

# Research Horizon

ISSN: 2808-0696 (p), 2807-9531 (e)

Research Horizon

Volume: 04

Issue: 01

Year: 2024

Page: 43 - 52

## Integrating Lean Startup and Educational Methodologies in the Development of the Sorghum Entrepreneur Marketplace

Endang Noerhartati <sup>1\*</sup>, Nia Saurina <sup>2</sup>

<sup>1,2</sup> Universitas Wijaya Kusuma Surabaya, Indonesia

\* Corresponding author: Endang Noerhartati (endang\_noer@uwks.ac.id)

### Abstract

This study explores the integration of lean startup and educational methodologies in developing the sorghum entrepreneur marketplace, aimed at empowering Small and Medium Enterprises (SMEs) within the sorghum industry in East Java. Leveraging the javelin board for idea validation and SWOT Analysis for strategic insights, the research outlines a systematic approach to marketplace creation, from initial design through to iterative development and refinement. Central to this process is the lean startup methodology, which facilitates rapid prototyping, feedback gathering, and learning to adapt to market needs efficiently. This approach not only expedites the development of the marketplace but also embeds a culture of innovation and continuous improvement among sorghum entrepreneurs. The findings underscore the importance of combining practical entrepreneurial tools with educational principles to enhance the competitiveness and sustainability of agricultural-based companies. This research contributes to the broader discourse on entrepreneurial education, highlighting the critical role of digital platforms in fostering innovation and resilience among SMEs in the agricultural sector.

### Keywords

Sorghum Entrepreneurship, Educational Methodologies, Lean Startup, Javelin Board, Marketplace Development, SMEs, Agri-based Enterprise Innovation.

## 1. Introduction

In the rapidly evolving landscape of the global digital economy, the United States leads with the highest number of digital startups, totaling 45,877. India and Indonesia follow, showcasing significant entrepreneurial activities with 5,768 and 1,939 startups, respectively. Indonesia, in particular, demonstrates a robust engagement in the digital startup ecosystem, ranking sixth globally (Singh et al., 2020). Research forecasts indicate a remarkable growth trajectory for Indonesian startups, with projections suggesting a 6.5-fold increase, potentially reaching 13,000 digital startups by 2020 (Pramono et al., 2021). In 2019, Indonesia had already marked its presence on the global stage with 2,193 startups, placing it fifth just below Canada. The competitive nature of the digital business environment necessitates rapid and efficient product development (Smith, 2011; Marion & Fixson, 2021). Startups, especially those grounded in technology, encounter various challenges, including adapting products to user needs, managing development costs effectively, and formulating structured strategic plans. To navigate these hurdles, startups frequently employ methodologies such as the javelin board and lean startup to streamline product development and validate business strategies.

The intersection of education, lean startup methodologies, and entrepreneurship represents a dynamic arena where theoretical knowledge meets practical application (Blanton et al., 2018). Educational institutions worldwide are increasingly integrating Lean Startup principles into their curriculums, aiming to equip students and emerging entrepreneurs with the skills necessary to navigate the complexities of launching and managing successful startups (Paço et al., 2016). This approach emphasizes the importance of agile development, customer feedback, and iterative design, encouraging a learning-by-doing philosophy. In Indonesia, universities play a pivotal role in this educational evolution, acting as catalysts for innovation and entrepreneurial spirit. By embedding these methodologies within their programs, educational institutions not only foster a culture of continuous learning and adaptation but also prepare students to effectively respond to the ever-changing demands of the global market. Through projects like the Sorghum Entrepreneur Marketplace, students and SMEs alike are offered hands-on experiences in applying these principles, bridging the gap between academic learning and real-world entrepreneurial challenges. The creation of the sorghum entrepreneur marketplace exemplifies an innovative educational approach towards supporting Small and Medium Enterprises (SMEs) in Indonesia, particularly those under the guidance of Universitas Wijaya Kusuma Surabaya. This platform serves as a digital conduit for Sorghum Entrepreneurs, facilitating the online sale of sorghum-based food ingredients and souvenirs. By focusing on SMEs within the East Java region, the marketplace not only enhances product visibility and accessibility but also strengthens the entrepreneurial ecosystem.

This study aims to devise strategic sales and marketing frameworks to bolster the interaction between sorghum entrepreneurs and the broader marketplace. Employing the lean startup methodology, the research seeks to rapidly align the sorghum entrepreneur marketplace with the evolving needs of both entrepreneurs and consumers. Furthermore, this initiative underscores the significance of leveraging digital platforms to enable seamless online transactions, thereby expanding market reach and enhancing customer satisfaction for sorghum-based products. Through this educational venture, the project aspires to equip sorghum entrepreneurs with comprehensive sales analytics, fostering informed business decisions and sustainable growth.

## **2. Literature Review**

Understanding startups requires a grasp not only of their business models but also of the educational frameworks that support entrepreneurial learning (Dutta & Crossan, 2005; Gibb, 2007). Startups, characterized by their novelty and aim to address uncertainties in the market, serve as a rich ground for applying educational theories in entrepreneurship. The process of creating and scaling a startup is deeply intertwined with experiential learning, where founders learn from both successes and failures (Fust et al., 2017). This educational perspective highlights the importance of fostering an entrepreneurial mindset through practical experiences, aligning with Kolb's experiential learning theory, which suggests that learning is the process whereby knowledge is created through the transformation of experience (Kolb, 2009; Akella, 2010). Startup refers to a company that has not been operating for a long time. These companies are mostly newly established and are in the development and research phase to find the right market. The development of startups in Indonesia can be said to be relatively rapid. Many new startup founders (owners) appear yearly and even monthly. Some examples of startups developed in Indonesia are Gojek, Bukalapak, Traveloka, Kitabisa, Grab, Uber and Tiket (Anwar et al., 2022).

The concept of marketplaces extends beyond commercial transactions, offering potential as educational platforms. Marketplaces like the sorghum entrepreneur marketplace not only facilitate economic activities but also serve as live case studies for students to observe and engage with digital economy dynamics. These platforms can be analyzed within educational curricula to understand consumer behavior, digital marketing strategies, and the logistical challenges of online selling, providing students with a comprehensive view of modern e-commerce practices. The role of the marketplace is enormous for store owners/companies because the marketplace will make it easier for companies to reduce shipping costs, add new consumers, and communicate with consumers. With the marketplace, relationships with customers are easier, consumers are facilitated in transactions, and delivery will be faster (Jung & Wook, 2011). Until now, the marketplace has been beneficial for both sellers and buyers. Buyers are facilitated in transacting, and sellers are facilitated in expanding their marketing network (Hunt & Morgan, 1994).

The concept of entrepreneurship, originating from the french word entrepreneur meaning to undertake, embodies the spirit of taking risks and innovating in the creation of goods and services. It is a pivotal force that utilizes capital, labor, and raw materials to generate wealth, employment, and fulfill community needs, underscoring the essential nature of entrepreneurial development (DeGeorge & Fayolle, 2013). In the agricultural sector, particularly in sorghum cultivation, the application of entrepreneurial education becomes crucial (Mrema et al., 2017). It equips farmers and small business owners with the skills needed to navigate market demands, adopt advanced cultivation technologies, and engage effectively with online marketplaces. This education is not just about improving agricultural practices but fostering a mindset ready to innovate and adapt to changing market landscapes (Dervitsiotis, 2011). The integration of agricultural entrepreneurship into educational programs is pivotal for developing sustainable business models, especially for sorghum producers (Levänen et al., 2023). Given the crop's significance as one of the major grain-producing crops globally, with a vast cultivation area across countries like India, China, Nigeria, and the United States, there is a significant opportunity for entrepreneurial ventures (Gianessi, 2013). Sorghum, with its versatility and adaptability, presents a wide array of business diversification opportunities, from food production to land rehabilitation. However, achieving high productivity and economic value from sorghum cultivation requires not only the application of optimal agricultural practices, such as the use of hybrid varieties and

efficient fertilization but also an entrepreneurial approach to overcome challenges posed by environmental factors and market dynamics (Wilson & Post, 2013).

SWOT analysis is a structured planning method for an organization, project, or business by evaluating four crucial elements: strengths, weaknesses, opportunities, and threats (Ayub et al., 2013). By identifying these four elements, the results obtained can later become a basis for conducting a strategic plan for a business effectively and efficiently. SWOT matrix can be used as a tool to compile strategic factors of the company. This matrix can clearly describe how the external opportunities and threats faced by the company can be adjusted to its strengths and weaknesses (Eshaghi et al., 2015).

The lean startup methodology, emphasizing rapid prototyping and customer feedback loops, is increasingly recognized as an effective educational tool in entrepreneurship programs (Mansoori & Lackeus, 2020). By focusing on the build-measure-learn feedback loop, the Lean Startup approach encourages students and entrepreneurs alike to test their assumptions quickly and learn from real-world interactions, thereby reducing the cost and time associated with traditional product development processes. This method aligns with the principles of agile learning and can be particularly effective in academic settings, promoting a mindset of continuous iteration and validation (Bakator et al., 2018).

The javelin experiment board is a board that we can use to help validate business ideas. The javelin experiment board is one tool that can make it easier for new entrepreneurs to validate business ideas. The javelin experiment board consists of two main parts. The first is the brainstorming area, which allows a team to brainstorm. The second is the execution area, where a team or person chooses one of the right business ideas to run. Usually, ideas arise from everyday problems developers face.

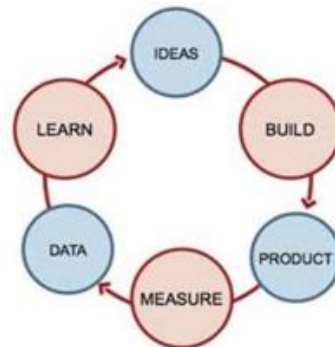
### 3. Methods

This study adopts a qualitative research method with a descriptive approach to delve into the application of javelin boards and lean startup methodologies within the context of sorghum entrepreneurship education. Qualitative research is characterized by its ability to capture data in forms that are not strictly quantifiable, such as words and images, allowing for a deeper exploration of subjects' experiences and perceptions (Bulmer, 2017). This method is particularly suited to uncovering rich, contextual insights that quantitative approaches might overlook, providing meaningful information that can contribute to problem-solving and enhancing human living standards (Gehman et al., 2018). The choice of qualitative research facilitates a nuanced understanding of how educational principles in entrepreneurship can be effectively integrated with practical tools like javelin boards and lean startup methodologies to foster innovation and resilience among sorghum entrepreneurs.

The research was conducted at the Sorghum Entrepreneur Unit (SEU) involving 34 sorghum entrepreneurs who are part of the SEU community. The primary data were collected directly from these entrepreneurs, SEU leadership, and sorghum product buyers, employing interviews, surveys, and documentation methods. The study focuses on analyzing the lean startup cycle, which is segmented into three phases, build (idea validation), measure (prototype validation), and learn (decision-making), applying an interactive analysis technique for qualitative data analysis (Gehman et al., 2018). This analysis involves data reduction, data display, conclusion drawing, and verification to ensure a comprehensive understanding of the entrepreneurial process.

Lean startup is a technique that reduces risk in business, mainly by relying on iterations (repeating the process from product to market to get helpful input from the market as quickly and often as possible) (Leatherbee & Katila, 2020). Validated

learning, which is the process of learning pertinent information about product design, is another essential component of the lean startup methodology (Mansoori, 2017). The procedure begins with assumptions or hypotheses, which are then examined through field experiments to determine whether a hypothesis is accurate. Lean startup tries to create a method and concept to develop businesses and products with short cycles and solve problems. The focus of lean startup itself is to create prototypes to test assumptions and provide solutions to allow evolution to run faster, as well as focusing on the development and consistency of the company.



**Figure 1.** The primary process of lean startup

Build measure and learn is a core cycle or process in the lean startup methodology (De Cock et al., 2020). The purpose of build-measure-learn is to offer the information necessary for Validated Learning. Produce goods based on fundamental theories that have undergone Validated Learning testing. The product created was a Minimum Viable Product (MVP) for the first time. A minimally viable product, or MVP, has only the basic functionality necessary to test further unproven assumptions. Creating an entrepreneur sorghum marketplace design is needed to determine whether the application is suitable for use or not using the javelin board (Noerhartati et al., 2021).

Collect data on responses, ideas, feedback, and comments from MVP users and assess the results to learn more about the hypothesis under investigation. In this study, the measuring process uses the results of SWOT Analysis that has been carried out in previous studies (Quezada et al., 2019). Determine whether the required premises are true or false. The results of the learning stage are then used as a foundation for developing new items or changing existing items. At this stage, a sorghum entrepreneur marketplace is being created based on the results of documentation at the Build and Measure stages.

#### **4. Result**

At the idea validation stage, the javelin board presents several hypotheses and solutions, stating that all predetermined hypotheses are declared valid with the results of testing the five hypotheses more than the specified success criterion of 60%. Not only hypotheses on problems and risk assumptions but even the solutions presented to the javelin board have been approved by all respondents. This means that ideas and ideas with the concept of lean startup are following market needs but still need to be developed on the products and services offered to create a holistic sorghum entrepreneur marketplace, which can be seen in Figure 2.

JAVELIN Board		1	2	3	4	5
Start here. Brainstorm with stickies, pull it over to the right to start your experiment		Customer				
Who is your customer? Be as specific as possible.		Masyarakat yang memiliki penghasilan (24-50 Tahun)				
What is the problem? Phrase it from your customer's perspective.		Kemasan kurang menarik   Inovasi produk masih kurang   Promosi kurang maksimal   Biaya sewa outlet meningkat   Jumlah Pekerja masih terbatas				
Define the solution only after you have validated a problem worth solving.		Marketplace Entrepreneur Sorgum yang dapat memudahkan Entrepreneur Sorgum di beberapa kota di Provinsi Jawa Timur dalam melakukan proses jual beli produk sorgum kepada masyarakat secara luas				
List the assumptions that must hold true, for your hypothesis to be true.		Terbatasnya Hubungan Brand dengan Pelanggan   Kebutuhan Pembeli tidak terpenuhi   Produk sorgum tidak dapat dijual   Kehilangan tempat usaha   Tidak dapat melayani pesanan pembeli				
Need help? Use these sentences to help construct your experiment.		Metode yang digunakan dalam penelitian ini yaitu kualitatif deskriptif, melalui pengumpulan data berupa wawancara, survei, dan dokumentasi.				
To form your assumptions: In order for hypothesis to be true, assumption needs to be true		Get out of the building!				
To identify your riskiest assumptions: The assumption with the least amount of data, and core to the viability of my hypothesis is ...		Result & Decision Success				
Determine how you will test it: The least expensive way to test my assumption is ...		Learning Success				

Figure 2. Javelin Board Marketplace Entrepreneur Sorgum

SWOT analysis is a method for determining and designing strategies for developing small sorghum industries. SWOT analysis is prepared based on internal (strengths and weaknesses) and external (opportunities and threats) analysis in the sorghum small industry. Filling out internal and external analysis involves using data from the business model canvas obtained from qSEUtionnaires given to business owners, qSEUtionnaires to consumers, interviews with consumers, and interviews with sorghum entrepreneurs.

Table 1. SWOT Analysis Results of Internal and Identification

Internal/External Factors	Strength	Weakness	Opportunities	Threats
Product	Quality of selected raw materials	Less attractive finish Product innovation is still lacking.	Being by-by special district Government support	Competitor products are more innovative Competitor products are cheaper.
Production Process	Manual production process – machine	-	-	-
Marketing	The location of the outlet is quite strategic Economical price	Outlets are less attractive or still very simple Less than optimal promotion Workers are still limited	Reach all market segments Opening a new outlet Opening new jobs for the community	Outlet rental costs increase
TBSP	Workers/owners are already skilled	Business management is still simple.	-	-
Raw Material	Close to the source of raw materials	-	-	The cost of raw materials increases Raw materials are challenging to find
Capital	-	Business capital is still small	-	-

After analyzing the external and internal environment, it can be formulated into a SWOT analysis that describes every strength, weakness, opportunity, and challenge of Toko Damai. Based on internal strengths and weaknesses as well as opportunities and threats, four sets of strategic alternatives that company managers can take in the face of increasingly competitive competition are described from the SWOT matrix, which can be seen in Table 2.

**Table 2. SWOT Strategy Filling**

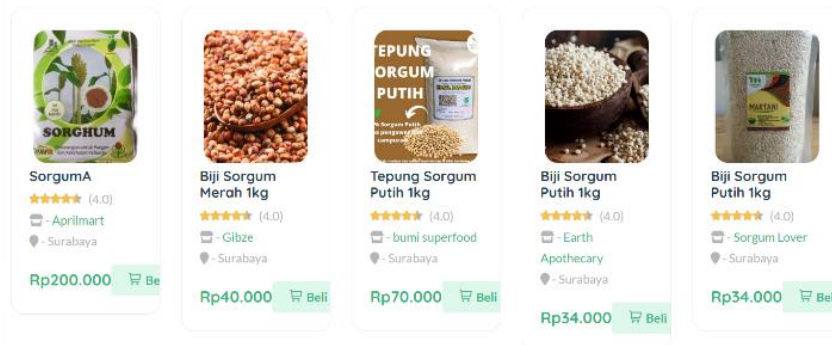
	STRENGTHS (S)	WEAKNESS (W)
Internal Strength	<ol style="list-style-type: none"> <li>1. Quality of selected raw materials</li> <li>2. Manual production process – machine</li> <li>3. The location of the outlet is quite strategic</li> <li>4. Economical price</li> </ol>	<ol style="list-style-type: none"> <li>1. Less attractive finish</li> <li>2. Product innovation is still lacking</li> <li>3. Outlets are less attractive or still very simple</li> <li>4. Less than optimal promotion</li> </ol>
External Forces	<ol style="list-style-type: none"> <li>5. Workers/owners are already skilled</li> <li>6. Close to the source of raw materials</li> </ol>	<ol style="list-style-type: none"> <li>5. Workers are still limited</li> <li>6. Business management is still simple</li> <li>7. Business capital is still small</li> </ol>
	OPPORTUNITIES (O)	STRATEGY WO
	<ol style="list-style-type: none"> <li>1. Being by – by the special district</li> <li>2. Government / Government / another agency support</li> <li>3. Reach all customer segments</li> <li>4. Opening a new outlet</li> <li>5. Creating jobs for the community</li> </ol>	<ol style="list-style-type: none"> <li>1. Marketplaces can feature entrepreneurs along with social media accounts</li> <li>2. Marketplace can be introduced to the public by introducing sorghum products.</li> </ol>
	THREATS (T)	WT STRATEGY
	<ol style="list-style-type: none"> <li>1. Competitor products are more innovative</li> <li>2. Competitor products are cheaper</li> <li>3. Outlet rental fee</li> <li>4. The cost of raw materials increases</li> <li>5. Raw materials are hard to come by</li> </ol>	<ol style="list-style-type: none"> <li>1. The marketplace can display ratings of sorghum products that have been purchased.</li> <li>2. Marketplace can display discounts to attract the attention of consumers</li> <li>3. Marketplaces can feature transportation agents to deliver sorghum products to buyers</li> </ol>

In the concluding phase of the learning process, the development of the Sorghum Entrepreneur Marketplace represents a significant stride towards integrating entrepreneurial education with practical digital solutions. This online marketplace not only facilitates the buying and selling of sorghum products across various cities in East Java Province but also serves as an educational platform for sorghum entrepreneurs. By providing a space for entrepreneurs to engage in the digital economy, the marketplace acts as a real-time case study in e-commerce, digital marketing, and customer relations, crucial components of a modern entrepreneurial curriculum.

The sorghum entrepreneur marketplace offers cost-saving benefits and promotional opportunities for sellers, demonstrating to learners the value of digital platforms in reducing overheads and expanding market reach. This practical example underscores lessons in digital literacy, marketing strategies, and the economics of online selling, aligning with entrepreneurial education goals of fostering adaptable, tech-savvy business owners. Moreover, the marketplace enhances consumer access to product information and streamlines the purchasing process, highlighting the importance of user experience design and digital customer service skills in entrepreneurial education. The real-time transaction capability exemplifies the efficiency and scalability that digital solutions offer to small businesses, a key lesson for entrepreneurs in leveraging technology to optimize operations.

Figure 3 offers a snapshot of the marketplace through the eyes of a prospective buyer, showcasing the user-friendly interface that allows customers to browse and select sorghum products according to their needs. The design of the buyer's interface is a practical example of how digital platforms can be optimized for user engagement and satisfaction. For entrepreneurial education, this visual representation serves as a case study in customer-centric design and digital marketing strategies. It illustrates the importance of intuitive navigation and clear product presentation,

principles that are critical for online business success. By analyzing this interface, students can learn about the nuances of creating an online marketplace that is both appealing and functional, highlighting the intersection between technology, business, and user experience design.



**Figure 3.** Category marketplace entrepreneur sorghum

Therefore, the focus shifts to the detailed process of selecting a product and the seamless integration of the marketplace's shopping cart functionality. This figure demonstrates the marketplace's capability to provide immediate pricing information and allows buyers to specify the quantity of their desired product, streamlining the path to purchase. From an educational standpoint, this aspect of the marketplace illustrates the operational mechanics of e-commerce platforms, including inventory management, dynamic pricing, and checkout processes. It offers students a real-world application of concepts such as supply chain management, digital payment systems, and the psychology of online shopping. By dissecting the design and functionality captured in Figure 4, learners can gain insights into the critical factors that influence online purchasing decisions and the technological solutions that facilitate a smooth, customer-friendly buying experience.

Figures 3 and Figures 4 enrich the educational narrative by providing concrete examples of how digital tools and platforms can be effectively utilized in entrepreneurial ventures. They highlight the synergy between technical knowledge, business acumen, and user experience design, offering students a comprehensive view of the skills and strategies needed to succeed in the digital marketplace.



**Figure 4.** Product Purchase

## 5. Conclusion

From the research, it can be concluded that the sorghum entrepreneur marketplace project provides an example of the transformative power of combining educational theory with entrepreneurial practice. Through the javelin board and lean

startup methodology, this project not only achieved a validated business model but also illustrated the educational value of applying these tools in the real world. This experience provides valuable lessons for the future of entrepreneurship education, emphasizing the need for programs that bridge theoretical knowledge with practical application. As the sorghum entrepreneur marketplace progresses, it becomes a model for how educational institutions can support entrepreneurial ventures, nurturing a new generation of innovators ready to face the challenges of the digital economy. The suggestions from this research are sorghum entrepreneurs must align their operations with the business model they adopt. Sorghum market entrepreneurs need ongoing assessments to measure the effectiveness of the strategies used and their impact on market success. Future research efforts should expand their focus beyond market development to include comprehensive financial analysis. Therefore, it is recommended that future projects integrate educational principles and methodologies, such as the lean startup approach, into market development and operations.

## References

- Akella, D. (2010). Learning together: Kolb's experiential theory and its application. *Journal of Management & Organization*, 16(1), 100-112.
- Anwar, M. R., Yusup, M., Millah, S., & Purnama, S. (2022). The role of business incubators in developing local digital startups in Indonesia. *Startuppreneur Business Digital (SABDA Journal)*, 1(1), 1-9.
- Ayub, A., Razzaq, A., Aslam, M. S., & Iftekhar, H. (2013). A conceptual framework on evaluating SWOT analysis as the mediator in strategic marketing planning through marketing intelligence. *European Journal of Business and Social Sciences*, 2(1), 91-98.
- Bakator, M., Đorđević, D., Čočkalo, D., Nikolić, M., & Vorkapić, M. (2018). Lean startups with industry 4.0 technologies: Overcoming the challenges of youth entrepreneurship in Serbia. *Journal of Engineering Management and Competitiveness (JEMC)*, 8(2), 89-101.
- Blanton, L. P., Pugach, M. C., & Boveda, M. (2018). Interrogating the intersections between general and special education in the history of teacher education reform. *Journal of Teacher Education*, 69(4), 354-366.
- Bulmer, M. (2017). Concepts in the analysis of qualitative data. In *Sociological research methods* (pp. 241-262). Routledge.
- De Cock, R., Bruneel, J., & Bobelyn, A. (2020). Making the lean start-up method work: the role of prior market knowledge. *Journal of Small Business Management*, 58(5), 975-1002.
- DeGeorge, J. M., & Fayolle, A. (2013). Is entrepreneurial intention stable through time? First insights from a sample of French students. *International Journal of Entrepreneurship and Small Business*, 5(1), 7-27.
- Dervitsiotis, K. N. (2011). The challenge of adaptation through innovation based on the quality of the innovation process. *Total Quality Management & Business Excellence*, 22(5), 553-566.
- Dutta, D. K., & Crossan, M. M. (2005). The nature of entrepreneurial opportunities: Understanding the process using the 4I organizational learning framework. *Entrepreneurship Theory and Practice*, 29(4), 425-449.
- Eshaghi, A., Mousavi, S., & Eshaghi, A. (2015). The application of SWOT model to compile appropriate strategies for projects risk management in Fooladtechnic International Company. *Science Journal of Business and Management*, 3(1), 26.
- Fust, A. P., Jenert, T., & Winkler, C. (2017). Experiential or self-regulated learning: a critical reflection of entrepreneurial learning processes. *Entrepreneurship Research Journal*, 8(2), 20170098.
- Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry*, 27(3), 284-300.
- Gianessi, L. P. (2013). The increasing importance of herbicides in worldwide crop production. *Pest management science*, 69(10), 1099-1105.
- Gibb, A. (2007). Creating the entrepreneurial university: do we need a wholly different model of entrepreneurship. *Handbook of research in entrepreneurship education*, 1, 67-103.

- Hunt, S. D., & Morgan, R. M. (1994). Relationship marketing in the era of network competition. *Marketing management*, 3(1), 18.
- Kolb, A. Y., & Kolb, D. A. (2009). Experiential learning theory: A dynamic, holistic approach to management learning, education and development. *The SAGE handbook of management learning, education and development*, 7, 42.
- Leatherbee, M., & Katila, R. (2020). The lean startup method: Early-stage teams and hypothesis-based probing of business ideas. *Strategic Entrepreneurship Journal*, 14(4), 570-593.
- Levänen, J., Park, S., & Rosca, E. (2023). Circular solutions in developing countries: Coping with sustainability tensions by means of technical functionality and business model relevance. *Business Strategy & Development*, 6(1), 75-94.
- Mansoori, Y. (2017). Enacting the lean startup methodology: The role of vicarious and experiential learning processes. *International Journal of Entrepreneurial Behavior & Research*, 23(5), 812-838.
- Mansoori, Y., & Lackeus, M. (2020). Comparing effectuation to discovery-driven planning, prescriptive entrepreneurship, business planning, lean startup, and design thinking. *Small Business Economics*, 54, 791-818.
- Marion, T. J., & Fixson, S. K. (2021). The transformation of the innovation process: How digital tools are changing work, collaboration, and organizations in new product development. *Journal of Product Innovation Management*, 38(1), 192-215.
- Mrema, E., Shimelis, H., Laing, M., & Bucheyeki, T. (2017). Farmers' perceptions of sorghum production constraints and Striga control practices in semi-arid areas of Tanzania. *International Journal of Pest Management*, 63(2), 146-156.
- Noerhartati, E., Karyati, P. D., Jatiningrum, C., Saurina, N., & Karimah, L. N. (2021). Development of Digital Marketing Entrepreneurship Sorghum-Based Supports New Normal. *Jurnal Terapan Manajemen dan Bisnis*, 7(2), 106-114.
- Paço, A., Ferreira, J., & Raposo, M. (2016). Development of entrepreneurship education programmes for HEI students: The lean start-up approach. *Journal of Entrepreneurship Education*, 19(2), 39.
- Pramono, C. A., Manurung, A. H., Heriyati, P., & Kosasih, W. (2021). Factors affecting start-up behavior and start-up performance during the COVID-19 pandemic in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(4), 809-817.
- Quezada, L. E., Reinaldo, E. A., Palominos, P. I., & Oddershede, A. M. (2019). Measuring performance using SWOT analysis and balanced scorecard. *Procedia Manufacturing*, 39, 786-793.
- Singh, S., Chauhan, A., & Dhir, S. (2020). Analyzing the startup ecosystem of India: A Twitter analytics perspective. *Journal of Advances in Management Research*, 17(2), 262-281.
- Smith, A. D. (2011). Competitive approaches to new product development: A comparison of successful organizations in an unstable economic environment. *Team Performance Management: An International Journal*, 17(3/4), 124-145.
- Wilson, F., & Post, J. E. (2013). Business models for people, planet (& profits): exploring the phenomena of social business, a market-based approach to social value creation. *Small Business Economics*, 40, 715-737.



Copyright: © 2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution-ShareAlike 4.0 International License (<https://creativecommons.org/licenses/by-sa/4.0/>).