

PAPER • OPEN ACCESS

Entrepreneurial Mindfulness Based on Artificial Intelligence

To cite this article: Yasinta Indrianti *et al* 2020 *J. Phys.: Conf. Ser.* **1641** 012069

View the [article online](#) for updates and enhancements.

You may also like

- [Developing A General Building Design Model for Higher Education Facilities to Reduce Academic Stress Through A Mindfulness-Based Design Approach.](#)
K L Purnaumbara and S Khasna
- [Entrepreneurship promotion policies and urban carbon emission efficiency: does environmental concerns matter?](#)
Xiangmin He and Jianhua Zhou
- [A Study to Assess the Impact of Mindfulness Meditation on Perceived Stress Levels and Subjective Well-Being Among Housewives](#)
Manpreet Kaur, Meenakshi Sood and Gurvinder Pal Singh



UNITED THROUGH SCIENCE & TECHNOLOGY

 The Electrochemical Society
Advancing solid state & electrochemical science & technology

**248th
ECS Meeting**
Chicago, IL
October 12-16, 2025
Hilton Chicago

**Science +
Technology +
YOU!**



**Register by
September 22
to save \$\$**

REGISTER NOW

Entrepreneurial Mindfulness Based on Artificial Intelligence

Yasinta Indrianti¹, Sasmoko^{2*}, Nor Fadila Mohd Amin³, Sucianna Ghadati Rabiha⁴, Nugroho Juli Setiadi⁵, Agustinus Dedy Handrimurtjahjo⁶ and Muktiono Waspodo⁷

¹Entrepreneurship Department, Podomoro University, Jakarta, Indonesia 11470

²Primary Teacher Education Department, Faculty of Humanities, Bina Nusantara University, Jakarta, Indonesia 11480

³Department of Technical and Engineering Education, School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

⁴Information Systems Department, Binus Online Learning, Bina Nusantara University Jakarta, Indonesia 11480

^{5,6}Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia 11480

⁷Center for Research on Education and Culture Policy, Ministry of Education and Culture of the Republic of Indonesia, Jakarta, Indonesia

E-mail: sasmoko@binus.edu

Abstract. The ability to self-diagnose to build capacity as an entrepreneur is something that is important in order to bridge the development of self-competence needed in the industrial era 4.0. This ability is expected to bring up a condition in which a person has full active awareness of the awakening of the entrepreneurial spirit within himself to then produce a productive person called Entrepreneurial Mindfulness. This study aims to develop self-detection tools about Entrepreneurial Mindfulness through an artificial intelligence-based website for students and alumni who are entrepreneurs. The research method used is the Neuroresearch method for developing Entrepreneurial Mindfulness measurement tools and the waterfall method for developing Artificial Intelligence-based websites. The results of research in the form of an Artificial Intelligence-based website about Entrepreneurial Mindfulness where the website will be able to provide profiling based on diagnoses made related to the level of Entrepreneurial Mindfulness owned by students and alumni in implementing entrepreneurial practices.

1. Introduction

Artificial Intelligence is a scientific field that can be used to build computer programs in order to have intelligence like humans. To be able to achieve this goal computer programs must be given training in using data in order to develop reasoning (1,2). Artificial Intelligence enables computers to solve complex problems and even provide advice (3). The workings of Artificial Intelligence are made similar to the process of human information that is the process of receiving, storing, processing, deciding, and changing information where this stage is commonly referred to as intelligence cycle (4).



Entrepreneurship is currently a trending topic both in the world of practitioners and academics. Entrepreneurship in various schemes has become a strategic component both on a local and national scale to build competitive advantage. Proven various studies, reports and reviews continue to discuss the development of entrepreneurship from various sides so as to further refine this multidimensional concept. Entrepreneurship has become a multifaceted concept that is easily understood from a variety of perspectives (5). Entrepreneurship plays an important role in modern urban growth as a driving force for current economic development (6,7).

The concept of entrepreneurship today does not only belong to entrepreneurs, but has even begun to be introduced to students in school. At the higher education level, equipping students with entrepreneurial practices has become one of the important tasks of education today to prepare them to enter the workforce. Competition in the industrial era 4.0 marked by various technological advances and shifts in knowledge has demanded new competencies that are more complex. Therefore, debriefing students is considered able to bridge the development of competencies needed in the industrial era 4.0. Findings in 32 countries state that entrepreneurship education has an impact on building entrepreneurship activities comprehensively (8).

Several studies have explored in depth the context of entrepreneurial mindfulness. In developing entrepreneurial mindset so that it can be implemented in entrepreneurial behavior, the condition of mindfulness becomes very important. Entrepreneurial Mindfulness is a capability that makes a person feel focused and attentive to something that becomes an important series in the process of becoming and carrying out entrepreneurial practices. This study found that entrepreneurial mindfulness helps one to produce positive outcomes. With entrepreneurial mindfulness, someone will be more adaptive, flexible, proactive and resilient because they realize the importance of taking advantage of opportunities in achieving sustainability. Therefore entrepreneurial mindfulness becomes the basis for building entrepreneurial habits (9).

Other research states that mindfulness is also important in marketing activities as part of entrepreneurship activities. Mindfulness will make a person have more intensive creativity and even mindfulness is proposed to be a new stage in the evolution of marketing (10). Entrepreneurial mindfulness is also the beginning of the development of indigenous knowledge, indigenous innovations and the beginning of habit entrepreneurship which in the long run will produce significant results (11).

This concept is the rationale that the ability to self-diagnose in order to build capacity as an entrepreneur is something that is important in order to bridge the development of self-competence needed in the industrial era 4.0. Therefore this study aims to develop self-detection tools about Entrepreneurial Mindfulness of students and Entrepreneurial Mindfulness of alumni who become entrepreneurs through artificial intelligence-based websites. Entrepreneurial Mindfulness as a condition in which students and alumni have full active awareness of the awakening of an entrepreneurial spirit within themselves to later produce productive personalities can be detected through questionnaires through the website. Going forward, the website will be able to monitor at any time the progress of the Entrepreneurial Mindfulness condition through an artificial intelligence tool that is a unified website concept. This AI will be able to facilitate respondents in self-diagnosis and self-improvement to achieve conditions as an entrepreneur who has a high level of mindfulness.

2. Research Method

The study uses the Neuroresearch method combined with the waterfall method in building website-based artificial intelligence. Neuroresearch research is carried out through three main stages, namely exploratory to find the theoretical construct entrepreneurial mindfulness to the

dimensions, indicators and items that will be used as the basis for the first and second stages of the waterfall method, namely the requirements analysis and system design stages. The second step in neuroresearch is explanatory research as one part of the implementation phase of the waterfall method. While the third stage of neuroresearch is confirmatory research as part of the verification and maintenance process in the waterfall method (12-15).

The Neuroresearch method is used to conduct exploratory, explanatory, and confirmatory so that the research process can produce a standard Entrepreneurial Mindfulness instrument. This standard instrument will be the main content on the Entrepreneurial Mindfulness website based on artificial intelligence. With its AI capacity, the website will be a self-diagnosis tool that can intelligently produce an Entrepreneurial Mindfulness profile on respondents while providing development advice so that it can be applied.

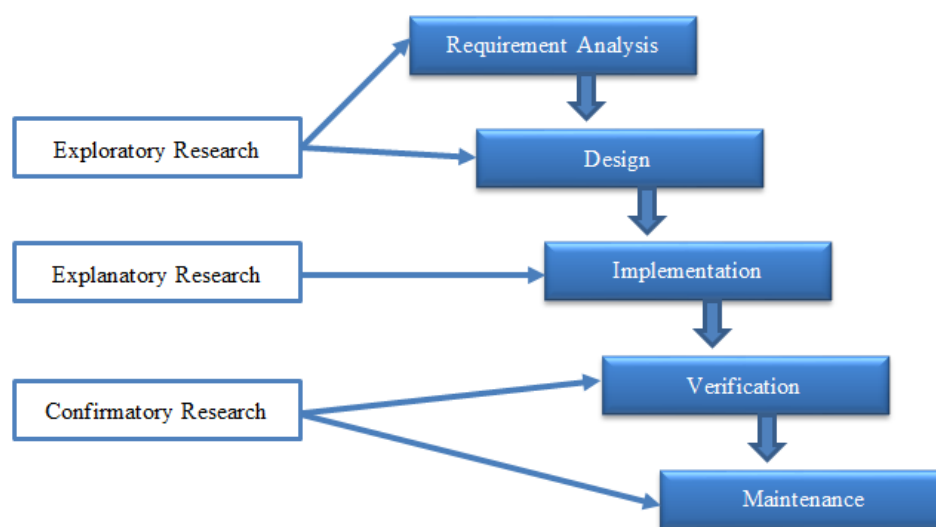


Figure 1. Combination Of Neuroresearch And Waterfall Methods

3. Result and Analysis

3.1. Exploratory Research Result

The results of exploratory research in the form of studies to obtain theoretical Entrepreneurial Mindfulness constructs. Entrepreneurial Mindfulness is a condition in which students and alumni have full active awareness of the awakening of an entrepreneurial spirit within themselves to later produce productive personalities. The condition of Entrepreneurial Mindfulness that should have been a business actor is better than Entrepreneurial Mindfulness when still a student. Identifying the development of Entrepreneurial Mindfulness is a positive marker in preparing entrepreneurs for the future.

This stage produces one example that underlies the process of requirements analysis and website design, namely user flow which can be seen in the following figure.

3.2. Eksplanatory Research Result

The results of explanatory research in the website development process are the entrepreneurial mindset website design which is a continuation of exploratory research. This website illustrates the ability to self-diagnose in order to build capacity as an entrepreneur is something important in order to bridge the development of self-competence needed in the industrial era 4.0.

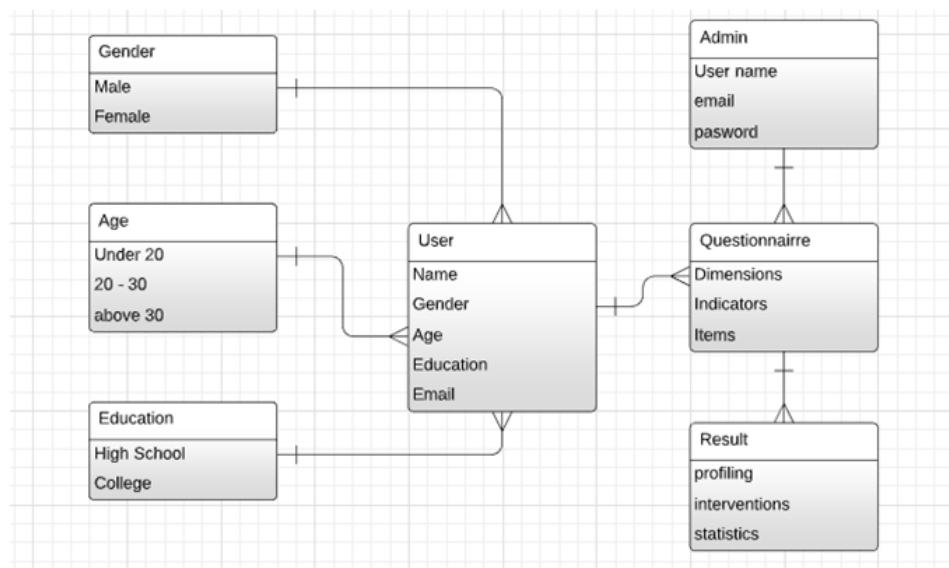


Figure 2. User flow

AI based entrepreneurial mindfulness website is considered capable of monitoring every time the progress of the entrepreneurial mindfulness condition that is owned. This AI must be able to facilitate a person in self-diagnosis and self-improvement through the developed website.

One example of the results of this development is to implement the points of the results of a theoretical construct study to be displayed on the website with the following screenshots.

Choose the answers that best describes you.

01. The government has made an effort in entrepreneurial education by holding training sessions.
02. The government has given the young generation a chance to become entrepreneurs.
03. The government has helped Indonesian entrepreneurs to synchronize with local markets with international standards.
04. The government has made policies which protects both consumers and entrepreneurs.
05. I am able to see future business opportunities.
06. I am able to develop innovative ideas in running my business.
07. I am able to make business obstacles into opportunities.
08. I am focused in developing businesses.
09. Today's bureaucracies makes entrepreneurship in Indonesia easier.

Figure 3. Screenshot items

3.3. Exploratory Research Result

Exploratory research will be carried out when the development phase is completed as well as testing so that it can meet the requirements of the waterfall method stage, verification and maintenance.

4. Conclusion

One endemic failure in entrepreneurship activities is the inability to find, capture and exploit opportunities, so that the concept of mindfulness becomes an interesting study in order to develop a framework that produces insights on how, when and why this endemic must be overcome (9). With the concept of pursuing opportunities, entrepreneurial mindfulness is close to the concept of entrepreneurial capacity as the ability of business people to seize opportunities so that they are motivated to take advantage of these opportunities and manifest in initiatives and consistent entrepreneurial behavior (16).

The concept of mindfulness has been developed about 30 years ago relating to the awareness that arises which is manifested through a focus on goals and focus on what is happening now as a comprehensive experience (17). Mindfulness is also interpreted as an effort to focus on what is experienced so that it is open to existing experiences, has curiosity as well as high acceptance of what is experienced (18).

The Artificial Intelligence Entrepreneurial Mindfulness website for students and entrepreneurs is a new breakthrough that encounters the development of entrepreneurship implementation in the world of education with technological developments, so as to increase the impact of positive education in a real and practical way. This website can help students and entrepreneurs to do a self-assessment, so as to obtain a profile profiling to achieve the condition of Entrepreneurial Mindfulness that has implications for improving entrepreneurial competence in accordance with industry needs 4.0.

For future research, the concept of entrepreneurial mindfulness that is applied through AI-based websites needs to be further developed. AI based entrepreneurial mindfulness websites can be tools and online-based canvas for entrepreneurs in diagnosing their condition while getting appropriate development advice so that they can independently make improvements to explore their potential and increase their competency as entrepreneurs.

Acknowledgment

This work is supported by Research and Technology Transfer Office, Bina Nusantara University as a part of Bina Nusantara University's International Research Grant entitled Asean Entrepreneurship Profiling with contract number: No.026/VR.RTT/IV/2020 and contract date: 6 April 2020. We also want to say thanks to Universiti Teknologi Malaysia, Ministry of Education and Culture of the Republic of Indonesia and Agung Podomoro University for their contribution as partners in research.

References

- [1] Warwick K. Artificial intelligence: the basics. Routledge; 2013.
- [2] Russell SJ, Norvig P. Artificial Intelligence: A Modern Approach. 3rd ed. Prentice Hall; 2010.
- [3] Liao S-H. Expert system methodologies and applications—a decade review from 1995 to 2004. *Expert Syst Appl.* 2005;28(1):93–103.
- [4] Purda L, Skillicorn D. Accounting variables, deception, and a bag of words: Assessing the tools of fraud detection. *Contemp Account Res.* 2015;32(3):1193–223.
- [5] Audretsch DB, Kuratko DF, Link AN. Making sense of the elusive paradigm of entrepreneurship. *Small Bus Econ.* 2015;45(4):703–12.
- [6] Edward L, Kerr SP, Kerr WR, Link C, Glaeser EL, Kerr SP, et al. Entrepreneurship and Urban Growth: An Empirical Assessment with Historical Mines The Harvard community has made this article openly available . Please share how this access benefits you . Your story matters . Citation Accessed (Article begins on next pa. 2015;

- [7] Yari A, Toulabi Z, Pourashraf Y. Designing propensity to entrepreneurship paradigm in Ilam universities (structural equation model approach). 2013;872–80.
- [8] Walter SG, Block JH. Outcomes of entrepreneurship education: An institutional perspective. *J Bus Ventur.* 2016;31(2):216–33.
- [9] Rerup C. Learning from past experience: Footnotes on mindfulness and habitual entrepreneurship. *Scand J Manag.* 2005;21(4 SPEC. ISS.):451–72.
- [10] Uslay C, Erdogan E. The mediating role of mindful entrepreneurial marketing (MEM) between production and consumption. *J Res Mark Entrep.* 2014;16(1):47–62.
- [11] Ndubisi NO, Uslay C, Capel C. Mindfulness, indigenous knowledge, indigenous innovations and entrepreneurship. *J Res Mark Entrep.* 2014;
- [12] Sasmoko, Ying Y. Construct Validity in NeuroResearch. *Adv Sci Lett [Internet].* 2015;21(7):2438–41. Available from: <http://www.ingentaconnect.com/content/asp/asl/2015/00000021/00000007/art00061>
- [13] Sasmoko, Indrianti Y, Karsidi R, Wuisan D, Ruliana P. Neuroresearch: Another form of mixed method. *Int J Eng Technol.* 2018;7(2):134–8.
- [14] Balaji S, Murugaiyan MS. Waterfal Vs V-Model Vs Agile: A comparative study on SDLC. *Int J Inf Technol Bus Manag.* 2012;2(1):26–30.
- [15] Petersen K, Wohlin C, Baca D. The Waterfall Model in Large-Scale. Springer. 2009;32:386–400.
- [16] Díaz-Casero JC, Hernández-Mogollón R, Roldán JL. A structural model of the antecedents to entrepreneurial capacity. *Int Small Bus J.* 2012;30(8):850–72.
- [17] Malinowski P. Mindfulness as psychological dimension: Concepts and applications. *Irish J Psychol.* 2008;29(1–2):155–66.
- [18] Lau MA, Bishop SR, Segal Z V, Buis T, Anderson ND, Carlson L, et al. The Toronto Mindfulness Scale: Development and validation. *J Clin Psychol.* 2006;66(4):430–41.