The Development of Student eMarketplace and Business Directory: Creating an Entrepreneurial Environment to Encourage Entrepreneurship among University Students

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Article Information

Abstract

Entrepreneurship is arguably the most important aspect in driving the economy of the nation. The importance of entrepreneurship cannot be denied. Thus, the government of Malaysia encourages even the higher learning institution's students to partake in entrepreneurial ventures. In line with the increasing reliance of internet and ecommerce in entrepreneurial ventures, this paper shares the initiative of developing a student e-marketplace. This student e-marketplace will serve as a digital platform for students to develop their entrepreneurship skills. This will be the hub for all student enterprises to connect goods and services to boost sales. These are only a few of the CoCIM's digital initiatives that are pertinent to the UiTM community's environment for digital entrepreneurship.

INTRODUCTION

In recent years, e-commerce has changed how goods and services are offered for sale and purchased. The transition from brick-and-mortar to click-and-mortar commerce was made possible using cutting-edge technology. It is one of the factors propelling the retail industry's digital revolution. The term academic entrepreneurship or university entrepreneurship in several published research can be defined as entrepreneurial activities in which a university could be involved, including patenting, licensing, forming new businesses, supporting incubators in the transfer of technologies and other economic development (Rothaermel et. al, 2007). Technology advancements made possible by technology transfer projects will increase the level of entrepreneurship in colleges and universities and encourage more students to go into careers as entrepreneurs (Mowery and Shane, 2002).

Universities are urged to provide entrepreneurship programs to boost the amount of student entrepreneurship interest. In support of Globally Renowned University (GRU25), UiTM aims to become the leading worldwide university for science, technology, the humanities, and entrepreneurship. Moreover, in support of the Government

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initiative of "Skim 1 Pelajar 1 Perniagaan' to encourage youths to venture into business and minimize jobseekers, this project plays a significant role to promote entrepreneurship as an alternative to employment. The College of Computing, Informatics and Media (CoCIM) of Universiti Teknologi MARA (UiTM) in collaboration with the Malaysian Academy of SME & Entrepreneurship Development (MASMED) has many initiatives to encourage students to participate in entrepreneurship. Among the initiatives are giving training, advice, support for individuals and students on improving their entrepreneurial abilities. Moreover, a project or proposal that considers the students' entrepreneurial attitudes must be developed to support entrepreneurial initiatives (Badri, R., et. al 2019).

Based on the preliminary investigation, it was found that most students in UiTM Shah Alam do business while studying. There are varieties of service(s) or product(s) offered. Among the products are beauty products (distributor), food, mobile top-up, and clothes. Some of the services offered are fixing computers and car rental. However, the problem is the availability of the service that only focuses on customers within the university community market. There are also several problems identified such as sellers not having a business platform to promote their products or services, no portal for sellers and buyers to communicate, search and exchange information. Also, the services provided have no price guideline and the charges are not fixed. Despite the growing social networking websites used by all businesses, there is a need to have a centralized platform that facilitates the exchange of a product or service, enabling those looking to provide that product/service to connect with those seeking that product/service. It is important to get accurate business information.

However, the student entrepreneurs find it difficult in advertising their product and services since they are relying on word-of-mouth on social media. Every year the number of new businesses increases, and it is hard to keep track and update. Some students have more than one business. Moreover, the data needs to be updated constantly since most students in CoCIM are undertaking a 2-year degree program. As a result, the database must be kept up to date to ensure its validity. Therefore, as an effort to foster entrepreneurship among students, Student Business Marketplace and StudentPreneurs Business Directory are proposed. Thus, our study aims to propose digital innovations in support of the entrepreneurial environment in UiTM. The remaining section of the paper is structured as follows: In Section 2, the related work of existing literature in the field of e-commerce marketplace and directory system. Chapter 3 describes the development of the systems. The results and findings are in Section 4. The conclusion is in Section 5.

LITERATURE REVIEW

Directories are known as files or shelves, much like a workbench or a standard filing system for an office. It is used to store, organize, and separate files and folders according to category. A business directory basically defines a massive platform where customers are able to find relevant information and contact businesses about their interests. Being listed in online business directories are very helpful and essential tools for small enterprises. Although the quantity of information and the fundamental structure of all common forms of directories have evolved throughout time, the overall content of directories is connected to their task.

The e-commerce definition, sellers and buyers rely on different institutional mechanisms, another important source of trust. Institutional mechanisms are legally binding arrangements created by third parties to protect the transacting parties against potential risk of loss (Zucker, 1986). Therefore, the emergence of e-marketplace influences information technology to create more efficient markets and to bring together buyers and sellers with greater effectiveness at a massive scale (Hahn, 2001). Besides that, trading is fundamental in the process of human socialisation and can be done for money, other things, or both. (McMillan, 2002). Consequently, an online market must be as rich, complex, and complete as a traditional market and must create extra value for its users (Kambil and van Heck, 2002).

The term entrepreneur can be defined as not only the maker and primary actor of business thought however generally additionally respected with the best hopes of the improvement and future of the business (Papulová & Papula, 2015). At the point when the idea of "entrepreneurship" is utilized for this social reality, topics like self-employment, private company management, phases of development models, and family business issues become aspects of entrepreneurship. In short, business is anything that concerns independently owned (and often small) firms and their owner-managers (Davidson, 2004).

Entrepreneurship is a key driver of economic innovation, job creation, and long-term economic growth. According to Ambad et. al. (2016), the greater degree of entrepreneurial intent there is among students, the greater the mindset of entrepreneurship there is. Entrepreneurship in university should be prioritised by creating an ecosystem that includes policy supply, financial aid, entrepreneurship education, and environment development to increase the number of college graduates starting businesses (Morris, M. H, 2017). Universities should provide a wide choice

of programmes to support student entrepreneurship so that students will be more likely to start their own businesses.

To develop a thorough picture of university student entrepreneurship across time, we carried out literature review research by examining and compiling recently published articles in a variety of academic publications, published on issues related to university student entrepreneurship across different countries. The search yielded 10 journal papers from 2019 till 2022, which we list chronologically in Table 1.

Table 1 Use Case Description

Title	Year	Country
1. Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration	2018	United Kingdom
2. Determinants of student entrepreneurship: An assessment on higher education institutions in Brazil	2019	Brazil
3. Acquisition Of Entrepreneurial Skills And Competences: Curriculum Development And Evaluation For Higher Education – Russia	2020	Russia
4. Entrepreneurship Education through Successful Entrepreneurial Models in Higher Education Institutions - Romania	2020	Romania
5. Does entrepreneurship education influence entrepreneurial intention among students in HEI's? The role of age, gender and degree background. India	2020	India
6. Entrepreneurship Education and Students' Entrepreneurial Intention in Higher Education – China	2020	China
7. Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia	2021	Saudi Arabia
8. Entrepreneurship education in Indonesian higher education: mapping literature from the Country's perspective	2021	Indonesia
9. Inspiring Future Entrepreneurs: The Effect of Experiential Learning on the Entrepreneurial Intention at Higher Education	2021	Iraq
10. The impact of entrepreneurial activities and college students' entrepreneurial abilities in higher education—A meta-analytic path	2022	USA

DEVELOPMENT OF THE BUSINESS DIRECTORY SYSTEM AND STUDENT BUSINESS MARKETPLACE

This section examines and clarifies the result and analysis phase. The first phase of this project was the planning phase where the researcher identified and understood the current problems by reading literature and doing some preliminary study from a variety of sources such as journals, articles, books, and websites. A preliminary investigation was conducted using qualitative and quantitative analysis for students running a business, students that want to start new business and students who have a business idea. The results from the preliminary investigation will be discussed and a solution will be proposed to solve the problem. In order to get the exact requirement from the stakeholder, gathering and collecting the data needed for this project.

Requirement Gathering Phase
The second phase of this project was the requirement gathering phase. In this phase, there were activities that must be done to achieve the first objective. The first objective is identified and understands current problems faced by the student in conducting business and providing services. The activities include interviews, comparing similar websites, design Use Case diagram and design Activity diagram. Next, the researcher will use the User Goal technique to analyze data. In this phase, the researcher will use a Qualitative Analysis since the data requirements are interviewed. The respondents are the CoCIM Entrepreneurial Club members that manages the student's businesses data and Malaysian Academy of SME & Entrepreneurship Development (MASMED) in UiTM Shah Alam. After the data collection is complete, the researcher conducts a descriptive and narrative analysis of the user requirement interviews to begin analysing the requirements. More than 30 respondents shared and discussed their preferences for the development website as part of the descriptive study. The purpose of this descriptive analysis is to analyse data from various sources, such as information gathered via questionnaires given to respondents. Based on the interview session, there are three actors that will be used in the system which are buyers, sellers, and admin. Therefore, the researcher looks at the user's requirement to identify the use cases for the functionality of the system.

Requirement Analysis Phase
 The second phase of this project was the requirement gathering phase. In this phase, there were activities that had to be done in order to achieve the first objective. The first objective is identified and understands current problems faced by the student in conducting business and providing services. The activities include interviews, comparing similar websites, design Use Case diagram and design Activity diagram. Next, the researcher will use the User Goal technique to analyze data. In this phase, the researcher will use a Qualitative Analysis since the data requirements are interviewed. The respondents are the CoCIM Entrepreneurial Club members that manages the student's businesses data and Malaysian Academy of SME & Entrepreneurship Development (MASMED) in UiTM Shah Alam. After the data collection is complete, the researcher conducts a descriptive and narrative

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System Design
The detailed design involves logical and physical artifacts such as data models, process models and presentation models. Two diagrams will be used to depict the logical design process in this project: an activity diagram and a system sequence diagram. The design also involved the user interface flow by using Visual Studio Code.

System Development
The last phase is the website implementation and maintenance. The StudentPreneurs Business Directory will be implemented using PHP, CSS, and HTML. Visual Studio Code is the program that will be used to begin coding. Quantitative methods were used in this study.

FINDING AND DISCUSSION

Figure 1 and figure 2. show the use case diagrams that contain requirements that have been prioritized after using the Use Goal technique. This figure will become the reference on what functionalities to be implemented on this system.

Figure 1: Use Case diagram of Student Business Marketplace

The use case will begin with the Seller view home page and must login. If the user invalid to login as Seller, the user must contact the Admin to give the Seller ID number and then the seller can proceed for the next process in the Seller page which is the Seller dashboard that contains the Buyer's information and Product's information.
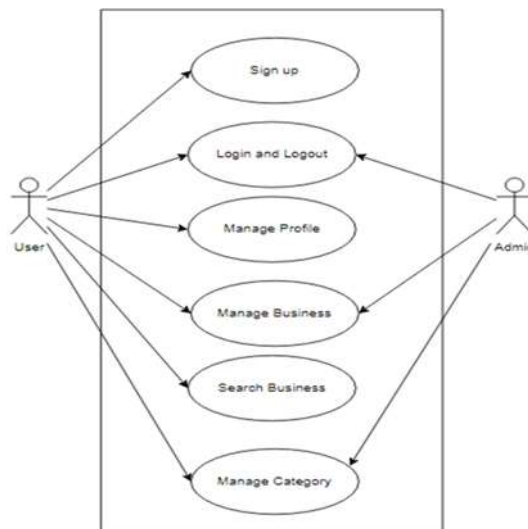
Figure 2: Use Case diagram of StudentPreneurs Business Directory

Figure 2 depicts a use case for the StudentPreneurs Business Directory after the validating requirements process. Each use case has its own use case description that describes the system's flow. The use case description is a textual description of how users will interact with the system and how the system will respond to their actions.

Table 2 Use Case Description

Use Case	Description
Sign Up	To allow the user to register an account for the system.
Login & Logout	To allow the users and admin access and use the functions in the system.
Manage Profile	To allow the user to manage such as edit, update and manage user profile.
Manage Business	To allow the user and admin to manage such as edit, update, and manage business information
Search Business	To allow the user to search for business information.
Manage Category	To allow users and admin to view business categories list. Admin can create and delete business categories.

Table 2 shows the use case name, action done on by the use case and summary of the use case diagram to clarify the rationale of doing the changes.
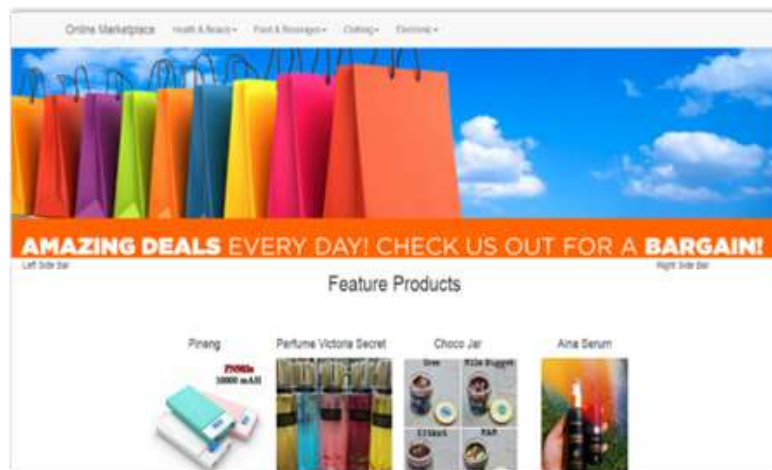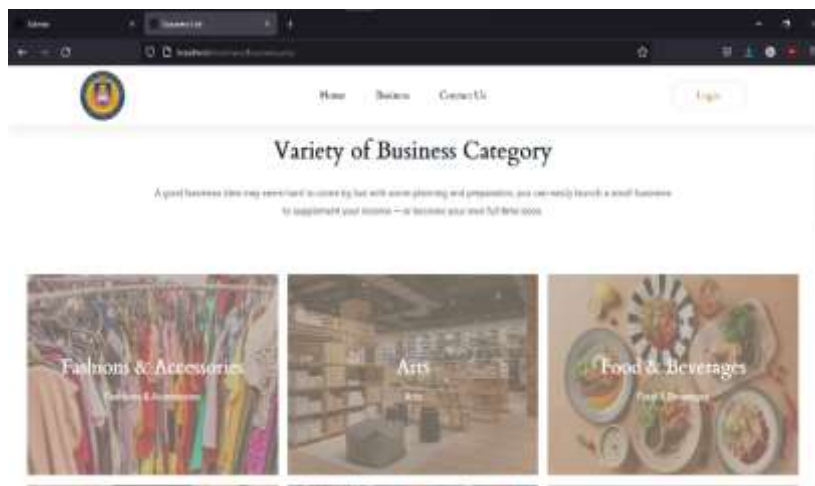

Figure 3: StudentPreneurs Business Directory Homepage

Figure 3 is the interface design page for the homepage of StudentPreneurs Business Directory with the registration account page. First time users need to register their account to login into the system.

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Figure 4: The business category page for StudentPreneurs Business Directory

Figure 4 shows the category for users to find the specific business category of business information. The page will display all types of business that are available.

Figure 5 The searching page for StudentPreneurs Business Directory

Figure 5 shows the searching function that can search all user business information. The page will display the business name, category, location, phone number, and business logo.

Figure 6: Student Business Marketplace Home page and Categories Page

Figure 6 is the interface of the UniMall. It shows the homepage and the categorization page of products. As the admin, he/she can find the specific business category of business information. The page will add new business categories and display all types of business that are available. After completing the prototype, the author had a meeting session with the stakeholders to validate the prototypes. This validation approach will be repeated until the stakeholders' requirements are met.

The UniMall and StudentPreneurs Business Directory essentially serves as a platform for pertinent data and business interaction about students. The inclusion of student-run businesses in these digital initiatives is extremely advantageous as it increases visibility and indirectly encourages student entrepreneurship. There are several other entrepreneurial practices (such as e-commerce simulations, case studies, startup workshops, innovation competitions, and entrepreneurship internships), that can help students develop the self-assurance needed to engage in entrepreneurial activities.

CONCLUSION

This paper has discussed initiatives for student entrepreneurship in higher education. As university students' interest in entrepreneurship grows, it is likely that undergraduates will have a more entrepreneurial mindset to support entrepreneurship and digital innovation and so foster an entrepreneurial culture among university students. Also, we highlighted digital initiatives such as StudentPreneurs Business Directory and Student Business Marketplace. These initiatives seek to increase the CoCIM Entrepreneur Club's with an aim to encourage student entrepreneurship. Along with fostering a stronger interest in entrepreneurship, this project will assist students in improving their existing learning style to a more practical one, which is necessary for the entrepreneurial learning

process. These initiatives have made it possible for the UiTM community to conduct business in a safe and dependable manner. For students who currently own their own businesses or starting a new one, this project is crucial since it will aid in the expansion, marketing, and commercialization of their ventures. The goals of these initiatives are to create an environment that supports entrepreneurship and might perhaps further entrepreneurial efforts.

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