



Digital Business Student Development for Entrepreneurs with Software

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ABSTRACT

Era revolution 4.0, universities throughout Indonesia are computer technology and the economy. This article provides sufficient detail about the course's pedagogical design and practical implementation to serve as a model for how entrepreneurship and business issues can be integrated into a software engineering program. Courses are evaluated using learning diaries and questionnaires, as well as principal lecturer learning in each of the three sample courses. The aim of this course is to provide students with an introduction to lean startup methods for ideas/innovations and further product and company development. This course will teach students about the software industry, entrepreneurship, teamwork, and lean startup methodologies. This article provides sufficient detail about the course's pedagogical design and practical implementation to serve as a model for the Course to be evaluated using learning and questionnaires.

Keywords:

Digital Business
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1. INTRODUCTION

Software entrepreneurship is currently a popular and important topic to be taught to students due to the development of the business world in the world [1]. The lean start-up approach was founded as a result of recent industry developments and tries to accelerate the company's progress while

eliminating waste, the concepts are now being applied to other, more concrete areas. Firms are well established and have created small teams such as start-up goods [2].

However, lean startup techniques can be used as teaching tools. Therefore, the aim of this study was to see how well lean startup techniques do in incorporating the transferable. "Lean startup" courses have been offered annually at Information Technology Departments at Universities throughout Indonesia, and are described in this article since 2022 [3]. implementation is explained in depth so that others can use the same ideas and structure [4].

Structured in a Section manner that provides a brief overview of relevant ideas, as well as inspiration for linked courses and job descriptions. Sections 3 and 4 discuss course design and evaluation, respectively. The study concludes with a discussion of the problem and suggestions for future growth [5].

1.2 Customer Development and Lean Star

Companies have a deeper knowledge of their customers and create and improve their business. Lean startup techniques are a common industry tool for tech startups to manage start-ups. This model consists of four stages, as shown in Figure 1.

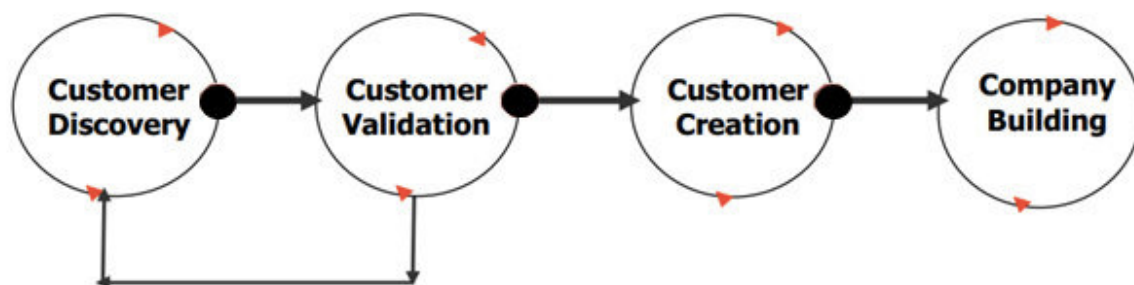


Figure 1. Customer Development Model

This article can turn ideas into products, track consumer feeds, and learn from the results. This procedure is a key component of the lean startup methodology and has been performed several times. Next, the same learning approach is well as the product [6].

2. LITERATURE REVIEW

These articles on research and development, curriculum, and teaching techniques have a long history. Learning outcomes and their consequences for curriculum design and teaching techniques are topics of ongoing scientific debate, particularly in technical education [7].

This article focuses on transferable Lecturer life skills, integrated teaching techniques, and activities in terms of teaching methodologies.

Field research is often conducted using action research methodologies and case study analysis [8]. from course planning, development of teaching techniques, evaluation of learning outcomes, and feedback from all stakeholders for their own praxis will benefit from research based on course creation and evaluated learning outcomes. A similar idea exists to utilize lean startup methods, or equivalent structures, as a basis for educational design. Engineering-based, for example, presents the concept of a game development accelerator. The authors present an incubator that, to some extent, adheres to the lean startup concept [9].

Incorporate entrepreneurial activities into a major project work course that includes students from information systems and computer science. presenting a software entrepreneurship course for computer science students; however, their pedagogical techniques focus on hands-on learning, to present software entrepreneurship courses for computer science students; Student pedagogical techniques must focus on direct learning, this technique is similar to conventional lectures [10]. That many software entrepreneurship courses take a plan-based approach. As a result, they created a course that allows students to complete a software entrepreneurship course using a plan-based or approach-based approach.

2.1 The Role of the Business Incubator

The role of the University is through the establishment of an Entrepreneurship Laboratory and a Business Incubation Center which aims to encourage students to have their own sustainable business [11]. The following is the description of the Head of the Laboratory and Business Incubation Center, the University has done a lot to spur the creation of young entrepreneurs on campus, but as a business incubator, it is still not optimal in terms of Shared, namely not providing office facilities that can be used together, for example, receptionists, conference rooms, telephone systems, facsimile, computer, & security and Synergy, namely the absence of tenant cooperation or competition between tenants and networks with universities, research institutions, private businesses, professionals and the international community [12].

Now students are increasingly afraid of the reduced available job opportunities so they encourage them to study entrepreneurship. However, to open a business there are several obstacles faced by students based on research, which are as follows [13].

Table1. Student Business Constraints

No	Problem	%
1	Capital Problems & Fear of Risk	40%
2	Less confident	70%

3	Can't Divide Time Between College And Business	45%
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In entrepreneurship, there will be obstacles that will be faced by every entrepreneur. Therefore, entrepreneurs must anticipate obstacles that can arise such as income uncertainty, the risk of losing all investments, long and hard work, low quality of life until the business is established, high-stress levels, full responsibility, and despair [14].

Entrepreneurship itself must be studied and practiced continuously as a process of forming an entrepreneur mentality, knowledge, and skills simultaneously [15].

3. METHOD

There are two methods used in this research, where the literature review method and the approach used are descriptive and qualitative. Used. The literature review method is a theoretical framework in the field of research, findings, and research materials obtained from reference materials to be used as the basis for research activities [16].

There are many studies that discuss business incubators by carrying out StartUp training in universities intensively to improve the quality of Start-Up and also the quality of the economy [17]. So it can be concluded that there is no research that discusses the design of a technology-based Business Incubator with iLearning learning applications so that it can assist tenants in doing learning anywhere, anytime, and using any device [18].

In a study, a method is needed that becomes a research approach. In this research, the approach used is descriptive qualitative [19]. The characteristics of this type of research are describing factual events or events and seeking factual information that is carried out in detail. Qualitative descriptive research aims to describe and describe the phenomena that exist in the field. This shows that the implementation of this research did take place as is in a situation that was not manipulated by circumstances and conditions [20].

3.1 Course Design

the course is to give students hands-on experience with a product or service. As realistic as possible in Universities across Indonesia, service development projects based on a lean startup strategy [21]. Utilizing the startup environment in which the team is formed and Having their own business idea is not an end in itself, but a means to an end [22]. In situations where there is uncertainty, there are opportunities for innovation both in terms of products and services. product and company If customers and problems are provided, as is often the case in software engineering project courses, learning will be limited to software engineering, project management, and teamwork skills [23]. We intend to give this training a wider reach [24]. It should be noted that this is not an entrepreneurship course per se, but rather a tool to generate creative products and related

business ideas in a customer or user-driven way using lean startup methods. This technique is easily taught to students because it deals with the development of new products with significant uncertainties and hazards [25]. The fact that there is no stated disciplinary knowledge learning objective for the course means that no knowledge is pre-planned to be assimilated, and there is also no check to ensure that the acquired substance is retained. However, procedures, as well as explore various resources, throughout the course. This course is divided into four parts:

a. Collaboration with customers/users, as well as other stakeholders.

Students are responsible for finding and coordinating customer interactions. They understand the importance of talking to genuine customers. and learn to seek comments and also appreciate criticism [26].

b. development product

Students can learn the basic concepts of lean entrepreneurship and practice them in one core course. Students recognize that the MVP is a tool for testing hypotheses about the business under construction. Students gain hands-on experience in decoding and changing key customer, product, customer, and business value propositions. Students observe how business and product development go hand in hand [27].

c. Software engineering

The main purpose of this journal is to ensure that everyone on the team is given equal responsibility [28]. Students select and implement development tools and environments based on their needs.

d. Deflection discussion

On the course, there is a moderated conversation with a view to putting final emphasis on the most significant learning objectives and providing feedback to the instructor. Due to a lack of motivation, this doesn't go well. The students tried hard at the fourth gate, and after they saw it, they believed that the course was over. This is one of the last exercises before the end of the semester, which may explain my current lack of encouragement [29].

3.2 Learning logs.

The findings from the learning log data show that all learning categories have a moderate to a good degree of learning. In addition, in most learning areas, not a single student stated that he had not learned something [30]. surprisingly, students in technology and business study the most in "concept formulation and business development." Students may not have taken a hands-on enterprise development course, even though many business students have studied the subject in previous courses. The high-

level "work-life skills" learning experience reflects the hands-on nature of the course. As expected, technology students learn more about software engineering, but this is the only area where the two groups of students differ significantly. Learning outcomes in the "general business knowledge" category was the worst [31].

Table 2. Learning opportunities in various learning environments

Area to study	Technology	Business
Collaboration with consumers and users	2.3	2.1
Skills for the workplace	1.3	2.6
General business knowledge	1.9	2.2
Lean startup methodology	1.5	2.2

Universities throughout Indonesia that have active Universities throughout Indonesia email accounts. Five respondents stated that they had discussed continuing course work towards a commercial product with their team. However, they believe that the concept or team is not mature enough. Nonetheless, all respondents were enthusiastic about starting their own software company and working as entrepreneurs [32].

4. RESULTS AND DISCUSSION

Despite the word "startup" in the course title and the words "entrepreneur" and "software business" in the title of this paper, we do not consider this a complete software business or entrepreneurship course [33]. Instead, this course combines aspects of both concepts into a comprehensive and complex learning experience [34]. On the topic of entrepreneurship, students gain insight into entrepreneurial attitudes through working and making decisions under uncertainty, taking responsibility for challenges beyond existing talents, failing and learning from their mistakes [35]. Students create business models as part of a software business course. Conversation, design, and testing, on the other hand, are limited to value propositions, distribution, and marketing channels, client segmentation, and revenue models, resulting in a fairly limited overview of software business development [36]. As a third topic, students gain hands-on experience with experimental, user- and customer-based innovation approaches, which we feel are becoming increasingly popular in scenarios where the product and distribution channel are both digital [37]

4.1 Obstacle

One of the problems identified during course implementation was the demand that multidisciplinary courses be placed on the lead instructor [38]. Teachers must be able to understand and help both business and technological difficulties. Our implementation gurus have a decade of expertise in teaching software engineering as well as running their own businesses. It is very helpful in the transfer of knowledge to students; however, this course relies heavily on a single teacher, which adds to the workload. In addition, a second instructor with business experience and expertise in software startups is present at the four gates and provides important insights -especially about the company's idea and its potential and weaknesses.

Obtaining an impartial second view, of course, benefits students. This type of learning is also difficult for students who only have to answer clearly stated questions in previous classes. These courses require a different mindset: they must (alone) identify what needs to be done, acquire the necessary information and skills, and solve problems [39].

Software Startup is the fourth explicit merge surface boundary. Students' innovative skills, as well as the production and adaptation of information, are catalyzed in the Lean Software Startup course, which prepares them for the challenges of future industry and global community building [40].

5. CONCLUSION

A "Lean software startup" course plan, which is based on student development and a lean startup approach, is provided in this article. The course design and pedagogical methods used are documented, and courses are evaluated using student learning logs and short surveys. The findings suggest that software engineering and business students can learn software engineering, software business, and entrepreneurial skills through this type of training. Participants praised the course design, which emphasizes hands-on learning in multidisciplinary teams. There is no such thing as a perfect course, and we will continue to improve it in the future.

The university plays a role in spurring the creation of young entrepreneurs on campus, including providing services for initial product development, improving business quality, providing skills improvement training, mentoring, and providing access to capital. Software entrepreneurship courses for computer science students; however, their pedagogical technique focuses on hands-on learning, whereas ours is similar to conventional lectures. It should be noted that many software entrepreneurship courses take a plan-based approach. They created a course that allows students to complete a Software entrepreneurship course using a plan-based or agile approach.

The university is making efforts to improve facilities as a business incubator so that more and more young entrepreneurs are successfully grown on campus. Further research is directed at how students can successfully develop businesses in the creative economy sector.

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