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Designing a Digital Business Study Program using Lean Startup Methodology

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ABSTRACT

In the ever growing digital era, the need for adaptive and innovative business education is becoming increasingly important. This research focuses on the central problem of the lack of integration between traditional business theory and dynamic digital business practices, as well as the need to develop entrepreneurial skills that are relevant to today's market. The aim of this research is to design a digital business study program that utilizes the Lean Startup methodology to promote action-oriented and experimental learning. The method used in this research is a participatory curriculum design approach, involving stakeholders from academia, industry and digital entrepreneurs. Data is collected through surveys, in-depth interviews, and case studies, which are then analyzed to identify best practices and principles of effective learning. The conclusion of this research shows that the integration of Lean Startup in digital business study programs can increase students' adaptability and innovation capabilities, preparing them for success in a rapidly changing business environment. The designed program emphasizes iterative learning, rapid market validation, and scalable business model development, all of which are crucial for modern entrepreneurship. This research provides a framework for more responsive and practical digital business education, which can be adopted by educational institutions to develop curricula that meet current and future industry demands.

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1. INTRODUCTION

In the fast-paced and ever-changing digital era, digital business has become the backbone of the global economy, driving innovation, growth and transformation in various sectors[1]. However, there is a widening gap between the skills required by digital entrepreneurs and those offered by conventional business study programs[2]. These

programs often fail to capture the essence of a fast-paced business environment, where the ability to adapt, experiment and innovate is not only a competitive advantage but also a basic need[3]. The Lean Startup methodology, which emphasizes rapid customer validation learning, minimum viable product (MVP) development, and continuous iteration, has emerged as a promising framework for addressing these challenges[4].

The background to this research is rooted in the urgency to reform business education to align with current market realities[5]. By adopting Lean Startup principles, educational institutions can offer a more flexible and responsive curriculum, which not only teaches business theory but also instills the practical skills essential for building and managing a business in the digital world[6]. This research aims to identify shortcomings in traditional business curricula and design a study program that combines theory with real practice, allowing students to learn through action and direct experience[7].

The problem formulation in this research includes critical questions such as how educational institutions can be more effective in teaching digital entrepreneurship, how curricula can be designed to facilitate results-oriented learning, and how students can be equipped with the skills necessary to succeed in a fast-paced startup ecosystem[8]. fast. This research also explores how the Lean Startup methodology can be integrated into study programs to develop the critical thinking, creativity and adaptability required by today's entrepreneurs[9].

The aim of this paper is to develop an innovative and relevant curriculum framework that prepares students for the unique challenges and opportunities offered by digital business[10]. This research aims to create a study program that not only teaches the basics of digital business but also promotes skills such as complex problem solving, design thinking, and user-oriented product development[11]. With a focus on project-based learning and collaboration between academia and industry, this research seeks to produce graduates ready to enter the job market with a deep understanding of how to apply Lean Startup principles in real contexts, drive innovation, and translate creative ideas into sustainable business solutions[12].

2. LITERATURE REVIEW

In order to design an effective and relevant digital business study program, this research explores various literature sources that include educational theories, entrepreneurial methodology, and practical case studies of digital business implementation[13]. One of the main theoretical foundations is Eric Ries' work on Lean Startup, which proposes a business model that focuses on rapid learning and adaptation based on customer feedback[14]. Ries emphasizes the importance of building a minimum viable product or service (MVP) to start the learning process as quickly as possible[15]. In addition, literature on business education pedagogy and curriculum is analyzed to understand how the principles of adult learning and competency-based learning can be integrated in the designed study program. Constructivist learning theories, such as those proposed by Piaget and Vygotsky, provide insight into how knowledge is constructed through experience[16], which is particularly relevant for entrepreneurial learning[17]. In the context of digital business learning, literature also shows the importance of digital literacy and the ability to utilize information technology[18]. Research by Prensky and White highlights the differences between 'digital natives' and 'digital immigrants', demonstrating the need for learning approaches that take into account the diverse digital abilities among students[19].

Findings from empirical studies on the effectiveness of Lean Startup methodology in education are also an important part of the literature review[20]. The study by Blank

and Dorf shows how Lean Startup can be implemented in university curricula to improve students' entrepreneurial skills and commercial success[21]. They suggest that this approach can improve students' ability to identify market opportunities, develop valid business models, and pivot or iterate based on feedback. Furthermore, the literature on collaboration between academia and industry highlights the importance of partnerships in supporting innovation and knowledge transfer[22]. The study by Etzkowitz and Leydesdorff describes a triple helix model of innovation, in which universities, industry, and government work together to create a dynamic innovation ecosystem[23]. Finally, this literature review also considers the challenges and barriers to adopting new approaches in business education[24]. Research by Bower and Christensen on disruption theory shows how educational institutions can have difficulty adopting innovations that disrupt the educational status quo[25]. This literature review provides a strong theoretical and empirical foundation for the development of a digital business study program that integrates the Lean Startup methodology, with the aim of creating a responsive, adaptive, and results-oriented curriculum that can meet the needs of the current and future job market[26].

3. METHOD

In this research, we use a qualitative approach to design a digital business study program that integrates the Lean Startup methodology[27]. This approach was chosen because it allows for an in-depth understanding of the educational context and business practices and the interactions between the two[28].

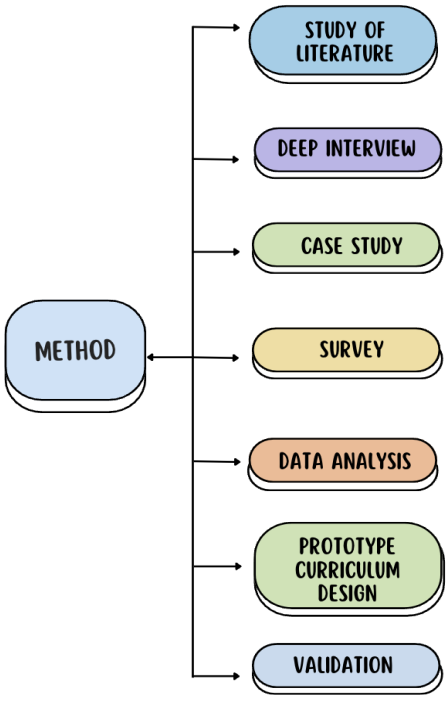

Figure 1. Research Method.

1. **Study of literature**
   Conducted an extensive review of existing literature regarding Lean Startup methodology, digital business pedagogy, and curriculum design. Analyze academic documents and publications to identify best practices and relevant theories[29].
2. **Deep interview**
   Conduct in-depth interviews with experts in the field of business education, entrepreneurs who have implemented the Lean Startup methodology, and academics who specialize in entrepreneurship education. This interview aims to gather diverse perspectives on needs, challenges and opportunities in designing relevant curricula[30].
3. **Case Study**
   Conduct case studies on institutions that have implemented elements of the Lean Startup methodology in their curriculum. Analyze the impact of this implementation on student learning outcomes and their success after graduation.
4. **Survey**
   Distribute a survey to students and alumni of business programs to assess their perceptions of the effectiveness of the education they received in preparing them for the world of digital business. The survey also aims to identify gaps in knowledge and skills that they experience.
5. **Data analysis**
   Use thematic analysis to identify key themes from interview and survey data. Apply content analysis to case study data to extract best practices and lessons that can be applied in curriculum design.
6. **Prototype Curriculum Design**
   Develop a curriculum prototype based on findings from collected data. This prototype will be tested with focus groups consisting of prospective students, entrepreneurs, and educators to get feedback and iterate on the design.
7. **Validation**
   Conduct pilots on designed curriculum modules with student cohorts to test their effectiveness in real learning environments. Collect and analyze feedback from students and teachers to make further adjustments to the curriculum.

This method allows research to not only identify theoretical principles that should be integrated into digital business study programs but also to understand how these principles can be practically applied in educational settings. The end result is a curriculum framework that can be adapted and adopted by educational institutions wishing to prepare their students for the challenges and opportunities in digital business.

4. RESULTS AND DISCUSSION

This research reveals important findings regarding the design and implementation of digital business study programs that integrate the Lean Startup methodology. First, an analysis of traditional business curricula compared to the needs of today's digital industry highlights a significant skills gap. Skills such as basic programming, data analysis, UX/UI understanding, and the ability to adapt and solve complex problems, which are increasingly important in the digital economy, are often not emphasized enough. This indicates the need for a more dynamic and responsive curriculum that can adapt to rapid changes in technology and business practices. The Lean Startup methodology, which emphasizes iterative learning and product development responsive to customer feedback, was enthusiastically received by students and faculty. The implementation of these practices in the curriculum has increased student engagement and given them the tools to

face real challenges in business. A prototype curriculum designed based on Lean Startup principles demonstrated improvements in student learning outcomes, with many reporting increased confidence in identifying market opportunities and developing viable business strategies. Further discussion of the skills gap emphasizes the importance of education that is oriented towards skills and competencies that can be directly applied in a professional context. The curriculum should allow students to develop the necessary technical skills while also strengthening their soft skills through simulations, real projects, and interactions with industry professionals.

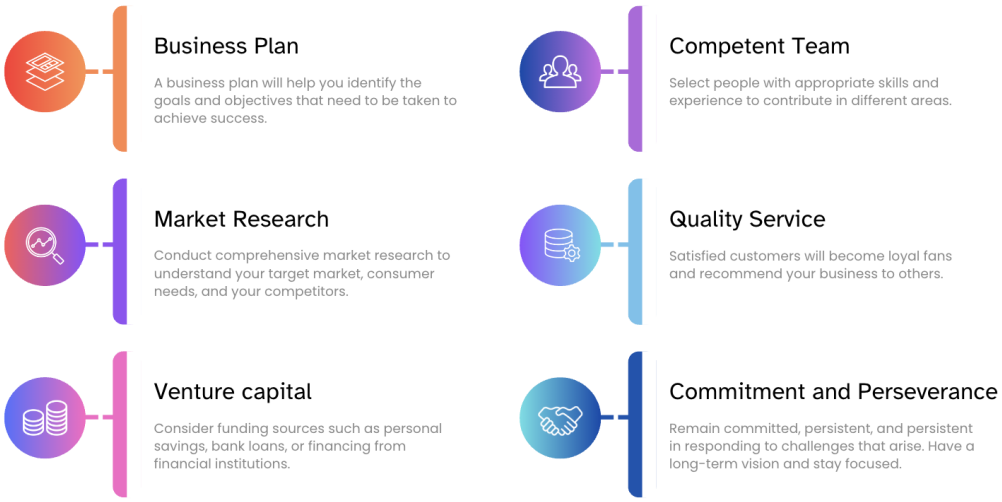

Figure 2. Principles of Lean Startup.

Discussions about the acceptance of the Lean Startup methodology suggest that this approach can help overcome some of the shortcomings of traditional business education by introducing students to concepts such as MVP, pivots, and customer validation. This emphasizes the importance of experience-oriented learning, where students can learn from failure and success in a controlled and supportive environment.

The prototype curriculum focused on Lean Startup has transformed the students' learning experience, enabling them to engage in a more dynamic and practical learning process. This not only enhances their theoretical knowledge but also strengthens their practical skills, increases students' job readiness, and prepares them to contribute effectively in the ever-evolving digital economy. This research shows that the integration of Lean Startup methodology into digital business study programs offers significant potential to improve the quality and relevance of entrepreneurship education, providing a framework for educational institutions to design curricula that are adaptive and responsive to the needs of the evolving digital business industry. Users provide more length ChatGPT Results and Discussion: This research yielded in-depth insights into how Lean Startup methodology can be integrated into digital business curricula to bridge the skills gap that exists between traditional business education and the demands of the modern job market. Comparative analysis between traditional business curricula and digital industry needs shows that there is a significant shortage in the technical and analytical skills required to operate effectively in the digital economy. These skills include not only aspects of information technology such as programming and data analysis, but also the design thinking, innovation, and creativity skills necessary to develop user-centered solutions.

Additionally, soft skills such as communication, teamwork, and adaptive leadership are also necessary to lead in a fast-paced and often ambiguous environment. In terms of acceptance of the Lean Startup methodology, this research found that this approach resonates deeply with students and faculty. This methodology is appreciated for its focus on action-based learning and rapid adaptation based on market feedback. A curriculum that adopts Lean Startup principles has been proven to increase student engagement and give them practical tools to face real challenges in business. Students involved in this prototyping curriculum reported increased confidence in their ability to identify market opportunities, develop a minimum viable product (MVP), and iterate based on customer feedback. Further discussion of the skills gap underscores the importance of education oriented towards skills and competencies that can be directly applied in professional contexts. A well-designed curriculum should allow students to develop necessary technical skills while also strengthening skills their software through simulations, real projects, and interactions with industry professionals. Discussions about the acceptance of the Lean Startup methodology suggest that this approach can help overcome some of the shortcomings of traditional business education by introducing students to concepts such as MVP, pivots, and customer validation. This emphasizes the importance of experience-oriented learning, where students can learn from failure and success in a controlled and supportive environment. The prototype curriculum focused on Lean Startup has transformed the students' learning experience, enabling them to engage in a more dynamic and practical learning process. This not only enhances their theoretical knowledge but also strengthens their practical skills, increases students' job readiness, and prepares them to contribute effectively in the ever-evolving digital economy.

This research shows that the integration of Lean Startup methodology into digital business study programs offers significant potential to improve the quality and relevance of entrepreneurship education, providing a framework for educational institutions to design curricula that are adaptive and responsive to the needs of the growing digital business industry. Additionally, these findings suggest that a student-centered approach, which allows them to take ownership of their own learning process, is essential in entrepreneurship education. A flexible and adaptable curriculum, which allows students to explore their interests and apply their learning in real projects, is necessary to meet individual needs and career aspirations. This research also highlights the importance of collaboration between educational institutions and industry to ensure that curricula remain relevant and future-oriented. These partnerships can take a variety of forms, including internships, collaborative projects, and mentorship programs that allow students to gain hands-on experience and build their professional networks. Overall, the results and discussion in this research confirm that effective digital business education requires an innovative, adaptive, and sustainable approach that places students at the center of the learning process and prepares them to become leaders and innovators in an ever-changing global economy.

5. CONCLUSION

In the Industry 4.0 era, financial technology has undergone an unprecedented transformation, especially with the integration of FinTech, Crowdfunding, and Blockchain. The final conclusion of this research confirms that the integration of these three technologies has the potential to revolutionize the financial services sector, creating a new paradigm that is more inclusive, transparent and efficient. FinTech, with its ability to simplify financial processes and increase accessibility, has become a major catalyst for innovation in the industry. Crowdfunding, on the other hand, has enabled individuals and small businesses to access funding sources that were previously difficult to reach,

facilitating economic growth and financial inclusion. Meanwhile, Blockchain, with its distributed ledger, offers a revolutionary security and transparency solution, addressing many of the challenges faced by traditional financial systems. However, despite its great potential, there are several obstacles that need to be overcome. Immature regulations, cybersecurity challenges, and issues related to technology adoption are some of the areas that require special attention. To realize the full potential of this integration, a balanced approach is needed that considers both aspects: exploiting the opportunities offered by new technologies while addressing emerging challenges. In addition, collaboration between stakeholders from the public and private sectors, as well as the academic community, will be key to ensuring that this integration provides maximum benefits for society at large. Education and training will also play an important role in ensuring that individuals and organizations are equipped with the skills and knowledge necessary to utilize these technologies effectively. Thus, this research makes an important contribution to our understanding of the future of financial services in the Industry 4.0 era. By providing valuable insights and concrete recommendations, this research serves as a guide for policymakers, industry practitioners and other stakeholders in formulating strategies and initiatives that will shape a more inclusive, efficient and sustainable future for the financial industry.

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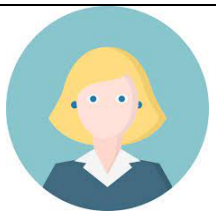
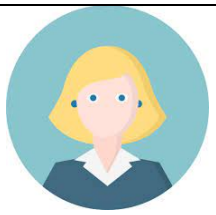
	**Zabenaso Queen** He or she may be involved in areas such as marketing, business development, project management, or other areas relevant to the company's activities. As a professional, Zabenaso Queen may have special experience and skills that are useful to the company where he works. Communication via email is one way to contact and interact with Zabenaso Queen for business or collaboration purposes. Contacted at email: zabenasoqueen@mfinitee.co.za
	**Aneira Anjani** As part of the company, Aneira Anjani is involved in various operational aspects, including product development, project management, sales, marketing or business strategy. As a professional, Aneira Anjani has a special background and skills that are useful for Rey Incorporation. He or she may have experience in a particular industry or have a deep understanding of the market and related trends. Contacted at email: aneiraAnjani12@rey.zone
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