

# Antecedents of the Ability to Identify Business Opportunities and Innovations Through Active Information Search Moderation

Pudjo Sugito  
 University of Merdeka Malang, Indonesia

Kamaludin\*  
 University of Merdeka Malang, Indonesia  
 kamaludin@unmer.ac.id

Mohamad Nur Singgih  
 University of Merdeka Malang, Indonesia

***Abstract.*** The research on Antecedents of the Ability to Identify Business Opportunities and Innovations through Active Information Search Moderation is intended to analyze the linkage of general mental ability, creative thinking, innovation, active information search, and competency to identify business chance. The research population is Small and Medium Industries (SMIs) in East Java. The proportional random sampling technique is used with 3 locations namely, Tulungagung, Malang, and Probolinggo Regency. The consideration, the three regions are the main centers of SMIs in East Java. This research was being conducted by designing an online questionnaire with a test of validity and reliability first. Then, the questionnaire is broadcasted to the owner/manager of the selected respondents randomly. The analysis technique uses Partial Least Square Professional analysis. Based on the results of 110 primary data analysis, it is revealed that creative thinking & entrepreneurial experience effect significantly toward the ability to identify business opportunities. However, the general mental ability does not affect the ability to identify business opportunities. Meanwhile, active information search does not also affect identify business opportunities and does not moderate the effect of those research variables toward the ability to identify business opportunities.

***Keywords:*** *business opportunities, innovation, active information search*

## INTRODUCTION

It is stated that the importance of aspects of the competency to sharpen entrepreneurial attention as cognitive capacity, creativity, and general mental abilities [1]. Further, it is also explained,

entrepreneurial success depends on entrepreneurial foresight comprehending information about the chance of business [2]. Meanwhile, it emphasizes the importance of individual characteristics in entrepreneurship. Additionally, information processing is also important in entrepreneurship [3].

Entrepreneurial experience is related to information processing capabilities. Experience forms a mental framework affecting information interpretation [4]. Meanwhile, general mental ability is related to information processing [5]. It is revealed that information as a factor identifies opportunities as well [6]. Unfortunately, it is not perfectly distributed, so some cannot identify opportunities. Finding information about technology or demographic change is crucial in identifying business opportunities [7]. Empirical support on the influence of experience, creative thinking, and general mental ability on the identification of business chance [8]. Undesirably, theoretically, it is not clear enough. Interestingly, recent research stated that incremental innovation indirectly affected the product life cycle through customer relationship management [9].

Furthermore, it is also described, the sharpness of entrepreneurial attention, an active search may not be needed [10]. In contrast, previously, a researcher stated that information acquisition is a good way of understanding business opportunity identification [11]. Predictably, the positive influence of entrepreneurial experience, different thoughts, and different general mental abilities with entrepreneurs are characterized by actively looking for information. Even, entrepreneurial experience makes it easy to identify business opportunities [12]. However, the experience can be a barrier to the certainty of thinking and combine of new information with negative effects [5]- [13].

Generally, creativity and general mental ability produce new ideas. However, theoretical models of creativity and general mental ability demonstrate that

merely having enough information can take advantage of the potential of cognitive capacity [14]. Shane business opportunities [15]. Besides, possession of information is the basis of identifying business opportunities. Also, point out, having information on technological discoveries triggers the identification of business opportunities. This is in line that the intensity of information search affects the identification of business opportunities. Based on the previous research, the aims of the study are (a) to analyze the effect of entrepreneurial experience, creative thinking, and general mental ability on the identification of business chance. (b) Analyze the role of active information seeking in moderating the effect of entrepreneurial experience on identifying business opportunities. (c) Analyze the role of active information seeking in moderating the influence of creative thinking on identifying business opportunities. (d) Analyze the role of active information seeking in moderating the effect of general mental ability on the identification of business opportunities. (e) Analyzing the effect of identifying business opportunities on the innovativeness. (f) Analyzing the effect of indirect entrepreneurial experience on the ability to innovate through the identification of business opportunities. (g) Analyzing the effect of creative thinking indirectly on the ability to innovate through the identification of business opportunities. (h) Analyzing the effect of general mental ability indirectly toward innovativeness through the identification of business chance.

Need to know that knowledge develops from experience in determining the ability to identify opportunities [15]. Previously, it is stated that knowledge creates mental corridors that influence interpreting new information [16]. Theoretical concepts trigger thinking from information acquisition [5]. This helps find certain opportunities or not. Besides, other research results show that experience in interpreting new information in a new perspective is needed [17]. Cognitive capacity entrepreneurs can process information identifying opportunities [18].

Moreover, creative thinking is a crucial dimension of creativity [19], [20]. It is recommended that the different cognitive processes can support idea generation and consider different thoughts from more specific cognitive processes [21]. Creativity is a combination of information that is activated [22]. Hereafter, it is explained that a conceptual combination of separate concepts in the process of generating creative ideas. Of course, this has implications for the ability to get business opportunities [23]. Creativity and specific creative thinking contribute to the ability to identify

opportunities [24]. Further, it is described that general mental ability affects the ability to identify opportunities and also useful for better understanding of the market. Then, interpreting how the information relates to the status quo, summarizes the implications of its interpretation and formulation of how new information affects the market [25]. Forth, general mental ability is related to this ability and contributes to the opportunity of identifying abilities [26]. Due to the inability to identify opportunities, it means that entrepreneurs are not actively seeking information [23]. Thus, active information seeking must provide the necessary input, then the creative steps of gathering information to identify opportunities.

Interestingly, general mental ability helps understand the market as well. Understanding allegations depends on the selection and interpretation of information. Even, entrepreneurs who are actively seeking more information about stakeholders [27]. Previous researchers also emphasize the importance of entrepreneurial characteristics to achieve success [28]. Confirmed again, innovation is important because innovative products offer unique benefits [29].

The number of business chances identified is closely related to innovation. It is also elaborated that innovation can be understood in stochastic terms [30]. Other researchers support by providing evidence of a strong relationship between innovation from identified opportunities [31]. Entrepreneurs have to invest a lot of their business and pursue opportunities as well [32]. It should be noted that the characteristics of entrepreneurs in creative thinking and general mental ability influence success. Then, interpreting how the information relates to the status quo, summarizes the implications of its interpretation and formulation of how new information can affect markets and customer demand [25]. Even, identifying entrepreneurial factors is indeed important. Other research findings stated that entrepreneurial experience and general mental ability indirectly effect on innovation [33]. This finding is supported by other researchers that general mental ability as an important factor associated with innovation [34]. General mental ability influence the identification of opportunities. General mental ability is the cognitive ability to acquire and understand information, reach conclusions, and solve problems by reflecting on them. General mental ability is also useful for identifying opportunities because it helps develop a better understanding of the market [35]. Interestingly, it is also stated that information acquisition mediates the linkage of migratory culture and entrepreneurship [36].

Based on several previous research, hypotheses formulation are (a) Entrepreneurial experience,

creative thinking and general mental ability influence the identification of business opportunities, (b) Active information-seeking moderates the effect of entrepreneurial experience on identifying business opportunities, (c) active information search in moderating the influence of creative thinking on identifying business opportunities, (d). Active information seeking in moderating the effect of general mental ability on the identification of business opportunities, (e) Identification of business opportunities affects the ability to innovate, (f) Entrepreneurial experience indirectly influences the ability to innovate through the identification of business opportunities, (g) Creative thinking has an indirect effect on the ability to innovate through the identification of business opportunities, (h) General mental ability indirectly effect on the ability to innovate through the identification of business opportunities.

**METHOD**

This study uses a survey approach and questionnaires are used as a primary data collector. The initial stage is to study the development models that have been implemented and based on the results of the study and combined with the results of primary data analysis and deep survey results, will produce a new model. The operational definitions of this research variable are (a) entrepreneurial experience is experiences possessed in managing a business. Indicators of this research variables are types of entrepreneurial experiences & duration of experiences [37], (b) Creative thinking is a general ability of individuals to produce many original and original ideas, This research variable is measured by ability of different thinking, creativity & Ability running business [38], (c) General mental ability is a cognitive ability to acquire and understand complex information, reach conclusions and solve problems by reflecting and reasoning and mesured by learning ability, understanding of instruction ability & solving problem ability [39], (d) Active information search is an activity carried out to actively search for new information using various media and make it as an analytical material for decision making with indicators of frequency of searching information, Information assets, Informatin as a chance & curiosity [7], (e) Ability to identify business opportunities is an ability to get and to obtain several business chance by using a lot of information that arises from the dynamics of change with indicators of ability to get chance, ability of cost management, ability to forcast profit & ability to exploit chance [40], (f) Ability to innovate is an ability to produce new ideas, different ideas which then become

solutions and actualized in products and services that are completely new with indicators of number of new idea, different idea & ability to take solution [5].

**RESULT & DISCUSSION**

Based on the primary data analysis, the path diagram of linkage among entrepreneurial experience (PK), creative thinking (PK), General Mental Ability (GMA), Active Information Search (PAI), ability to identify business opportunities (IP) and ability to innovate (KI) are as follows.

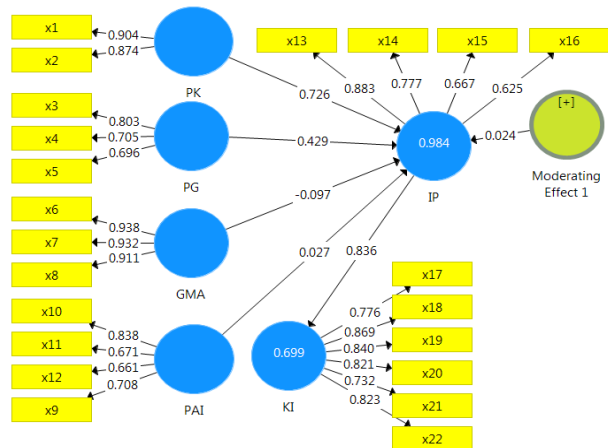


Figure 1. Path Diagram  
Source: Primary Data Processed, 2020

As shown in figure 1, it demonstrated that there are positive effects of entrepreneurial experience (PK) and creative thinking (PK) toward the ability to identify business opportunities (IP). However, General Mental Ability (GMA) does not affect identify business opportunities (IP). Meanwhile, the coefficients of effect respectively are 0.726, 0.429, -0.097 & 0.027. It means that entrepreneurial experience has the largest effect on the ability to identify business chance.

Table 1. Path Coefficients

	Original Sample	Sample Mean	Standard Deviation	P Values
PK->IP	0.726	0.726	0.046	0.000
PG->IP	0.429	0.425	0.043	0.000
GMA ->IP	-0.097	-0.093	0.023	0.000
PAI->IP	0.027	0.027	0.021	0.202
IP -> KI	0.836	0.840	0.019	0.000
Moderating	0.024	0.024	0.013	0.066

Source: Primary Data Processed, 2020

Also, As seen in table 1, the p values differ from 0.000 to 0.202. Therefore, creative thinking &

entrepreneurial experience significantly affect the ability to identify business opportunities. Meanwhile, active information search does not effectively identify business opportunities and does not moderate the effect of those research variables toward the ability to identify business opportunities. So, hypotheses that state (a) entrepreneurial experience & creative thinking influence the identification of business opportunities are accepted. Meanwhile, (b) hypothesis of active information seeking moderates the effect of entrepreneurial experience on identifying business opportunities is rejected, (c) active information search in moderating the influence of creative thinking on identifying business opportunities is also rejected, (d). Active information seeking in moderating the effect of general mental ability on the identification of business opportunities is rejected as well, (e) Identification of business opportunities affects the ability to innovate is accepted, (f) Entrepreneurial experience indirectly influences the ability to innovate through the identification of business opportunities is accepted, (g) Creative thinking indirectly effect on the ability to innovate through the identification of business opportunities accepted, (h) general mental ability indirectly effect on the ability to innovate through the identification of business opportunities accepted as well. So, based on the primary data analysis, most of the research findings support some previous research, and only two research findings do not support it.

### CONCLUSION

In conclusion, based on the research results and discussion, it is revealed that creative thinking & entrepreneurial experience significantly affect the ability to identify business opportunities. However, the general mental ability does not affect the ability to identify business opportunities. Meanwhile, active information search does not effectively identify business opportunities and does not moderate the effect of those research variables toward the ability to identify business opportunities. Of course, this research finding can enrich management science and it is very important for conducting further research as well.

### REFERENCES

[1] R.A., Baron, & J. Tang, "Entrepreneurs' social skills and new venture performance: Mediating mechanisms and cultural generality," *Journal of Management*, vol.35, no.2, pp. 282–306, 2009.

- [2] I.M. Kirzner, "The alert and creative entrepreneur: A clarification. *Small Business Economics*", vol.32, no.3, pp. 145–152, 2015.
- [3] A.R. Raza, W. Qazi, Shah, N., "Factors affecting the motivation and intention to become an entrepreneur among business university students", *International Journal of Knowledge and Learning*, vol. 12, no.3, pp. 2018.
- [4] S.t. Fiske, & S.E. Taylor, *Social cognition*, Second Edition, New York: RandomHouse, 2014.
- [5] T.B. Ward, "Creative cognition as a window on creativity", *Methods Journal*, vol.42, no.1, pp.28–37, 2017.
- [6] I.M. Kirzner, "The alert and creative entrepreneur: A clarification. *Small Business Economics*", vol.32, no.3, pp. 145–152, 2015.
- [7] J.O. Fiet, "A prescriptive analysis of search and discovery", *Journal of Management Studies*, vol. 44, no.4, pp.592–611, 2007.
- [8] D. Ucbasaran, P. Westhead, & M. Wright, "Opportunity identification and pursuit: Does an entrepreneur's human capital matter?", *Small Business Economics*, vol.30, no.2, pp.153–173, 2018.
- [9] E. Setijani, S. Sumartono, Sugito, "Mediating Customer Relationship Management On The Effect Of Incremental Innovation On Product Life Cycle", *International Journal of Scientific & Technology Research*, vol. 8, no. 9, pp. 59–64, 2019.
- [10] R.A. Baron, & T.B. Ward *Organizational Social Irresponsibility*, Charlotte: Information Age Publishing Inc., 2017.
- [11] J. Tang, K.M. Kacmar, & L.W. Busenitz, "Entrepreneurial alertness in the pursuit of new opportunities", *Journal of Business Venturing*, vol. 27, pp.77–94, 2010.
- [12] P. Westhead, & M.Z. Solesvik, "Entrepreneurship education and entrepreneurial intention: Do female students benefit?", *International Small Business Journal*, vol. 34, no.8, pp. 979–1003, 2016.
- [13] E. Dane, "Reconsidering the trade-off between expertise and flexibility: A cognitive entrenchment perspective", *The Academy of Management Review*, vol.35, no. 4, pp.579–603, 2010.

- [14] M. Benedek, M., Jauk, E., Sommer, M., Arendasy, M., & Neubauer, A., "Intelligence, creativity, and cognitive control: The common and differential involvement of executive functions in intelligence and creativity", *Intelligence Journal*, vol. 46, pp. 73-83, 2014.
- [15] B.I. Gumel, "Critical Factors Influencing Opportunity Recognition and Exploitation", *International Journal of Contemporary Research and Review*, vol.9, no. 4, pp.20748-20759, 2018.
- [16] I.P., Vaghely, & P.A., Julien, "Are opportunities recognized or constructed? An information perspective on entrepreneurial opportunity identification", *Journal of Business Venturing*, vol.25, no. 1, pp.73-86, 2010.
- [17] S.C., Parker "Learning about the unknown: How fast do entrepreneurs adjust their beliefs?", *Journal of Business Venturing*, vol. 21, No.1, pp.1-26, 2016.
- [18] R.K., Mitchell, L.W. BusenitzBird, B., Gaglio, C.M., McMullen, J.S., Morse, E.A., & Smith, J.B., *The central question in entrepreneurial cognition research: Entrepreneurship Theory and Practice*, First Published, New York: Routeledge, 2020.
- [19] M.D., Mumford, *Leadership, creativity, and innovation: An overview*, Oklahoma: Sage Publisher, 2015.
- [20] M.A., Runco, Dow, G., & Smith, W.R., "Information, experience, and divergent thinking: An empirical test", *Creativity Research Journal*, no.18, pp. 269-277, 2016.
- [21] H.Welling, "Four mental operations in creative cognition: The importance of abstraction", *Creativity Research Journal*, Vol. 19, Issue 2-3. pp.163-177, 2010.
- [22] R.J., Sternberg, "A Theory of Adaptive Intelligence and Its Relation to General Intelligence", *Journal of Intelligence*, vol.7, no.23, pp. 1-17, 2019.
- [23] D., Dimov, "Beyond the single-person, single-insight attribution in understanding entrepreneurial opportunities", *Entrepreneurship Theory and Practice*, vol. 31, no.5, pp.713-731. 2007.
- [24] M.M., Gielnik, Frese, M., Graf, J.M., & Kampschulte, A. (2017). Creativity in the opportunity identification process and the moderating effect of diversity of information. *Journal of Business Venturing*, vol.27, pp.559-576, 2012.
- [25] J.T., Eckhardt, & Shane, S, "Opportunities and entrepreneurship", *Journal of Management*, vol.29, no.3, pp. 333-349, 2013
- [26] R., Colom, Rebollo, I., Palacios, A., Juan-Espinosa, M., & Kyllonen, P.C., *Twice Exceptional*, First Edition, 2016.
- [27] H.T., Keh, Nguyen, T.T.M., & Ng, H.P., The effects of entrepreneurial orientation And marketing information on the performance of SMEs, *Journal of Business Venturing*, vol. 22, no.4, pp. 592-611, 2017.
- [28] A., Rauch & Frese, M., "Entrepreneurship as a Key Element in Advancing the Psychology of Competitive Advantage", *Industrial and Organizational Psychology*, vol. 5, no.1, pp: 108-111, 2012.
- [29] Gaglio, C.M., *The role of mental simulations and counterfactual thinking in the opportunity identification process: Entrepreneurship Theory and Practice*, San Fransisco: San Fransisco Press, 2014.
- [30] Simonton, D.K., "Quantifying creativity: can measures span the spectrum?", *Dialogues in Clinical Neuroscience*, vol. 14, no. 1, pp. 100-104, 2012
- [31] B.Barbot, (2018). The dynamics of creative ideation: Introducing a new assessment paradigm. *Frontiers in Psychology*, vol.9, no.11, pp.1-8, 2018.
- [32] N.M., Carter, Gartner, W.B., & Reynolds, P.D., *Exploring start-up event sequence*, Oxford: Oxford University Press., 2019.
- [33] T. Tambunan, "Recent evidence of the development of micro, small and medium enterprises in Indonesia", *Journal of Global Entrepreneurship Research*, vol.9, no.18, pp: 1-15, 2019.
- [34] M.A., Carree, & Thurik, A.R., "The lag structure of the impact of business ownership on economic performance in OECD countries", *Small Business Economics*, vol.30, pp.101-110, 2008.
- [35] S., Sonnentag, et al., "Morning Reattachment to Work and Work Engagement During the Day: A Look at Day-Level Mediators", *Journal of Management*, vol. 20, no.10, pp. 1-28, 2019.
- [36] P. Sugito, & Kamaludin, "Supporting Entrepreneurship Through Migratory Culture and Information Acquisition", *International Journal of Engineering and Advanced Technology (IJEAT)*, vol.9, no. 1, pp. 2587-2591, 2019.
- [37] A.C., Cooper, Folta, T.B., & Woo, C., "Cognitive Biases, Risk Perception, and Venture Formation: How Individuals Decide

- to Start Companies”, *Journal of Business Venturing*, vol. 15,. Pp. 113-134, 2018
- [38] J.P., Guilford, Creativity, *American Psychologist*, vol.5, no. 9, pp. 444–454, March 2011.
- [39] M., Frese, “Toward a psychology of entrepreneurship: An action theory perspective”, *Foundations and Trends in Entrepreneurship*, vol. 5, no.6, pp. 435–494, 2009.
- [40] D.A. Kolb, *Experiential learning: Experience as the source of learning and development*, Englewood Cliffs, New Jersey: Prentice-Hall, 2014.