of the entrepreneurial process. In the early stages of identifying the opportunities, the loosely held network ties would be fruitful in sparking the ideation of the entrepreneur. However, once the entrepreneurial journey enters the stage beyond creativity into the crystallization of business, mentors would be a more effective agent to improve the effectiveness of the entrepreneur and to increase the success rate of the start-up.

This study also contributes towards the theoretical understanding of the opportunity recognition process. The findings point to the need for future studies to delineate the opportunity recognition process with alertness as a cognitive component and opportunity recognition as the outcome component. Further clarification of opportunities that are recognized and those that are to be exploited should be further examined. The role of alertness as the cognitive component of the entrepreneur's schemata has been established in the opportunity recognition process. Within the technology industry, the drive for innovative market solutions highlights the need for a loose networking environment.

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