

Design of Digital IFE and EFE Evaluation of A3N 766HI Organic Fertilizer Products to Make Strategic and Sustainable Decisions

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Article Information		Abstract
Submission date	13 Desember 2023	Research aim: to answer the question, "Will the digital evaluation design for IFE and EFE of the A3N 766HI organic fertilizer product facilitate the strategic and sustainable decision-making process by using the SPSS and smart PLS' tools?"
Revised date	14 Februari 2024	Design/Method/Approach: using the mixed method, namely a qualitative and quantitative method in the form of a case study.
Accepted date	15 Maret 2024	Research Finding: The results from the IFE and EFE digital evaluation designs greatly facilitate strategic and sustainable decision-making, where the IFE value is 3.25 and the EFE value is 3.20 with a weight value of 1.00, designed to be a digital value. Theoretical contribution/originality: The business environment can influence important variables such as strategic planning, business performance, competitive advantage, strategy innovation, technology strategy, and corporate sustainability (Dyllick & Hockerts, 2017). Digital strategies can play an essential role in enhancing sustainability performance by enabling organizations to scan their ecological and social impacts more effectively, adopt sustainable business practices, and enhance the efficiency and effectiveness of business processes. Ukko, J.; Nasiri, M.; Saunila, M.; Rentala, T. (2019); and Huong, T.T.I.; Thanh, T.T. Practice/Policy Implications: Helping to make decisions sustainably and develop strategies by using the tools SPSS and Smart PLS to analyze the internal factor evaluation (IFE) and external factor evaluation (EFE). Research limitation: this study is limited to a case study. This response to this study does not yet standardize analysis for internal and external evaluation for the big corporation. Keywords: IFE Analysis, EFE Analysis, Making Strategic, Sustainable Decisions, SPSS, and Smart PLS 3 tools.

1. Introduction

Decision-making and sustainability are very important for the survival and development of enterprises, but the phenomenon of sustainability and decision-making is rarely considered urgent in doing business for small and medium enterprises. The consequences of the activities of small businesses are that they are very hard to enter into the worldwide market. Only an enterprise, that considers social, economic, and environmental factors, can compete in a worldwide market. By considering three entities (social, economic, and environmental) as the basic analysis to be made in internal and external factor evaluation in order to have a good, sustainable, and profitable performance.

The business environment (Environmental Auditing, Staib, Obet, 2005:268) is very dynamic and changes quickly. Therefore, it is necessary to evaluate strategic factors related to

the internal and external environment to determine whether they have a positive or negative impact in order to detect whether they could benefit or damage a business (Dyllick & Hockets, 2017), affect the cause or activities of a business (Thind & Thind, 2018), and reduce the impact on the environment (Staib & Obet, 2005) on small and medium businesses in the future (Katsioloudes and AK Abounhanian).

Obtaining good performance and sustainable growth (Satib, Robet 2005:244) requires proactive changes because sustainable growth is related to social, environmental, and economic factors. The more disconnected the three entities (social, environmental, and economic) are, the more social and environmental problems will arise, which will also have an impact on the economy.

It is so important to analyze the internal and external environment to mitigate business risks, so small and medium businesses must apply digital tactics to overcome challenges and gain positive outcomes (Salem, H., Li, Y' Ali, Z. Ayyoub, M. A., 2020). Small businesses use digital tactics because: 1. they have digital capabilities in response to competitive pressure (Salem, H., CS, 2020) and the advantage is based on the external evaluation, while concordance and viability are mainly based on the internal evaluation balanced scorecard. 2. small businesses find it difficult to compete in turbulent conditions (Buli, B., M., 2016); 3. Teece, DJ Pisano G., and Shuen, 1997: "The firm's ability to integrate, build, and reconfigure internal and external competencies to address a rapidly changing environment" in altering their useful resources (internal and external) and quickly accessing new information, adapted to external market changes, contributes to their long-term success.

Apart from the benefits of digital strategic end tactics for competitiveness, digital strategies, and tactics are also for building sustainable performance. Ukko, J. Nasiri, M.; Saunila, M.; Rentala, T., 2019) and Huong, TTI; Thanh, TT include: 1. Digital strategies are essential: to scan their ecological and social impacts more effectively; 2. adopt sustainable business practices; 3. enhance the efficiency and effectiveness of business processes; and 4. enhance the efficiency and effectiveness of business processes.

Other literature also states that digital strategies and tactics are very significant for sustainable performance; Chienwattanasook, K.; Jernsittiparsert, K. stated that digital strategies significantly improve firm performance and diminish barriers and threats on the way to sustainable performance; and Anwar. M. Scheffler, MA; Clause, T., 2022. A digital strategy is one of the most significant tools for assimilating digitalization into businesses for those enterprises that want to be successful in the digital era.

Applying digital strategies and tactics for small and medium businesses is very difficult but must be done to survive. Small and medium businesses must create digital tools using SPSS (Statistical Package for the Social Sciences): <https://researchcommons.library.ubc.ca/a> software program for quantitative analysis of complex data) and Smart PLS (Smart PLS: <https://en.wikipedia.org/wiki/SmartPLS>, a software with graphical user) because this tool can help small businesses code the analyzed factors, calculate the total IFE and EFE, and create IFE and EFE images with the analyzed factors both in the internal and external environment. The IFE image will show the strengths and weaknesses, along with the weighted values and values of the factors assessed as to how important and less important they are for small and medium businesses. Likewise, the EFE image will show opportunities and threats to small and medium businesses.

This research initiates the digitalization evaluation of internal factors and external factors in order to adjust to the dynamic environment. Adjusting with environmental skills needs digital

skills for coding IFE and EFE factors in the SPSS tool and drawing the internal and external factor evaluation by using Smart PLS. SPSS and Smart PLS tools are part of technological digital, but most important is the knowledge of people in organizations to make sustainable decision-making by having alternative decision-making toward a sustainable ecological environment for the new generation to come. Adaptation for the sustainable ecological environment skill by putting all the data into internal factors and external factors evaluation by collecting all data from the customer by asking them such as indicators that are being analyzed. All the copying mechanism skills from the owner of a small and medium business enterprise will allow them to quickly access new information and gain long-term competitiveness.

The purpose of the article is to digitalize internal and external evaluation so that decision-making for strategy and sustainability can be used to see the performance of small businesses. To achieve the purpose of this article, the researcher used data analysis tools with SPSS. This tool is used to determine a weight of 0.05 to 0.20 (factors not important to important factors), rank 1 to 4 (not influential factors until influential factors), and add environmental factors as EFE indicators. The smart PLS 3 tools are used to draw the images' data from each IFE and EFE indicator, positioning the values inside a nine-cell matrix.

1.1. Statement of Problem

“Will the digital evaluation design for IFE and EFE of the A3N 766HI organic fertilizer product facilitate the strategic and sustainable decision-making process by using the tools SPSS and smart PLS?”

1.2. Research Objectives

To observe whether the digital evaluation design for IFE and EFE of the A3N 766HI organic fertilizer product facilitates the strategic and sustainable decision-making process by using the tools of SPSS and smart PLS,

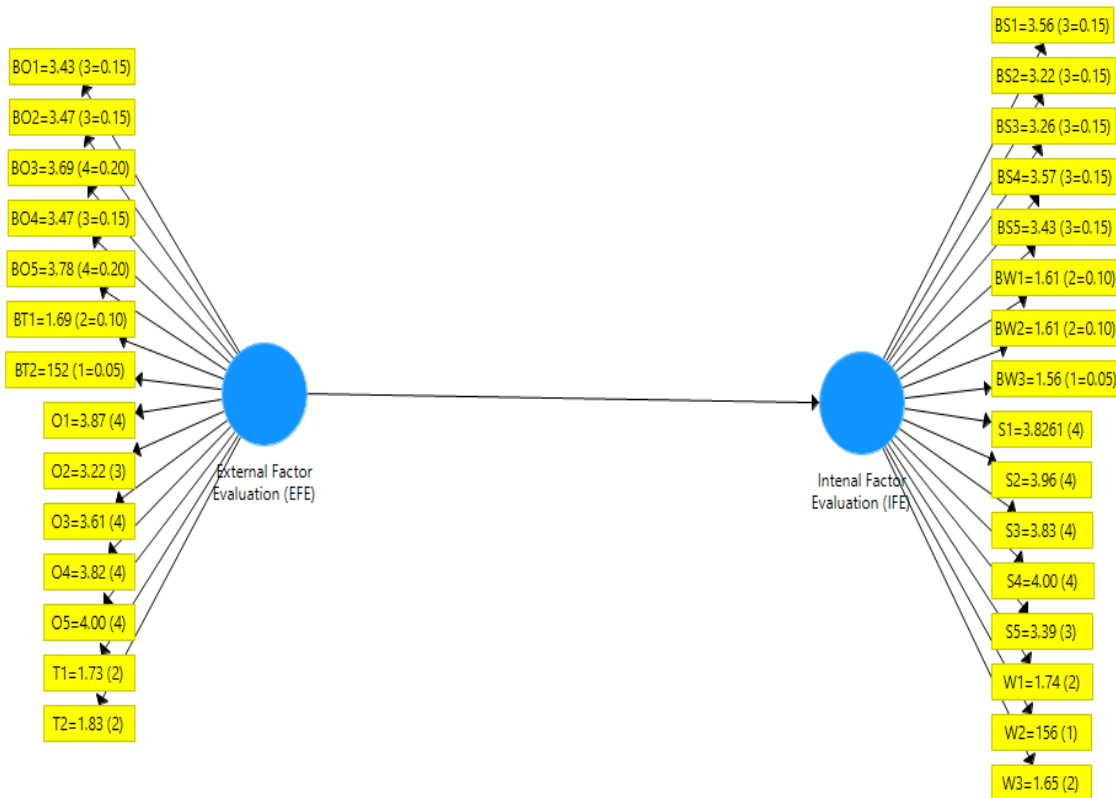
2. Method

The method used in this study is a mixture of qualitative and quantitative methods with a case study type design with 23 respondents and data analysis tools using the SPSS tool to determine a weight of 0.05 to 0.20 (factors not important to important factors) and ranking 1 to 4 (not influential factors until influential factors) and adding ecological environmental factors as EFE indicators and smart PLS 3 tools to design image data from each IFE and EFE indicator to be positioned at the values stated in a nine-cell matrix.

The total value of IFE and EFE is calculated by using the quantitative method in order to have a descriptive statistic, and the qualitative method is being used because the indicator from external and internal evaluation is in the form of describing the situation to the small and medium enterprise business, which is related to the product A3N 766HI. And this research also uses a case study because of the 23 respondents that the researcher analyzed in a small business that produces organic fertilizer (A3N 766HI).

3. Results and discussion

Results and discussion will be based on the pictures of the IFE and EFE.

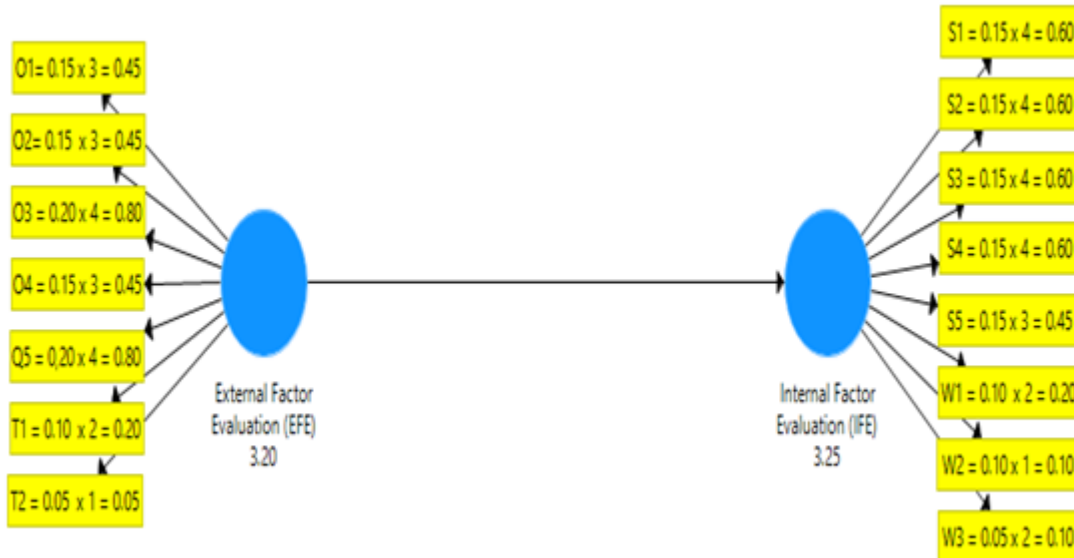


Picture 1: The weight indicator factors Opportunity and Threat for EFE, and Strength and Weakness for IFE.

The picture above is called the stage of input factors of the internal and external factor evaluation. This should be done in order to summarize the basic information that must be taken to evaluate all statistical factors in order to detect and prioritize according to the levels of importance and significance.

Pictured above from the left side is the external factors evaluation (EFE). The indicator that is analyzed from EFE, namely for opportunity, there are five item indicators and two item indicators for threat. The weight of the opportunity is from 3.22 until 4.00 and the weight is from 3.47 until 3.78, or 3 = 0.15 until 4 = 0.20, while the weight of the threat is from 1.73 until 1.83, and the weight of the threat is from 0.152 until 1.69, or 0.05 until 0.10.


The picture on the right is of the IFE, which consists of a strength from 3.82 to 4.00 and a weight from 3.22 to 3.57 or 0.10 to 0.15. The opposite of strength is weakness. The indicator weight ranges from 1.56 to 1.74. And the weight of the weakness is 1.56 until 1.61, or 0.05 until 0.10.



Picture 2: The equation of weight multiplied with the assumption of impotence factors is being evaluated to reflect the values of IFE and EFE above. The result of the equation EFE is 3.20 and the IFE is 3.25. This stunning picture above makes it very easy to see the weight and ranking in the same picture. The structure visualizers IFE and EFE will see all information about the competitiveness of the organic pertilizer A3N 766HI, which is still competitive with other similar products in the same market, local or national.

The structure picture above will also help small and medium business enterprises map the nine-cell matrix. This idea was also confirmed by Allio and Pennington: "The IFE-EFE matrix captures more information by quantifying it in an index that can be graphed and locating it in one of the nine quadrants of such a matrix." (Rowe, R. Mason, and Dickel) further the idea that, ... to determine which are the most suitable strategies for an organization in the competitive field, once the external and internal strategic positions are defined, It's structure of nine quadrants allows the strategist to find out if the organization is using aggressive, conservative, defensive, or competitive strategies. The nine-cell matrix is posted down in the next page.

Table Nine- Cell Matrix

Total Score IFE = 3.25						
			Strong	Average	Weak	
		4.0		3.0	2.0	1.0
T o t a l S c o r e E F E = 3.20	H I g h		I IFE/EFE= 3.25/3.20  Growth & Build	II Growth & Build	III Bold & Maintain	
	A v e r a g e	3.0	IV Growth & Build	V Bold & Maintain	VI Harvest or Divest	
	L o w	2.0	VII Bold & Maintain	VIII Harvest or Divest	IX Harvest or Divest	
		1.0				

Source: F.R. David, “The Strategic Planning Matrix: A Quantitative Approach,” Long Range Planning, Vol. 19, No. 5, pp. 102–107

The nine-cell matrix above shows that the coordinate interceptions IFE and EFE are inside cell I (one). The strategy being mentioned in the box is strategy growth and build. The strategy of growth and building is a strategy of expansion. The strategy expansion above is the same as strategy as a position at cell I (one). Strategy as a position means to place the organization in a competitive environment. It looks towards the outside, looking to place the organization in an external environment that creates positions for placing defined products or services in particular markets. (Guillermo Fuertes, Miguel Alfaro, Manuel Vargas, Sebastian Gutierrez, Rodrigo Ternero, and Jorge Sabattin, 2020:10).

The strategy that should be taken by the organic vertilizer is a concentric expansion strategy, namely concentric diversification. It is because of the concentric diversification strategy such as the maggots’s food for the waste of the kichen waste, the magots the food for fish, and the food of chicken. The product differentiation will make the organic vertilicer A3N 766HI competitive with another similar product because the product can enter the market easily through the capability of digitalization data of the friendly and sustainable product environment. By doing this, the product A3N 766HI will create or add value by adopting a sustainable ecological environment. This idea is supported by Guillermo Fuertes, Miguel

Alfaro, Manuel Vargas, Sebastian Gutierrez, Rodrigo Ternero, and Jorge Sabattin (2020:10), “doing strategic management within their industrial organizations, allowing them to know their position in the market, and from there, to define where they want to go in the future.

4. Conclusion

The conclusion will be based on the question of this study, namely: "Will the digital evaluation design for IFE and EFE of the A3N 766HI organic fertilizer product facilitate the strategic and sustainable decision-making process?" The answer is yes. Digitalization can help determine strategic decision-making by putting IFE and EFE values and scores in the matrix.

A sustainable strategy can be obtained by including the environment in making decisions, giving it high weight and ranking more than the other factors, and reusing waste coming from small businesses as an economic gain.

Small businesses must carry out social, economic, and ecological environmental analysis to survive in a rapidly changing world by using digital evaluation with simple tools such as SPSS and Smart PLS 3 and the capabilities of digital, such as making sustainable decisions and knowing how to execute the strategy from the nine-cell matrix. The strategy that is executed by the organic fertilizer as a small business enterprise will be concentric diversification, such as adding another product; not creating a product from outside again, but making a new product from recycled and reused waste to have efficient and sustainable material from the environment.

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