

THE APPLICATION OF INFORMATION TECHNOLOGY IN IMPROVING INNOVATION PERFORMANCE FOR STUDENT ENTREPRENEURS

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Abstract: A business organization is always with products, business processes, and innovations. As a process of managing business innovation management so that it can create a sustainable competitive advantage. Efforts to create an effect on innovation performance require synergy in innovation performance and information technology. So that the business can be sustainable and support the competitiveness of student entrepreneurs. The purpose of this study is to determine the application of information technology to improve innovation performance management for student entrepreneurs. The sample in this study was 100 student entrepreneurs at some private universities in Surakarta. This study used a quantitative descriptive research design. Research by distributing questionnaires to respondents obtained results that student entrepreneurs Most of them have utilized information technology in business management. The business fields carried out by the respondents in this study include culinary, service, beauty, and fashion.

Keywords: *Innovation Management, Performance, Entrepreneur, Information Technology*

1. Introduction

Openness to innovation is very important in the current era of the creative economy. Competitive employers need the ability of workers who can adapt both to the environment inside and outside the company. Performance indicators of a business or company require innovation so that the product is more competitive. For innovation to be sustainable and support the company's performance, an innovation strategy is needed. Innovation can be said to be the implementation of new ideas to create *value*. One that is expected to create an effect on innovation performance, the importance of utilizing information technology is needed.

A business or business must be able to drive information technology innovation and investment together to create a synergistic effect on performance. Research on innovation openness can be viewed from various perspectives, such as the relationship between innovation openness and innovation performance, and factors that affect the innovation performance of a business. The use of information technology (IT) is a must so that the business continues to exist and be competitive. Business or business cannot be separated from the use of information technology (IT). Research related to the use of information technology has been carried out related to the implementation of health information

technology and service quality and the influence of information technology on employee productivity. Bagheri et., al. Researching the use of information technology as a coding variable for the performance of international companies.

Android is the result of the development of technological innovation in the era of the industrial revolution 4.0. In this case, the role of Digital Marketing strategy is needed in entrepreneurial development. With the digital marketing entrepreneurial movement in the younger generation, it is hoped that it can increase the spirit and spirit of entrepreneurship, especially the younger generation (students) who are independent and tough and have competitiveness. Independent Young Entrepreneurs in the campus environment have begun to develop in the future, it is hoped that the growth of new entrepreneurs is creative, innovative, and globally insightful. In addition, another problem faced by students is that there is no optimization of the ability to adopt the use of social media used by students to encourage the growth of interest in entrepreneurship.

Information technology can affect the performance of business organizations or small and medium enterprises (SMEs), where information technology is related to the speed and accuracy of a program or system that makes the processing and execution time shorter. Information technology is defined as a technology used to process data, including processing, obtaining, compiling, storing, and manipulating data in various ways to produce quality information, namely relevant, accurate and timely information, which is used for personal, business, and government purposes and is strategic information for decision making. Research related to the role of information technology has been carried out.

2. Research Method

The essays in this study are descriptive quantitative and aimed at describing the use of information technology in improving innovation performance for student entrepreneurs. The population of this study is all entrepreneurial students at PTS Surakarta. The research sample was taken randomly using the random sampling method of 100 students who were or are still active entrepreneurs.

The flow in this study begins with preparing a questionnaire with several question items according to variable items. All respondents filled out a questionnaire that the research team shared. The research team prepared a marketplace as a means for 100 respondent student entrepreneurs to upload their business product catalogs. Respondents were given training to find out how to use the available marketplace as a medium for the promotion and marketing of their products.

After the questionnaire is filled out, it is recapitulated according to the question items in the questionnaire to be further classified according to several categories. Among others: the business field, the duration of running or managing a business, monthly income or income, and activeness in the use of information technology and social media to support the continuity of the business run by the respondents. The initial study presented in this scientific article is limited to the use of information technology in supporting the promotion and sale of business products. So that it has a positive impact on business sustainability in the future.

3. Results and Discussion

3.1. Results

Based on the results of the questionnaire distributed to student entrepreneurs, the following

results were obtained:

1. The 100 student entrepreneurs who are the sample of this study have been fulfilled.
2. The questionnaire distributed to respondents ranged from the field of business that was run or being started, the length of time they ran the business, the reasons for choosing the business field, social media used in product promotion and marketing, monthly income, the benefits of digital marketing in supporting their business, obstacles in facing business competition, and several questions relevant to this research study.
3. The questionnaire, which was distributed to 100 respondents, was filled out by 58 female student respondents and 42 students. The 100 students are spread across several private universities in the Surakarta area.
4. The business fields managed by the respondents ranged around culinary businesses, services, fashion/clothing/accessories, and beauty and body and face care products.
5. Most of the respondents who filled out this research questionnaire ran a business or started their business for less than 1 year, but some already have a business with a range of more than 1 year.
6. The reason why 100 student entrepreneurs choose the business they are currently running is because they follow their passion or hobby, continue their parents' business, and the reason for following the trend for millennials.
7. Most respondents stated that they have taken advantage of advances in information technology in supporting the management of their business.
8. The use of information technology with social media such as Facebook, Whatsapp Business, and Instagram, and there are already those who actively promote and market their business products through e-commerce such as Shopee, Tokopedia, Lazada, and so on.
9. Information technology to support innovation performance in product promotion and marketing is considered very helpful as a means of digital marketing in the context of the sustainability of their business or business in the future.
10. Although they have utilized information technology in improving business performance, 70 entrepreneurial students have not registered their business locations on google maps, and 100 respondents do not have a business website.
11. The businesses run by the respondents are vulnerable to failure because some of them are still listed as active students on their respective campuses. So that there are several strategies to face business competition with similar products and other competitors who are a threat to the respondent's business.
12. The results of the questionnaire were submitted by respondents to maintain business excellence with product innovation, improve business performance, utilize information technology facilities for digital marketing, maintain the quality of products/services, and provide good service to consumers/buyers. So it is expected that there will be repeated purchases from customers.

3.2. Discussion

According to the results of the questionnaire recapitulation filled out by respondents from 100 student entrepreneurs, discussions were obtained, including:

1. Student entrepreneurs who are used as samples in research follow passion or hobby in running their business so that the business run is also around less than 1 year.

2. Broadly speaking, there is already the application of information technology to improve the performance of business innovation for student entrepreneurs.
3. With the creation of a special marketplace in this study, it is hoped that it will be used as a means of e-commerce for the promotion and marketing of student business products.
4. The active involvement of student entrepreneurs in the application of information technology by uploading product catalogs will make it easier for them to get new potential buyers.
5. According to their answer, one of the ways to maintain product excellence is to improve innovation performance. This can be done by utilizing information technology to optimize the marketing of business products. So that business profits increase and add wider relations or cooperation partners.
6. Innovation performance for student entrepreneurs is needed in addition to maintaining product excellence as well as an effort to compete with similar or different types of business fields that can be a threat to the sustainability of their business.
7. The presence of information technology in supporting businesses for student entrepreneurs is very important for business management in the fields of culinary, fashion, services, or beauty field.

3.3. Conclusion

Based on the results and discussion of the research mentioned above, several conclusions can be obtained as follows:

1. Student entrepreneurs as millennials should be able to utilize information technology optimally in supporting the product/service business being run.
2. In addition to product promotion and marketing with Facebook, Instagram, and Whatsapp Business, there is a marketplace as a means of e-commerce or online buying and selling. Student entrepreneurs are expected to take advantage of the marketplace to improve business performance. Because performance is the main target in maintaining business sustainability.
3. Innovation performance is not only towards the products/services they run. However, innovations in promotional strategies, marketing, sales, and maintaining business excellence are also necessary parts of the future.
4. When running a business or business, it should not only follow a hobby but be able to optimize all existing resources to produce competitive innovations among similar products or other products on the market.

References

- Zhao, Sun and Xu, Xiabao. 2016. Research on open innovation performance: a review. *Inf Technol Manag* (2016) 17:279–287. DOI 10.1007/s10799-015-0231-7. <https://link.springer.com/article/10.1007/s10799-015-0231-7>.
- Tariq, Sohail, and Aslam, Muhammad. 2011. Impact of Employee Adaptability to Change Towards Organizational Competitive Advantage. *Global Journal of Management and Business Research* Volume 11 Issue 7 Version 1.0 July 2011 Journal Publisher: Global Journals Inc. (USA) Print ISSN: 0975-5853. Page. 8-15.
- Terziovski, M., 2010. Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. *Strateg. Manag. J.* 31, 892–902.

- Chen Y, Chen J (2008) The influence of openness to innovation performance. *Stud Sci Sci* 26(2):419–425.
- He Y, Zeng Y (2013) How open & indigenous innovation affects industries international competitiveness: an empirical study on Chinese manufacturing industries based on the panel data from the year 2000 to 2010. *Sci Sci Manag S. & T.* 34(3):13–20.
- Laursen K, Salter A (2006) Open for innovation: the role of openness in explaining innovation performance among U.K. manufacturing firms. *Strateg Manag J* 27(2):131–150.
- Chen J, Wang P (2011) Selective open innovation—based on the case of SUPCON group. *Soft Sci* 25(2):112–115.
- Chen X, Miao X (2012) Research on relation between open innovation, enterprise technological capacity and innovation performance. *Sci Technol Manag Res* 14:9–12
- Peng Z, Wang H, Jiang X (2011) Effect of resource sharing on innovation performance under the open innovation model: the mediating effect of knowledge transfer. *Sci Sci Manag S. & T.* 32(1):48–53.
- Restuccia, Alan B Cohen Jedediah N Horwitt and Michael Shwartz. 2012. Hospital implementation of health information technology and quality of care: are they related?. *BMC. Medical Informatics and Decision Making* 2012, 12:109. <http://www.biomedcentral.com/1472-6947/12/109>.
- Rezaei, Rezaei, Zare, akbarzadeh, zare, Farid. 2014. The Effects of Information Technology (IT) on Employee Productivity in Shahr Bank (Case study of Shiraz, Iran). *Applied mathematics in Engineering, Management and Technology* 2014. The special issue in Management and Technology (Sep. 2014):1208-1214. www.amiemt-journal.com
- Sudrajat, Darjat. 2013. Kapabilitas Dinamik, Kinerja Inovasi, Dan Kinerja Perusahaan Jasa Logistik Di Indonesia (Suatu Kerangka Penelitian). *Binus Business Review*. P.ISSN: 2087-1228. E.ISSN: 2476-9053. Vol. 4 No. 2. Hal 798-811.
- Setyowati, Isthika, dan Pratiwi, Ririh Dian. (2016). Faktor-Faktor Yang Mempengaruhi Kualitas Laporan Keuangan Pemerintah Daerah Kota Semarang. *KINERJA*, Volume 20, No.2, Th. 2016: Hal. 179-191.
- Celviana dan Rahmawati. 2010. Pengaruh sumberdaya manusia dan pemanfaatan teknologi informasi Terhadap keterandalan dan ketepatanwaktuan pelaporan keuangan pemerintah daerah dengan variabel intervening pengendalian intern akuntansi. *SNA 13: Universitas Jendral Soederman Purwokerto*.
- Darno. 2012. Analisis Pengaruh Kemampuan Sumber Daya Manusia Dan Pemanfaatan Teknologi Innformasi Terhadap Kualitas Laporan Barang Kuasa Pengguna (Studi pada Satuan Kerja di Wilayah Kerja KPPN Malang). *Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya Malang*. Vol. 1 No. 1.
- Sagara, Yusar.(2015). The Effect of Implementation Accounting Information System and Competence of Human Resources on the Quality of Financial Reporting. *Research Journal of Finance and Accounting* ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) Vol.6, No.10, 2015 Hal. 111-116.
- Muda dkk. 2017. The Influence Of Human Resources Competency And The Use Of Information Technology On The Quality Of Local Government Financial Report With Regional Accounting System As An Intervening. *Journal of*

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