ENTREPRENEURIAL OPPORTUNITY RECOGNITION: AN EMPIRICAL STUDY OF AN ICT ENTERPRISE

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ABSTRACT: Opportunity recognition is one of the most important skills an entrepreneur and business owner needs to acquire [1]*. One of the ways an entrepreneur could understand this skill is through research. Since the key part that needed to be highlighted in implementing this kind of entrepreneurial research is to explain the discovery and development process of opportunities as mentioned by* [2]*. This research will utilize* [3] *proposed framework due to the aim of this framework is to capture the early phases of ontogenesis in opportunity recognition and describe how each factor determine the success of it. This framework's factors include alertness, prior knowledge or experience, and social network*

This framework will be implemented on PT.XYZ an IT tech support company based in Jakarta, Indonesia to capture and study the early phases of ontogenesis in opportunity recognition that occurs in the organization. Where currently PT.XYZ is at the phase where the demand to create new breakthrough is critical for the company's future growth. With cybersecurity being the growing trend in the IT industry, PT.XYZ wanted to use this business environment changes to search for its new opportunity. By gathering selected workers to find a creative idea that will be the foundation of their new project. The sample that was used to test-on in this research comes from those selected few that handles the project. The objective of this study is to describe what impact the three factors do in determining the success of the opportunity recognition process. The research founds out that those three factors are the determining factors that act as a guide in opportunity searching. In short explanation, alertness acts like a train, while prior knowledge and social network are the rails that guide alertness to stay on track.

Keywords: Entrepreneurship, entrepreneurial opportunity recognition, opportunity recognition, opportunity recognition skill, entrepreneurial opportunity recognition, skill, opportunity recognition study, entrepreneurial opportunity recognition study, digital entrepreneurship,

INTRODUCTION

Entrepreneurs all over the world experienced several challenges while establishing and growing their business successfully [4]. This situation becomes more challenging where managing resources, upgrading technology, meeting competition and maintaining business growth has to be achieved simultaneously [5]. This occurs also to a well-established company, where companies need to adapt to its surrounding environment in order to maintain a prolonged success. Constant changes in the environment mean that business-doers need to keep up to able to survive, this becomes new challenges for entrepreneurs and enterprises to seek for new opportunities in every single change that may occur in their business environment.

Opportunity recognition becomes one of the fundamental aspects in learning entrepreneurship [6], where entrepreneurs need to think creatively in order to achieve a unique set of idea or opportunities that could resolve problems or even refine the current situation, either it's for the business or societal environment. Finding opportunities is a must for entrepreneurs, business owners, and companies when it comes to pursuing long-term success. Finding a business idea is difficult thus, finding rationally logical opportunities that could be used as the baseline to develop a solidly profitable business often require some special skills and experiences. While the opportunity recognition phase is crucial when beginning a new business, it is important to search for new opportunities throughout the entire lifetime of any enterprise. To stay ahead and on top of the market, companies must constantly recognize opportunity as they continue to grow and evolve.

For long-term success, a company needs the ability to recognize opportunities. Industries usually evolve based on societal changes, customer preference changes or technological advances [7]. The most innovative company leaders who seize opportunities stay ahead of the competition in delivering progressive solutions to customers [7]. The constant search for new opportunities often related for business which wanted to achieve a long-term success this term is not always true since any individual or organization which wanted to keep its success and survive in a struggling situation often do the same thing.

In recent years, the Indonesian IT industry has been greeted with the growing trend of cybersecurity. In Jakarta alone several industry-leading companies that provide IT support services has gradually shifted its focus towards cybersecurity. Also the in the year 2016 Indonesian officials plans to reinforce the country's cybersecurity

due to several espionages and cyberattacks issues that occurs in the last years since. With the increasing number of internet users in Indonesia, a business consulting firm Frost and Sullivan managed to forecasted that by the year 2022 Indonesia's cybersecurity market will reach $487 million US dollars with most of the contributor of this large value comes from the government spending and the rest comes from other commercial usages.

Based on these findings IT tech-support Company such as PT.XYZ has recently followed this trend in widening its scope of business to the cybersecurity segment. PT XYZ has provided IT services in several government agencies such as Kemenkeu, BPOM, and many more with this experience in mind, seeing the potential of market size growth PT.XYZ has now starting to find its opportunity in the cyber security segment. Identifying and selecting the right opportunities for new businesses are amongst the most important abilities of a successful entrepreneur and business owner. [2]; [1]. PT.XYZ currently has some issues in its annual performance for the past five years since 2012 PT.XYZ performance has decreased each year starting from 12.7% growth in 2013 and only 5.5% growth in 2017 For some of PT.XYZ's stakeholder this rate is assessed to be unimpressive due to the performance growth on the previous year never reach a value under 10%.

PT.XYZ CEO Mr. H has explained why their number dropped in the past five years. It is due to the lack of innovation that occurs in the company today, for the past five years of PT.XYZ has been offering the same line-up of products that they have since the past seven years, this is why the growth has declined because of the rate of a new customer who used PT.XYZ's services are also declining. Mr. H also wanted to use this new project as a breakthrough for PT.XYZ's future. He stated that these environmental changes will hopefully provide PT.XYZ with new innovations and bring stability toward PT.XYZ's future. The discovery and development of opportunities is a key part of entrepreneurship research [8] [2] [9] [1]. With this in mind, a research done by Ardchivili et al (2000) has produced a framework for another researcher to use. The driving factors of innovation strategy have drawn increasing attention from scholars in different areas [10] [11]. Scholars have argued that compared other established firms, high-tech ventures often face greater challenges in developing innovation strategy because of the strong resource constraints and limited management capability [12] [13] [14].

However, explaining the discovery and development process of opportunities is a key part of entrepreneurship research [2] [1] on this basic principles, this research will study the existence of entrepreneurial opportunity recognition one specific organization which is PT.XYZ. Ardchivili et al (2000) have created a framework that was created based on Venkataraman (1997)'s principle in mind this framework aims to document the early phases of ontogenesis that may occur very quickly and may not be able to be recalled perfectly. The proposed framework consists of three influencing factors that determine the success of opportunity recognition that may lead to business formation. Ardchivili et al (2000) in his research stated the factors that determine the success of opportunity recognition that lead to business formation include entrepreneurial alertness, prior knowledge, and social networks. These factors were based on their findings in studying the behavior of eight entrepreneurs with an annual income of more than $1 million US. Not only does this framework covers a number of following contribution, but it also provides a simple and essential understanding of what factors that determine the success of opportunity recognition process. This is why testing this framework is assessed to be suitable due to the current condition of the research's object and one of the use of entrepreneurial study, which is to explain the discovery and development process of opportunities.

LITERATURE REVIEW

An Entrepreneur is an entity which has the ability to find and act upon opportunities to translate inventions or technology into new products: "The entrepreneur is able to recognize the commercial potential of the invention and organize the capital, talent, and other resources that turn an invention into a commercially viable innovation." [8]. Peter Drucker in his book "Innovation and Entrepreneurship" stated that Entrepreneurs create something new, something different they change or transmute values. The opportunity to become an entrepreneur requires four criteria. First, there must be opportunities or situations to recombine resources to generate profit. Second, entrepreneurship requires differences between people, such as preferential access to certain individuals or the ability to recognize information about opportunities. Third, taking on risk is necessary. Fourth, the entrepreneurial process requires the organization of people and resources [9].

Entrepreneurial Opportunity can mean differently in different people, various research had been done to define what an opportunity recognition is. Though it all differ there is some common theme in the definition of Opportunity recognition (OR) [5]. OR are ways in which entrepreneurs identify potential ways of identifying new business based on the opportunities that they identify. Through OR, entrepreneurs should be able to identify new and better ways of providing products and services that meet customer expectations and also identify new business opportunities [4]. ." The development process of opportunity begins when entrepreneurial alertness exceeds at a certain level. Alertness is likely to be strengthened when there is a coincidence of several factors: certain personality traits (creativity and optimism); relevant prior knowledge and experience; and social networks. The particular activities within the process are also affected by the degree of specificity of knowledge about market needs and resources [10].

An entrepreneurial prior knowledge came from the individual's previous experience and knowledge. [10] stated that there are two factors relevant to the identification process of an entrepreneur's prior knowledge the first one comes from the special interest an entrepreneur spends a lot on to engage learnings that deepen her/his capabilities and the second one came from knowledge accumulated over the years while working on a job. Therefore, an entrepreneur's social network/network is important to opportunity recognition. Entrepreneurs with more networks could identify more opportunities compared to solo entrepreneurs because, in reality, networks are bridges to information sources [10]. an individual's interpersonal networks, includes weak-tie and strong-tie networks, an entrepreneurs social network facilitate the access to diverse information that benefits learning and information dissemination processes that further discover opportunities [11].

In conducting this research, the author wanted to use the framework proposed by [3]. The proposed framework is assessed to be well suited for this research due to the massive following of its usage and the simplicity offered by the proposed framework. The framework proposed by them could be viewed in the figure below.
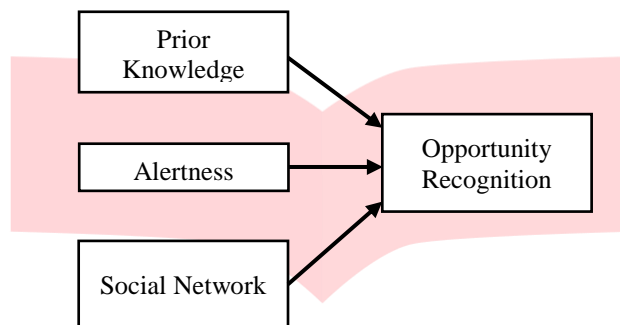

Figure 1 Research Framework adopted from Ardichvili & Cardozo's (2000) proposed framework

The proposed framework is created based on the findings that Ardichvili & Cardozo 2000 founded in their research. They stated that "Opportunity recognition is determined by three major factors: entrepreneurial alertness; entrepreneurs' networks; and prior knowledge of markets and customer problems." [3]. Because of this several hypothesis are developed to be tested in this research:

H1: There is an impact between the effect of entrepreneurial alertness and successful opportunity recognition and identification.

H2: There is an impact between the effect of prior knowledge towards the success of opportunity recognition and identification.

H3: There is an impact between the effect of social network towards the success of opportunity recognition and identification.

RESEARCH METHODOLOGY AND RESULT

This research aims to describe the impact between the independent variable and the dependent variable. Descriptive analysis was used to analyze the respondent's assessment of the variables. The result shows all variables are in the High category. Further details of each variable are; Alertness with 83.8%, Prior Knowledge 80.8%, Social Network 82.3%, and Opportunity Recognition with 83.1%. This research is a quantitative research that uses multiple linear regression as the chosen analysis method. The research was done in one organization, all of the statistical analysis was done using IBM SPSS. The respondent of this research comes from selected few that have the responsibility to handle the project, 30 individuals were chosen. The information of respondents are listed in table 1 below:

Table 1 Respondents List

No.	Initial	Position	No.	Initial	Position
1.	Mr. HW	CEO	16.	Mr. MV	Business development team
2.	Mr. EM	CFO	17.	Mrs. DTI	Business development team
3.	Mr. BG	COO	18.	Ms. ZIZ	Business development team
4.	Mr. NVN	Internal Audit VP	19.	Mr. APN	Business development team
5.	Mr. BD	Business development VP	20.	Mr. CD	Business analyst team leader

6.	Mrs. MNU	Strategic Management VP	21.	Ms. ACD	Business analyst team
7.	Mr. GHK	Human resource VP	22.	Ms. DSP	Business analyst team
8.	Mr. JBI	IT department VP	23.	Mr. TAN	Business analyst team
9.	Ms. RRP	Risk manager	24.	Ms. AD	Senior IT project manager
10.	Ms. DAW	Strategic Management team	25.	Mr. GN	IT project management team
11.	Mr. MAP	Strategic Management team	26.	Mrs. FW	IT project management team
12.	Mr. AP	Strategic Management team	27.	Mr. MAR	IT QC inspector
13.	Mr. IFA	Strategic Management team	28.	Mr. GTN	Senior IT developer
14.	Ms. NS	Strategic Management team	29.	Mr. RAP	Senior IT developer
15.	Mr. FF	Business development team leader	30.	Mr. GBB	Senior IT developer

The response of each variable mentioned in Table 1 is then analyzed using multiple linear regression. The multiple linear regressions shows the relationship between two or more explanatory variables and response variable by fitting a linear equation to the data. [12]. The result of the analysis is shown in table 2 below:

Table 2 Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.053	1.168		3.470	.002
	Alertness	.145	.211	.133	.690	.496
	Prior Knowledge	-.164	.238	-.133	-.689	.497
	Social Network	-.240	.244	-.186	-.980	.336

The dependent variable in this study is Alertness, whilst the independent variables in this study are Alertness, Prior Knowledge, and Social Network. Based on table 2, it could be said that for every increased amount in alertness there will be the same increased amount in opportunity recognition and an added amount of 0.145 more, this statement also applied vice versa. This means that the higher degree of alertness that appears in a person, than the more variety of opportunities may appear for that person to encounter.

However, the same theory cannot be applied for variable Prior Knowledge and Social Network. Because for every increased amount in Prior knowledge there will be a -0.164 decrease in opportunity recognition, the same thing could be said on Social Network. However this is not a bad sign, the reason Prior Knowledge and Social Network behave this way is no other than the characteristic of the variable itself. Because the more knowledge and networks we perceived the narrower our variety of opportunity recognition will be. This occurs due to how prior knowledge and social network help narrowed down a person scope of interest and also increase the amount of commitment for a person to pursue new possibilities in that path.

Table 3 One-Sample t-Test

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Alertness	31.061	29	.000	3.155058	2.94731	3.36280
Prior Knowledge	35.834	29	.000	3.227017	3.04283	3.41120
Social Network	36.442	29	.000	3.15507	2.9780	3.3321
Opportunity Recognition	28.996	29	.000	3.22699	2.9994	3.4546

Based on table 3 the t count value is all above the t table value of 2.04, this means that the null hypothesis of X1, X2, and X3 are all rejected. Other than the t value another determinant to rely-on is p-value (sig). If the given amount is greater than 0.001 than null hypothesis needs to be accepted. In this case, none of the variables are above 0.001 which means that all null hypothesis is rejected

Table 4 ANOVA F-Test

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.704	3	.235	.605	.617[b]
Residual	10.072	26	.387		
Total	10.776	29			

The f-test has a similar function as a t-test however, f- test tested out the significancy of all independent variable simultaneously rather than partially. To test the influence of the independent variable whether it is significant or not is based on whether the p-value (sig) is < 0.05. In this case, the p-value is greater than 00.05 which means that every variable are provide no impact when they work simultaneously..

CONCLUSIONS AND SUGGESTION

After conducting the research several conclusions were made, the conclusions are listed as follows:
1. There is an impact between the utilization of alertness and the success of the opportunity recognition process.
2. There is an impact between the utilization of prior knowledge and the success of the opportunity recognition process.
3. There is an impact between the utilization of social network and the success of the opportunity recognition process.

Other findings, the higher degree of alertness that appears in a person, provides more variety of opportunities for that person to encounter. whilst prior knowledge and social network acts like a guide that helps narrow down a person scope of interest and also increase the amount of commitment for a person to pursue new possibilities in that path. However, all of the variables (alertness, prior knowledge, and social network) have no impact on the success of opportunity recognition when they work simultaneously.

SUGGESTIONS FOR COMPANY

Based on the results of the research several pieces of information was achieved for the practitioner to implement:
1. Alertness is one of the factors that cause the success of opportunity recognition. Through alertness, the possibility of achieving broader ideas for creating an opportunity is bigger. To implement this basic concept PT.XYZ could create a common lounging area inside its working space. This space could generate an impression of comfort to every co-worker this space will dilute the feeling of stress that is often related to a working space.
2. Prior knowledge is also one of the factors that cause the success of opportunity recognition. Through prior knowledge what was once a broad choice of opportunities are narrowed down and guided into a certain path. In order to improve prior knowledge, easier access to information is required. What PT.XYZ need to do in order to further improve its R&D capabilities is to embrace more collaborative work between the R&D team with the sales marketing team, this will enhance the R&D team by providing them with a better insight towards the market preference of the industry.
3. Through networking, opportunity recognition could be achieved. The practitioner could gain this by keeping the relationship with its customer, suppliers or others. PT.XYZ could create a forum that is presented as a customer gathering event where in this forum customer's feedback could be extracted with logical consideration lively. This event will act as an attractive platform to collect all the needed feedback whilst maintaining a solid networking relationship between PT.XYZ and its customer.

SUGGESTION FOR FUTURE STUDY

Based on the result of this research several suggestions were obtained for future researcher to test-on when conducting a similar type of research:

1. The future researcher needs to consider adding up one more questions that discuss more towards self-efficacy under the variable Alertness. In order to further understand how Alertness determines the success of opportunity recognition
2. The future researcher could combine the evidence of the research by doing some interview towards the object to further emphasize the result.

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