



INTRAPRENEURSHIP OF SOFTWARE DEVELOPERS IN YANGON, MYANMAR

DOI: 10.17261/Pressacademia.2022.1539

RJBM- V.9-ISS.1-2022(4)-p.50-55

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Date Received: December 25, 2022

Date Accepted: March 11, 2022



To cite this document

Htet, A. T., (2022). Intrapreneurship of software developers in Yangon, Myanmar. Research Journal of Business and Management (RJBM), 9(1), 50-55.

Permanent link to this document: <http://doi.org/10.17261/Pressacademia.2022.1539>

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ABSTRACT

Purpose- The purpose of this study is to explore the intrapreneurial behavior and innovative performance of software developers in Yangon. The specific objectives of this paper are first to examine the effect of individual factors on intrapreneur behavior of software developers in Yangon, and second to investigate the effect of internal organizational factors on intrapreneur behavior of software developers in Yangon, and third to analyze the effect of intrapreneur behavior on innovative performance of software developers in Yangon.

Methodology- This study is conducted based on the survey with 120 software developers from 30 software houses in Yangon. A structured questionnaire is used to collect the primary data for this study. Simple random sampling method was used in this study.

Findings- The findings of this study are individual motive, organization culture, resource availability and rewards & recognition are key determinants for software developer's intrapreneurial behavior. In addition, pro-activeness behavior among of intrapreneurial behavior have positively significant relationship with innovative performance of software developers. And also, intrapreneur behavior were positively significant effect on innovative performance of software developers in Yangon.

Conclusion- This study concluded that institutionalizing intrapreneurial behavior is a response strategy of adding value to ICT innovation, empowering individual employees and leading the organizations to become more competitive in market.

Keywords: Intrapreneurial behavior, innovative performance, motive, resource availability

JEL Codes: M40, M41

1. INTRODUCTION

Intrapreneurship pathways are needed to achieve excellence for software companies. One of these methods is to give employees a space in which to engage in intrapreneurial work, extract intrapreneurial ideas from them, and exploit intrapreneurial staff for the benefit of the organization (Phogat, S. 2016; Minh & Thanh, 2020). Intrapreneurship or corporate entrepreneurship was initiated by Susbauer in 1973 with an understanding of entrepreneurship within the organization. Employees are the critical sources to enhance the innovation process of organizations.

In the workplace, some individuals engage in generation, promotion, and realization of new ideas for the benefit of individual performance, group effectiveness, or organizations. The previous literary works classifies this phenomenon as innovative behavior. Organizations need to nurture the entrepreneurial employees for their organizational innovative performance. Innovation has become a mantra for organizations in almost every industry and for individuals working in almost every organizational function. Within the software development industry, the pace of technological change fosters a particular sense of urgency surrounding the need to innovate. Thus, software developers need to be more take the risk, pro-activeness and make the innovative product in market.

The specific objectives of this study are to determine the intrapreneurial behaviour of software developers in Yangon, investigate the influencing individual factors and internal organizational factors on intrapreneurial behaviour of software developers in Yangon and examine the influence of intrapreneurial behaviour on innovative performance of software developers in Yangon

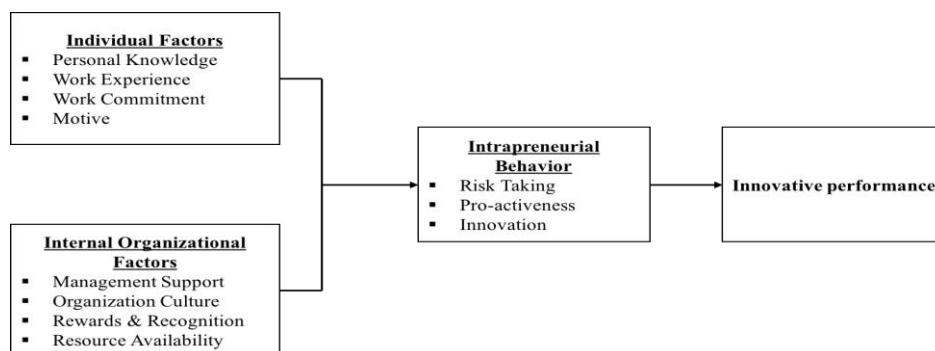
2. LITERATURE REVIEW

Intrapreneurship or Corporate entrepreneurship was initiated by Susbauer in 1973 with an understanding of entrepreneurship within the organization. In broad definition, intrapreneurial behavior is described as entrepreneurship within an existing organization (Antoncic, 2007). There are many determinants for intrapreneurial behavior and innovative performance. This research reveals the individual factors and internal organizational factors as major determinant factors. Most of the researchers argued that individual characteristics are to be critical for shaping their intrapreneurial behavior. The following personal characteristics could take account as the individual factor for shaping the intrapreneurial behavior. There is personal knowledge, work experience, work commitment and motive. Knowledge derived from prior experiences improves the recognition of opportunities (Wang et.al 2013). Personal knowledge, classified as knowledge derived from education and training, is related with the probability of becoming an intrapreneurial. Previous working experience can provide the employee with expertise in running an independent venture. Urbano et al. (2013), pointed out that employees having previous entrepreneurial experience increased probability of becoming an intrapreneur. Work commitment refers to the employee’s emotional attachment to, identification with, and involvement in a particular organization. Organizational commitment has captured researchers’ attention after Allen & Meyer’s (1990) three component model structure. According to Naffziger, Hornsby, & Kuratko (1994), the performance of individuals is influenced by its intrinsic nature and at the same time, it reflects their internal stimuli, i.e., their needs, attitudes and values.

The success of the intrapreneur also depends on the organizational context. The organization can facilitate or inhibit the actions of the intrapreneur. Hornsby et al., (1999) said that there are five organizational internal factors that can support the employee’s intrapreneurial behavior, namely: management support, organizational cultural, resource availability and rewards and recognition. (Hornsby et al., 1993). Management support refers to the willingness of the top management to facilitate, encourage and promote intrapreneurial efforts in an existing organization (Alpkan et. al., 2010). Organization culture could be referred to as a glue that holds the members together (Septra, 1985) and was defined as values, habits, norms that govern the behavior of the employee (Hasanoğlu, 2004). Rewards and reinforcement developed the motivation of intrapreneurs to engage in innovative, proactive and moderate risk-taking behavior (Goosen, 2002). Innovative organizations are characterized by providing rewards based on performance. In order to foster innovative behavior, organization must evaluate the workloads of the employees to ensure that the workforce have the time needed to pursue innovation (Kuratko, Ireland et al., 2008).

Intrapreneurship was supposed to contain an element of innovation. Innovation refers to the production, adoption and implementation of useful ideas, including the adaptation of products or processes from outside an organization (Kanter, 1988; Van de Ven, 1986). This identification is common to all types of innovation such as product innovation, process innovation, marketing innovation, and so on. The most common types of innovation by general conceptualizing are product innovation and process innovation. After reviewing the previous literature, this conceptual framework developed for this study.

Illustration 1: Conceptual Framework of the Study



3. DATA AND METHODOLOGY

3.1. Research Design

This study focuses on the intrapreneurial behavior and innovative performance of software developers in Yangon. In order to determine the sample size of this study, two stages sampling method are used in this study. In the first stage, there are selected

30 percent of ICT companies that are registered in Yangon Region Computer Federations. In the second stage, sample size are selected from the 600 numbers of software developers in Yangon. Due to time limitations for this study, 120 software developers are contacted and analyzed by taking 8% error percentage rate and 97% response rate. The data collection period is during May to July 2019. Both primary and secondary data are used in this study. A structured questionnaire is used to collect primary data from software developers at software companies in Yangon. Secondary data is extracted from related website, publication and previous research paper. This study analyzes the intrapreneurial behavior and innovative performance of software developers at ICT Companies in Yangon Region. The respondents of this study are only software developers who are currently working at Software Houses in Yangon region. Depending on the limitation of time and effort for the study, this study focused on Software companies that registered in Yangon Region Computer Industry Association (Yangon RCIA).

3.2. Data Analysis

There are four components for this section. The first one is reliability analysis, the second one is descriptive analysis of intrapreneurial behavior, third is regression analysis of relationship between individual factors, international organizational factors and intrapreneurial behavior of software developers and the last one is relationship between intrapreneurial behavior and innovative performance of software developers.

3.2.1. Reliability Analysis

The reliability of questionnaire is tested with the Cronbach's alpha coefficient. Cronbach's alpha coefficient measures the degree of dependability, consistency or stability of a scale. In this study, the reliability coefficients of eight variables are tested and the results are shown in Table (1).

Table 1: Reliability Analysis

Variables	Cronbach Alpha	Questionnaire Items
Personal Knowledge	0.757	5
Work experience	0.809	5
Work commitment	0.838	5
Motive	0.845	5
Management Support	0.909	5
Organization Culture	0.762	5
Reward & Recognition	0.912	5
Resource Availability	0.842	5
Risk Taking	0.894	5
Pro-activeness	0.857	5
Innovation	0.795	5
Innovative Performance	0.867	5

Source: Survey Data,2020

Note: Questionnaire item

According to Sekaran and Bougie (2016), Cronbach's alpha coefficient values over 0.7 are acceptable and over 0.80 are good for the reliability of questionnaire Table (1) indicates that the alpha values of all variables are greater than 0.50. Therefore, the variables in the questionnaire are reliable enough for analysis of the study.

3.2.2. Intrapreneurial Behavior of Software Developers in Yangon

Nature of ICT companies' operations focus on the innovative feature about their product and process. Having the intrapreneurial employee can encourage the organization's innovative performance. There are fifteen questions used to investigate the intrapreneurial behavior of software developers in Yangon. The data are collected from 120 software developers from ICT companies that are listed in Yangon Computer Industrial Association. The results are shown in the following Table. In this section consists of three components – risk taking, pro-activeness and innovation. The overall mean value of the intrapreneurial behavior was presented in Table (2).

Table 2: Intrapreneurial Behavior of Software Developers

No.	Statements	Mean Value	Standard Deviation
Risk Taking			
1	Making the large, bold decisions despite uncertainty.	3.21	0.75
2	Taking risks support to seizing and exploiting new opportunities.	3.66	0.84
3	Making the out of box thinking	3.53	0.98
4	Taking higher risk making the higher return	3.70	0.91
5	Making creative thought and own methods	3.92	0.79
Mean Value of Risk Taking		3.60	0.72
Pro-activeness			
1	Making the difference way in organization	3.41	0.79
2	Looking for better ways to do things	3.68	0.67
3	Challenging the status- quo	3.69	0.68
4	Serving the different need of different people	3.71	0.71
5	Quick response to the advice of peers	3.74	0.72
Mean Value of Pro-activeness		3.65	0.574
Innovation			
1	Making the different process than traditional ones.	3.83	0.66
2	Having the sufficient resources for innovation	3.68	0.67
4	Finding the new solutions for problems	3.85	0.63
5	Being innovation the most important factor for organization	3.91	0.64
Mean Value of Innovation		3.80	0.490

Source: Survey Data, 2020

According to this table, there are three dimensions for software developer’s intrapreneurial behaviour. Among of these dimensions, innovation is the highest mean value. It indicates the software developer’s innovations power can support to nurture their intrapreneurial behaviour.

3.2.3. Effect of Individual Factors and Internal Organizational Factors on Intrapreneurial Behavior of Software Developers

Multiple regression analysis is used to test the effect of independent variables (individual factors and internal organizational factors) on dependent variable (intrapreneurial behavior). The results of the analysis are shown in Table 3. According to this analysis, individual motive is the key driver for enhancing intrapreneurial behavior. Individual achievement, passion and employee’s motive can encourage their intrapreneurial behavior. Most of the software developers are male who possess the highest achievement level and there was no hesitate to take the risk make the innovative product in their works. In addition, there personal knowledge is another key determinants factor for exploring their intrapreneurial behavior.

Table 3: Effect of Individual Factors and Internal Organizational Factors on Intrapreneurial Behavior

Model 1	B	Std. Error	Sig	Model 2	B	Std. Error	Sig
(Constant) Intrapreneurial behavior	.275	.366	.453	(Constant) Intrapreneurial Behavior	.328	.281	.247
Personal Knowledge	.230**	.100	.023	Management Support	.134**	.066	.044
Work Experience	.088	.091	.339	Organization Culture	.172**	.148	.045
Work Commitment	.068	.060	.256	Reward & Recognition	.130**	.064	.044
Motive	.538***	.079	.000	Resource Availability	.487***	.080	.000
R Square = .472 Adjusted R Square = .453 F Value = 25.672*** Durbin Waston = 2.198				R Square = .605 Adjusted R Square = .592 F Value = 44.048*** Durbin Waston = 2.042			

Source : Survey Data,2020

Software developer’s pro-activeness behavior is based on their organization’s resource availability. If the software developers’ have sufficient time and budget that can lead to improve intrapreneurial behavior within the organization. Employee’s intrapreneurial mindset can push to create innovation ones within their organization. According to this analysis, organizations are the key critical factors for enhancing employee’s intrapreneurial mindset because all of these international organizational factors are moderately significant relationship with intrapreneurial behavior of software developers.

3.2.4. Effect of Intrapreneurial Behavior on Innovative Performance

This study analyzes the effect of intrapreneurial behavior on innovative performance. The result of SPSS output is shown in Table 4. According to this analysis, software developer’s innovative performance strongly depends on their pro- activeness behavior rather than other two factor because software companies always respond to the market demand on ahead. Thus, software developers need to see opportunities and grab these rather than competitors in market.

Table 4: Effect of Intrapreneurial Behavior on Innovative Performance

Model	B	Std. Error	Sig
(Constant) Innovative Performance	1.422	.297	.000
Risk Taking	.127	.082	.123
Pro Activeness	.416***	.125	.001
Innovation	.111	.122	.364
R Square = .436 Adjusted R Square = .42129 F Value= .85 Durbin Watson = . 689			

Source: Survey Data, 2020

4. FINDINGS AND DISCUSSIONS

The study concludes that innovation is the most important factor to be an intrapreneurial. It points that most of the software developers possess the innovation behavior to develop their innovative product. According to the nature of software industry, software developers always make the innovative product to respond the market demand.

In this study, individual factors and internal organizational factors used as the major influencing factors for software developer’s intrapreneurial behavior. The individual factors are personal knowledge, work experience, work commitment and motive. Among of these factors, their personal motive has positively significant relationship with intrapreneurial behavior. In addition, personal knowledge has significantly associated with the intrapreneurial behavior.

This study points out the internal organizational factors such as management support, organization’s culture, reward & recognition and resource availability has positively significant relationship with intrapreneurial behavior. It indicates that if the organization’s management well support, software developers more behave as the intrapreneurs within organization. In addition, if the organizations have sufficient resources that encourage their software developers to take risk, proactiveness and innovative. This study highlights the effect of intrapreneurial behavior on the innovative performance of software developers. Among three components, pro-activeness behavior has positively and strongly relationship with the innovative performance of software developers. It presents that selected software developers are employees thus they follow the organization’s policies and procedures. However, they have the pro- activeness behavior because if their organization making the new projects to respond the market demand. Therefore, pro- activeness behavior is mainly contribution factor to improve their innovative performance. This study recommends that if the organization want to nurture the intrapreneurial employee, respective management level of selected ICT companies more focus on the software developer’s personal factors and their organization’s management system. Intrapreneurial software developers can develop the innovative product for their organization in order to gain the competitive advantage.

As a summary, the study expresses the importance of intrapreneurial behavior of software developers in Yangon and helps to ICT companies for nurturing the intrapreneurial software developers in order to gain the competitive advantage by making innovative product.

5. CONCLUSION AND IMPLICATIONS

The study revolves around limited in sampling issues. The further research should be conduct using a larger sample to present more concrete analysis of data. The further study can be more complete if the analysis can be conducted in other IT professions. In this study, data are only collected from software developers of ICT companies listed in Myanmar Computer Federation and the further research should be conducted to software developers, outside of Yangon for better results. The further research should be explored external environment to represent more comprehensiveness of the contexts of influencing factors on intrapreneurial behavior. In addition, further study should be analyzed relationship of the employee's intrapreneurial behavior and their organization's performance. Moreover, intrapreneurial behavior and impact on innovative performance of other industries can be worthwhile to understand and identify employee's intrapreneurial behavior and their performance in Myanmar's Business sector. Intrapreneurial concept should be used for future research not only based on business organizations but also on non-profit and public organization.

Acknowledgements

First of all, I deeply thanks to Mr. Han Htoo, Principal of National Management Academy for supporting to conduct this research. I have obligate to say thanks my professor Dr.Nu Nu Lwin, Department of Management Studies, Yangon University of Economics for always supporting to do research works. I would like to express my sincere gratitude to all those who supported me with this project.

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