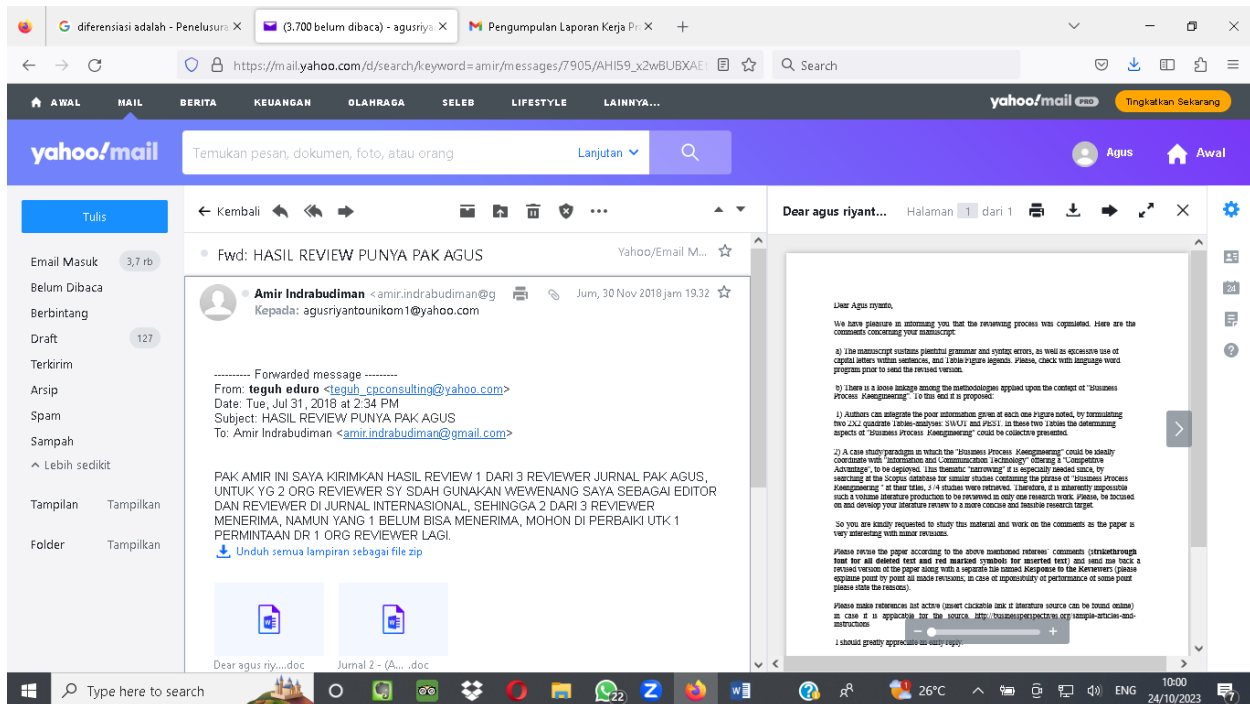


Bukti Koprespodensi untuk artikel :

Judul : Reengineering Support for Competitive Advantage through Organizational Basis, Information and Communication Technology : a Literature Review

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Dear Agus riyanto,

We have pleasure in informing you that the reviewing process was completed. Here are the comments concerning your manuscript:

a) The manuscript sustains plentiful grammar and syntax errors, as well as excessive use of capital letters within sentences, and Table/Figure legends. Please, check with language word program prior to send the revised version.

b) There is a loose linkage among the methodologies applied upon the context of "Business Process Reengineering". To this end it is proposed:

1) Authors can integrate the poor information given at each one Figure noted, by formulating two 2X2 quadrate Tables-analyses: SWOT and PEST. In these two Tables the determining aspects of "Business Process Reengineering" could be collective presented.

2) A case study/paradigm in which the "Business Process Reengineering" could be ideally coordinate with "Information and Communication Technology" offering a "Competitive Advantage", to be deployed. This thematic "narrowing" it is especially needed since, by searching at the Scopus database for similar studies containing the phrase of "Business Process Reengineering " at their titles, 374 studies were retrieved. Therefore, it is inherently impossible such a volume literature production to be reviewed in only one research work. Please, be focused on and develop your literature review to a more concise and feasible research target.

So you are kindly requested to study this material and work on the comments as the paper is very interesting with minor revisions.

Please revise the paper according to the above mentioned referees' comments (**strikethrough font for all deleted text and red marked symbols for inserted text**) and send me back a revised version of the paper along with a separate file named **Response to the Reviewers** (please explain point by point all made revisions; in case of impossibility of performance of some point please state the reasons).

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I should greatly appreciate an early reply.

With best regards,

Viktorii Koilo

Competitive Advantage through Business Process Reengineering : Literature Review

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Abstract

The point of view of this research is to collect and to investigate the previous research that related to Business Process Reengineering through the manufacture Industry to aim a "Competitive Advantage". The purpose of this study is to provide a general overview of relationship among Business Process Reengineering, variable of competitive advantage, variable of organization commitment, variable of organization change management, variable of information and communication technology which are supported by IDEF0 Method. Design/ Method/ Approach: this research overall used secondary data which were published in journal and proceeding for Business Process Reengineering, variable of competitive advantage, variable of organization commitment, variable of organization change management, variable of information and communication technology in implementation of digital banking which is supported by IDEF0. Research Limitation: this research is limited by the subject that was in online media and the specific purpose is to review a progress in the business process reengineering which mainly based on organization, information technology and engineering. Conclusion of the previous researches said that there were influencing variables toward business process reengineering which is related to competitive advantage.

Keywords : Business Process Reengineering, Competitive Advantage, Organization, Information and Communication Technology.

Introduction

In the early 1990's Business Process Reengineering term was known in business world in America since Business Process Reengineering term was introduced by Hammer (1993), Business Process Reengineering was not only used in the manufacture industry but also in the business sector for the service industry.

Hammer was the first person who introduced the name of business process reengineering and he was considered as the father of business process reengineering. The early understanding of business process reengineering was a tool which used to give drastic change for business process and was adopted by an American Company which focused in the private sector, in the early 1990's as substitute of the Total Quality Management (TQM) use, an improved method which developed in Japan. Business Process Reengineering can be mentioned as a new approach for the organization which requires process management that bring drasic change in organization performance.

The current competition is not only regionally occurs but occurs globally. The organizations make some effots by implementation of business process reengineering to increase competitive advantage facing major change, they redesign business process drastically. Beside there is an issue said that most of organization implement business process reengineering as their main focus and it shows the failure in implementation of business process reengineering (Ramanigopal.,et.al, 2011)

The failure of business process reengineering occure at implementation process (procedure, process, management) infrastructure (information technology facility, technology), human error (leadership, employee), company characteristic (size and kind of business) or the combination of them (Smith Anne.et.,al, 2013).

To solve these problems, the main purpose of this study is to provide a general overview of the relations among Business Process Reengineering, variable of competitive advantage, variable of organization commitment, variable of organization change management, variable of information and communication technology which is supported by IDEF0 method based on previous researches in journal and proceeding.

Literature Study

Competitive Advantage

A competitive advantage is very important for a company, because it shows its performance. It is a company position for the competitors. Porter (1998) said, there are two methods to create a competitive advantage, the first is saving of cost that will make a cost advantage, it occurs when a company provides the same service as its competitors with a lower cost. The second is the differentiation, this advantage occurs when a company provides a larger service at the same price of its competitors. This is overall known as a position advantage because it shows the company's position in its industry as a leader in service or superior cost.

The company has the advantages through resources and capabilities that are superior for the competitors. Then as long as the company applies a strategy that utilizes these resources and capabilities effectively, so it is possible to create a competitive advantage. This is achieved through plan and management strategy which is an ongoing process that evaluates, controlls and checks business, competitors and industry overall. Moreover, setting a goal and strategy to overcome the obstacles achieving a success (Nimsith SI, Rifas AH, Cader MJA, 2016).

A competitive advantage can be described as a management concept that has been so popular in contemporary literature management. The reason behind this popularity because the rapid change that must be faced by the company today. The complecxity of the business environment, the impact of

globalization and unstructured market, consumer needs, competition revolution of information and communication technology and global trade continuously change (Moghli Abou A. A, et al, 2012).

Porter (1998) considered that the competitive advantage is corporate activity through flexibility, product or service supply, on time, cost efficiency and owned differentiation value which can increase business performance toward competitors. Ferreira Daniel and Kittsteiner Thomas (2012) said that competitive advantage can be developed by a model where competitive pressure will become a stimulation for organization change. A competitive advantage can be through business strategy based on differentiation, coordination and focus. According to Markiewicz Piotr (2011) a strategy process is influenced by organization, innovation, creativity and perception.

Kasasbeh Ermad et al (2017) explained that a competitive advantage can be reached by a concept related to business process reengineering that will make the organization as a leader toward competitors in its sector. Specifically the stock of the organization that will make a profit in a competitive market. The dimensions of competitive advantage can be found through service quality, organization growth, performance, marketing innovation, creativity, customer orientation and market differentiation.

Business Process Reengineering

Business Process Reengineering is a set of management activity that replaces traditional one and establishes a reasonable business process through optimization, employee authorization, customer suggestion and the application of information and communication technology. Business process reengineering replaces traditional labor-sharing system and emphasizes to act for the direction of work and process creating some new management principles for business company (Ringim Kabiru Jinjiri, et al, 2013).

The failure of business process reengineering implementation was in research of Altinkemer K, et al (1998), there were 2 of 35 companies that failed to implement business process reengineering. But both aimed a success of business process reengineering implementation after they did process repairing. Muthu Subramanian et al (1999) had the same opinion that 50%-70% support for reengineering was fail in bringing dramatic change.

Ramanigopal C.S (2011) defined business process reengineering is an available modern tool to manage the change the purpose of business process reengineering where can redesign and change existed business practice and process for achieving an organization performance improvement dramatically. Ringim Kabiru Jinjiri et al (2013) said that business process reengineering is defined as a complete and radical process transformation which change bureaucratic structure within organization for core process specialization.

Organization Commitment

An organization that want a change, its leader must have a vision, motivation and communication. An organization commitment must be involved by the leader to every member of organization along the process path (Osano dan Okwena, 2015). Today an organization feels difficult to work at an optimal level because a rapid change of business environment and hard global competition. Now an organization commitment is considered as a natural process for generating employee performance and organization more effective, preparing and retaining employees whom are committed to the organization is so

important for organization development because they will work hard on their duty with high dedication (Gul Zafar, 2015).

A commitment in an organization is considered as psychology construction that become characteristic between organization member and organization, and has an effect toward personal decision to continue his membership (Allen dan Meyer ,1993). An organization commitment is defined as an involvement and behavior maintenance to help another to achieve an organization goal. An organization commitment provides strong evidence of the impact of organization support behavior on employee behavior. This shows the effect of dynamic organization commitment, all manaerial levels have to continue to demonstrate their commitment for initaitive improvement since the beginning (Cooper Dominic, 2006).

An organization culture supports organization in creating more motivation among employees to improve the commitment toward on organization's aim. The organization establishes and implements the three basic levels of culture within the organization efficiently. Each level of organization culture affects the organization commitment (Sabir Sulaeman et.al, 2010).

An organization commitment can be interpreted as a bond between employe and organization where he works. The strength of bond depends on employee behavior, if an employee commits to his organization, so he will work hard continuously with loyalty (Abdullah dan Ramay, 2012). An organization commitment is directly related to job satidfaction that affects the competitive position and profitability of an organization, an organization commitment directly affects employee performance. An organization commitment is an multinational construct where an employee gives his effort to, He shows suitability between organization value and organization goal and wants to be a part of an organization (Hafiz AZ, 2017).

Organization Change Management

An organization development is a continuous and planned effort to change the organization more effective and efficient. The purpose of this stage is to build a description of the strength and weakness of the team, and ideal result of team spirit is a list of changes to improve team functionality in the organization (Rizescu Alexandru dan Tileaga Cosmin, 2016). An organization change occurs due to two factors: external factors and internal factors. All organization cannot be stable continuously in an environment, because the current environment is more dynamic. An organization always faces the need to implement a change of strategy, structure, process and culture, it caused existing organization forms are not enough competent to solve the current challenges (Erim Ash and Vayvay Ozalp, 2010).

Hofman dan Orlikowski (1997:11), deifned an organization change management is a systematic approach for a change of organization and individual. Persepectively, an organization needs a culture that creates a value and belief in the form of rules. The culture should be suited to the organization's strategy and managed if changes are needed. The perspectives on an individual level are based on behaviours displayed within organization (Peppard Joe dan Rowland Philip, 1997). Todnem Rune (2005) defined an organization change management as a process to update continuously directives, structure and organization ability to serve the ever-changing needs of customers internally and externally. A change is an ever-present feature of an organization life operationally and strategically. An organization change can't be separated with an

organization strategy, or viceversa. Alsamydai Jasim Mahmo et.al (2013) defined an organization change management is difficult and expensive task, but it must be exist because it is important element to handle and resolve some problems persuasively by using developed technology.

Thomas Olubayo Olijide (2014), defined an organization change management as an effective business change management, so an executive leader, manager and front line company need to work together implementing the process, technology or needed organization change. A change is an ever-present feature of organization life, operationally and strategically. In order to a company can be survived successfully and competitively in a growing business environment. This environment must be able to manage the real change successfully that are actually necessary. Khosa Ahmed Zeeshan, et.al (2015) described about the concept of organization change which comes from the character and environment of the organization, and it means a series of event that support a development process in the organization. An organization change generally means a new development and technology change, operation rescheduling and major partnership.

Information and Communication Technology

An information and communication technology is based on a process activity, storage and transmission of information. These activities use a computer, electronic devices, such as telephone, mobile phone, faximile machine, telecommunication network etc. An information and communication technology has challenged all geographical boundaries. An information and communication technology makes the development of sophisticated products, better market infrastructure, the application of reliable risk control technique as well as possible and helps an intermediatery of part activity to reach a distant location and diversified geographically market (Tiwari Rajesh dan Kumar Rakesh, 2012).

An information and communication technology gives the organization a flexibility to redesign the process and to create an organization design in high performance. An ability was not available previously when many existing business processes originally designed but it is required by a modern organization. The company's software offers a common data infrastructure through an organization, provides a working cell with the ability to access the functional data needed to complete the works. A network allows free information traffic, enables a distribution of critical data on time with employees regardless of their different location. A network based on internet also creates an effective supervisory environment (Ramirez,et.al, 2010).

Tiwari Rajesh and Kumar Rakesh (2012) defined the information and communication technology as a technology that merges a process activity, storage and transmission of information by using the device. Another definition said that information and communication technology is defined as long as data and application through communication network can be shared and accessed for organizational use. The main purpose of information and communication technology is to provide consistent and fast information support toward all part of the organization (Akhavan Peyman, et.,al, 2006). An information technology support is needed in the process of continuous improvement within an organization (Anand Gopesh, et.al, 2009).

A knowledge of information and communication technology refers to the level of technical knowledge about the objects such as computer based system. This knowledge can be transformed into competence

when used or exploited. The operation of information and communication technology shows the utilization of information technology in company operation. The objects of information and communication technology refers to availability of hardware, software and personnel to support the operational performance of information and communication technology. The ownership of information and communication technology knowledge, information technology operation and information technology object show the company's ability to acquire, apply and utilize the function of information and communication technology in combination with other resources shaping and supporting business process by adding value (J. W. Ong dan Hishamuddin Bin Ismail, 2008).

An information and communication technology is an important resource which presented by sorting, classifying, summarizing, reporting or presenting data for the organization benefit that goes with proper coordination within its structure to make a decision. An information and communication technology is very valuable to the company, especially to help a manager decision-making. An information and communication technology is used to provide the information needed to overcome the distance, volume of speed and complexity which are involved in business process. The computer device achieves greater system integration level, a troubleshooting can be simplified by using the software (Patroba Momanyi M., et.al, 2016).

IDEFO

Framework IDEFO (Integration Definition Language 0), is SADT (Structure Analysis and Design Technique) based system modelling method that was developed by Douglas T. Ross and SofTech, Inc. The original form of IDEFO consists language definition and graphical modelling (syntax and semantics) which describe a comprehensive methodology for model building. The result of IDEFO implementation on a system is a model that consist a series of hierarchical diagrams and sources that act as references between diagrams. The two main model components are functions (expressed with boxes on diagrams), data and object connect among functions (denoted by arrows). Arrows indicate the mechanism that has a role in the process undertaken by a function which is drawn with an arrow from the bottom with the arrow tip going into the function box. These arrows are simply often called ICOM (input-control-output-mechanism).

Methodology

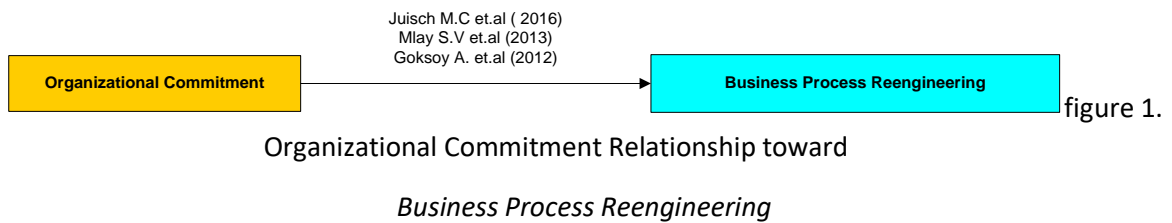
This research looks at the literature review of some journals. By looking at secondary data coming from internet, report and previous journals. Achieve competitive advantage every organization is required to conduct business process reengineering (BPR). A radical business change will inevitably have to be done in the face of disruptive innovation. Implementation of business process reengineering will be successful if supported in terms of organization that is organizational commitment and organizational change management. In terms of technology platform implementation business process reengineering must develop information and communication technology (ICT).

Results and Discussion

Organizational Commitment Relationship toward *Business Process Reengineering*

The research of Jurisch Marlen Christin et.al (2016) said that an organization commitment affects a business change performance and process performance. The study of Mlay Violet Samali (2013) showed that 81 % of employees believe and agreed to the implementation of business process reengineering, the remain are still hesitate. This result showed that there is a great commitment of employee in the implementation of business process reengineering, similar to the result of this study, the study of Goksoy Asli, et.,al (2012) showed 85,4% are agree that commitment and leadership support for the implementation of business process reengineering.

To understand easily the relationship between the organization commitment and *business process reengineering* is presented by figure 1 below.



three results of study above show that there is an influence between organization commitment and business process reengineering. It can be concluded that an organization commitment has an effect toward business process reengineering.

Organizational Commitment Relationship toward Competitive Advantage

The previous research showed that there is a relationship between an organization commitment and a competitive advantage. The research of Tabar Mohammad Zangene (2013) described a finding of research based on the structural equation model shows that the quality of commitment in organization commitment has a significant effect toward customer orientation as a part of competitive advantage. The study of Savaneviciene Asta (2012) explained that an organization commitment is the goal of human management based on quality and flexibility which is the dimension of competitive advantage. And the research of Brentani de Ulrike, Kleinschmidt J Elko, (2004) also described that an organization commitment and organization culture are strongly influenced by new product development as a part of superior product.

To understand easily the relationship between the organization commitment and *competitive advantage* is presented by figure 2 below.

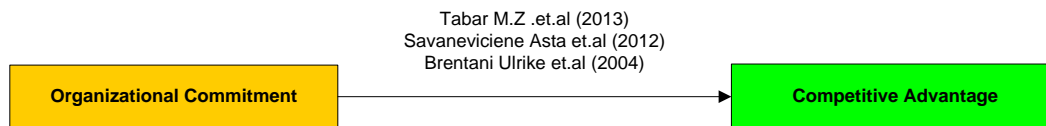


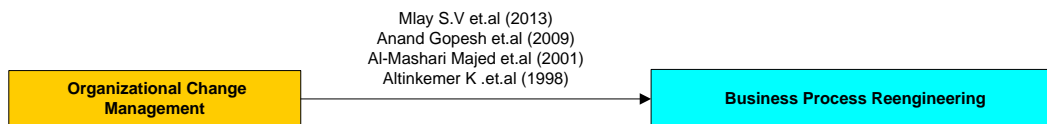
Figure 2. Organizational Commitment Relationship toward Competitive Advantage

This opinion shows that there is an influence between the organization commitment and competitive advantage. Therefore, it can be concluded that an organization commitment has an effect toward a competitive advantage.

Organization Change Management Relationship toward *Business Process Reengineering*

The previous research said that there is a relationship between organization change management and business process reengineering. In research of Mlay Violet Samali (2013) stated that the organization commitment, organization change management and information technology have a big effect toward business process reengineering. The research of Anand Gopesh et.,al (2009) explained that an organization change that occurred in five companies requires continuous process improvement as a potential dynamic ability within an organization. Furthermore in the study of Al-Mashari Majed, et.,al (2001) described the success of business process reengineering implementation is associated with a methodological use. An organization change management is an area that needs to be methodologically handled by researchers. In this case also shows that the diagnosing of the current process is an important stage in business process reengineering, and a organization has a difficult task implementing of it. It also shows the importance of commitment and process implementation of business process reengineering. Similarly, in the study of Altinkemer K (1998) explained that the organization requires a change for improving an organization's performance, and the change will occur when business process reengineering was implemented.

To understand easily the relationship between the organization chage management and *business process reengineering* is presented by figure 3 below.



Figurer 3. Organization Change Management Relationship toward
Business Process Reengineering

According to four opinions above, they show that there is an influence between organization change management and business process reengineering. It can be concluded that the organization change management has an effect toward business process reengineering.

Organization Change Management Relationship toward Competitive Advantage

There is a relationship between the organization change management and competitive advantage. The research of Tudor Liviu dan Bisa Christian (2015) explained that the organization change management is very important organization competitive advantage. Thus, it can ensure organization's progress and facilitate a better performance than competitors. The study of Fok Yew Oon dan Ahmad Hartini (2014) said that the organization change management has a strong effect toward operational advantage. The research of Ferreira Daniel and Kittsteinner Thomas (2012) explained that the business strategy model is a catalyst for an organization change. A simple business strategy is invaluable because an employee needs to coordinate his effort to build strategic capability as a competitive advantage.

To understand easily the relationship between the organization change management and *competitive advantage* is presented by figure 4 below.

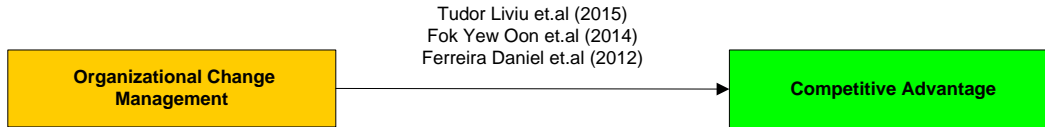


Figure 4 .Organization Change Management Relationship toward Competitive Advantage

The opinions above indicate an influence between the organization change management and competitive advantage. It can be concluded that the organization change management has an effect toward a competitive advantage.

Information and Communication Technology Relationship toward *Business Process Reengineering*

In the previous research said that there is a relationship between the information and communication technology and the business process reengineering. The search of Huang Yan Shaio et.,al (2014) resulted that the information and communication technology has a strong relationship toward the business process reengineering and performance. The study of Mlay Violet Samali et.,al (2013) explained that the organization commitment, organization change management and information and communication technology have a positive effect toward business process reengineering. Maroofi Fakhraddin et.,al (2013)'s research described that the information and communication technology has a strong influence toward the business process reengineering, internal business process, organization, customer satisfaction and financial performance. The study of Anand Gopesh et.,al (2009) explained that how the organization learning theory informs the theory of continuous improvement and it is possible to see such improvement as dynamic ability in the organization through an information technology. The search of Shin Namchul dan Jemella F Donald (2002), explained that business Process Reengineering can be applied in a bank by using 4 variables. They are process, organization, finance and information and communication technology. The research of Davenport H Thomas dan Short E James (1990), described that the information and communication technology has a major influence toward business process redesign.

To understand easily the relationship between the information and communication technology and *business process reengineering* is presented by figure 5 below

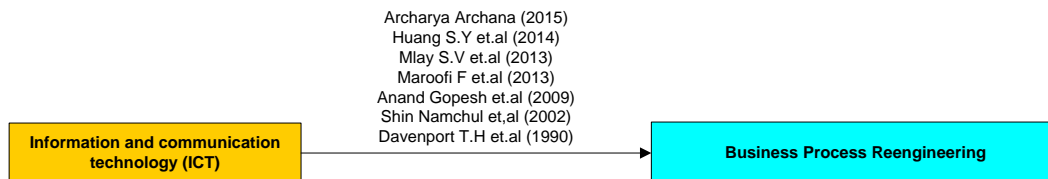


figure 5. The Information and Communication Technology Relationship toward

The Business Process Reengineering

The seven opinions above indicate that there is an influence between the information and communication technology with business process reengineering. So, it can be concluded that the information and communication technology has an effect toward business process reengineering.

Information and Communication Technology Relationship toward Competitive Advantage

In the previous research said that there is a relationship between the information and communication technology and competitive advantage. The research of Patroba Momanyi M et.,al (2016) explained that the information and communication technology through investment, risk management and operation has a strong influence toward competitive advantage. Similarly to the research of Chi Jiayu dan Sun Ling (2015) said that the competitive advantage is influenced by the information and communication technology through process, source and impact of information technology. The research of Breznik Lidija (2012) said that the competitive advantage can occur when the information and communication technology is implemented. The study of Ong W J (2008) explained that the information and communication technology through knowledge, operation and object has a strong influence toward competitive advantage. Similarly to the research of Vargas Alfonso, et.,al (2003) explained that the implementation of the information and communication technology has a strong influence toward competitive advantage through organization performance. A human, management and technology have a strong influence toward competitive advantage through information technology function.

To understand easily the relationship between the information and communication technology and *competitive advantage* is presented by figure 6 below.

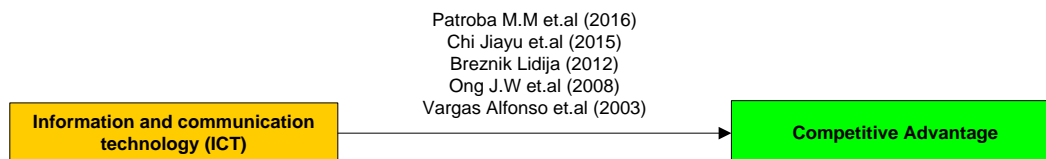


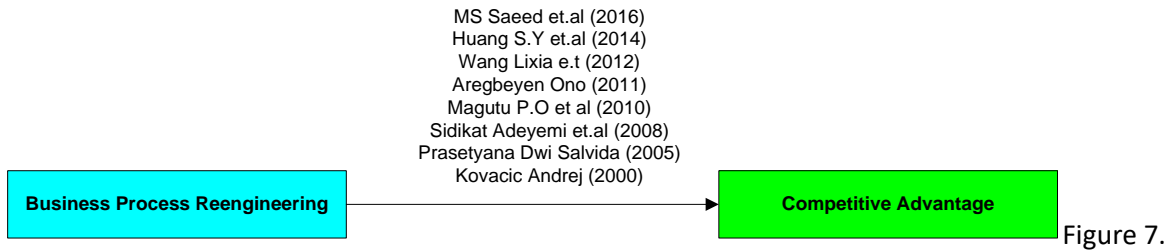
figure 6. The Informaiton and Communication Technology Relationship toward Competitive Advantage the five studies above showed that there is an influence of the information and communication technology toward competitive advantage. And finally, it can be concluded that the information and communication technology has an effect toward competitive advantage.

Business Process Reengineering Relationship toward Competitive Advantage

Some previous studies showed that there is a relationship between business process reengineering and competitive advantage. The research of MS Saeed dan A Nasar (2016), explained that Pakistan commercial banks are required to implement continuous improvement process in realizing the process of bank system, and to adjust themselves in focusing the existing finance and trend at the international level to enlarge a competitive advantage. The study of Huang Yan Shaio,et.,al (2014) explained that the information and communication technology has a strong influence toward business process reengineering

and performance as a competitive advantage. The research of Wang Lixia (2012) said that the bank system process is a good management model to be implemented in China to build a modern commercial bank through an information technology. Then the study of Aregbeyen Omo (2011) explained that the failure to review the implementation of business process reengineering in Nigeria because a decline occurred in the organization's performance during 10 years. The study of Sidikat Adeyemi dan Ayanda Mukaila Aremu (2008) explained that an organization's performance is strongly influenced by process, quality and strategy as a dimension of competitive advantage. Similarly to the study of Magutu Peterson (2010) explained the implementation of business process reengineering is able to give added value in the form of competitive advantage for Wrigley's company.

To understand easily the relationship between the *business process reengineering and competitive advantage* is presented by figure 7 below.



Business Process Reengineering Relationship toward Competitive Advantage

Finally, the opinions of researches above showed that there is an influence between business process reengineering and competitive advantage. So it can be concluded that business process reengineering has an effect toward competitive advantage.

Table 1. The Research of All Variable

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
1	Jurisch M C.,et.al. 2015	√						Quantitative, PLS
2	Mlay V S.,et.al. 2013	√	√	√				Kuanlitatif, Qualitative, SPSS, EView3 dan Excel 2007
3	Goksoy Asli.,et.al. 2012	√		√	√			Quantitative, Analisis regresi
4	Tabar M Z.,et.al. 2013	√				√		Quantitative, SEM

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
5	Savaneviciene A. et.al. 2012	√				√		Quantitative, Qualitative
6	Brentani de U.,et.al. 2004	√				√		Quantitative, AMOS
7	Anand G.,et.al. 2009	√	√	√				Quantitative, Qualitative
8	Shin N.,et.al. 2002		√	√	√			Kualitatif
9	Al-Mashari M.,et.al. 2001		√		√			Qualitative
10	Altinkemer K.,et.al. 1998		√		√			Qualitative
11	Tudor L.,et.al. 2015		√			√		Quantitative
12	Fok Y O.,et.al. 2014		√			√		Quantitative, SPSS
13	Ferreira D.,et.al. 2012		√			√		Quantitative
14	Markiewicz P. 2011		√			√		Qualitative
15	Huang Y S.,et.al. 2014			√	√	√		Quantitative
16	Maroofi F.,et.al. 2013			√	√			Quantitative, AMOS
17	Davenport H T.,et.al. 1990			√	√			Qualitative
18	Prasetyana D S. 2005				√			Qualitative
19	Ellitan Lena. 1999	√	√	√	√			Qualitative
20	Acharya A. 2005			√	√			Quantitative, SPSS
21	Waiganjo W E.,et.al. 2012					√		Qualitative
22	Patroba M M.,et.al. 2016			√		√		Quantitative, SPSS
23	Chi J.,et.al. 2015			√		√		Qualitative
24	Breznik L. 2012			√		√		Qualitative
25	Bulatovic et.al. 2011			√				Qualitative
26	Ong W J. 2008			√		√		Quantitative

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
27	Vargas A.,et.al. 2003			√		√		Quantitative
28	M.S Saeed.,et.al. 2016					√		Qualitative
29	Wang L.,et.al. 2012					√		Qualitative
30	Aregbeyen O. 2011				√	√		Qualitative
31	Sidikat A.,et.al. 2008				√	√		Quantitative
32	Magutu P.,et.al. 2010				√	√		Quantitative
33	Allen J N.,et.al. 1993	√						Quantitative, MANOVA
34	Xiaoli L. 2010				√	√		Quantitative, SEM, SPSS, Lisrel
35	Sarkis et.,al. 1995						√	Qualitative
36	Min et.al. 1996				√		√	Qualitative
37	M. Dachyar et.al. 2016				√		√	Qualitative

Source : Arranged Data, 2018

Conclusion

The previous research in journal or proceeding showed that the variables of competitive advantage, business process reengineering, organization commitment, organization change management and information and communication technology have interrelated relations. To be able to compete in the competition due to the global change, an organization must have a competitive advantage. This competitive advantage occurs by implementation of business process reengineering through the organization change. In order to a success of business process reengineering implementation, an organization must have an organization commitment (from top to bottom level), organization change management (vision, mission and organization strategy), capability and availability of information and communication technology.

A process change due to a replacement from a traditional process to a technology-based process which can be described by IDEFO that explains the process order based on the hierarchy activity.

Reference

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Here is a response to the comment on the paper:

Comment:

The manuscript sustains plentiful grammar and syntax errors, as well as excessive use of capital letters within sentences, and Table/Figure legends. Please, check with language word program prior to send the revised version.

Response:

- The paper has been revised by improving grammar and text writing. Improvements can be seen in the word scribbled and in the word colored red which can be seen in the revised paper.
- The capital letters in the picture and the table have been fixed as desired

Comment:

There is a loose linkage among the methodologies applied upon the context of "Business Process Reengineering"

Response:

- Methodology has been improved and added explanations or information by clarifying the use of IDEF0 models in BPR as a support to the implementation of BPR

Comment:

Authors can integrate the poor information given at each one Figure noted, by formulating two 2X2 quadrate Tables-analyses: SWOT and PEST. In these two Tables the determining aspects of "Business Process Reengineering" could be collective presented.

Response:

- This paper is not a case study but only a review literature that is the basis for creating a paradigm model based on relationships and the influence of organizational commitment variables, organizational change management, communication and information technology, business process reengineering and competitive advantage. Expected from the paradigm model can be developed into a case study on manufacturing or service industries

Comment:

A case study/paradigm in which the "Business Process Reengineering" could be ideally coordinate with "Information and Communication Technology" offering a "Competitive Advantage", to be deployed. This thematic "narrowing" it is especially needed since, by searching at the Scopus database for similar studies containing the phrase of "Business Process Reengineering " at their titles, 374 studies were retrieved. Therefore, it is inherently impossible such a volume literature

production to be reviewed in only one research work. Please, be focused on and develop your literature review to a more concise and feasible research target.

Response:

- The term business process reengineering is shortened to BPR in writing in paper

Reengineering Support for Competitive Advantage through Organizational Basis, Information and Communication Technology : a Literature Review

~~Competitive Advantage through Business Process~~

Reengineering : Literature Review

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Abstract

The point of view of this research is to collect and to investigate the previous research that is related to ~~Business Process~~ reengineering with BPR through the in manufacture manufacturing Industry to aim achieve a "Competitive Advantage". The purpose of this study is to provide a general overview of relationship among ~~between~~ business process reengineering variables, variable of competitive advantage variables, variable of organization organizational commitment variables, variable of organization organizational change management variables, variable of information and communication technology variables which are supported by IDEF0 method.

~~Design/ Method/ Approach:~~ This research overall used secondary data sources from which a research that were published in journal and proceeding for ~~Business Process Reengineering~~ the variables of BPR, variable of competitive advantage, variable of organization organizational commitment, variable of organization organizational change management, variable of information and communication technology in implementation of digital banking which is supported by IDEF0 method.

~~Research Limitation:~~ This research is limited by the to the existing research subject that was in online media and the specific purpose is to review a progress in the ~~business process reengineering~~ BPR which mainly based on organization, information technology and engineering.

the conclusion of the previous researches said that there were influencing variables toward ~~business process reengineering~~ BPR which is related to competitive advantage.

Keywords: ~~Business Process Reengineering, Competitive Advantage, Organization, Information and Communication Technology.~~ Business process reengineering, Competitive advantage, Organization, Information and communication technology.

Introduction

In the early 1990's, ~~the term of~~ Business Process Reengineering (BPR) ~~term~~ was already known in ~~to the~~ business world in America since ~~Business Process Reengineering term was introduced~~ its introduction by Hammer (1993), Business Process Reengineering was not only used in the manufacturing industry but also in the business sector for the service industry. Hammer was the first person ~~who introduced~~ to introduce the name of business process reengineering and he was considered as the father of business process reengineering. The early understanding of business process reengineering was a tool which used to ~~give~~ bring drastic change for ~~business process~~ changes to business processes and was adopted by an American Company which focused in the private sector, in the early 1990's as a substitute for the use of ~~the Total Quality Management~~ total quality management (TQM) use, an improved method which developed in Japan. ~~Business Process Reengineering BPR~~ BPR can be mentioned as a new approach for the ~~organization which requires~~ organizations that requires process management that bring brings a drastic change ~~changes~~ in ~~organization~~ organizational performance.

The current competition is not only occurring regionally ~~occurring~~ but ~~occurs~~ also globally. The ~~organizations make some efforts by the implementation of business process reengineering to increase competitive advantage facing major change~~ The organization seeks to improve competitive advantage to deal with major changes, one of which can be done by conducting business process reengineering, they redesign business process drastically. ~~Beside~~ Besides there is an issue said that most of ~~the~~ organization that ~~implement~~ implements business process reengineering as their main focus and it shows the failure in implementation of business process reengineering (Ramanigopal.,et.al, 2011)

Nowadays this change occurs in every sector such as transportation sector which is implemented by online, (~~Gojek, Grab~~ etc), online shops (e-commerce) such as Amazon.com and financial technology like the emergence of ~~FinTech~~ fintech in the world. The rapid change of information technology will be a commercial arena that ~~give~~ gives a birth of ~~organization~~ to organizational change. An ~~organization~~ Organizations must restructure and redefine their business strategy to solve this major change. ~~Business Process Reengineering BPR~~ BPR is a popular management tool for ~~facing~~ dealing a rapid ~~technology~~ technological and business ~~change~~ changes (Ozcelik, 2010; Ranganathan, Teo & and Dhaliwal, 2011). ~~Beside that success,~~ the research of Al-Mashari, Zairi & Al-Mudimigh (2011) and Chiplunkar, et.,al (2003), ~~illustrated~~ illustrates that up to 70% of ~~Business Process Reengineering BPR~~ BPR failure ~~occur~~ occurs at the implementation stage. It is caused by the lack of understanding of management within an organization.

The failure of ~~business process reengineering~~ BPR occurred at implementation process (~~procedure, process~~ procedures, processes, management) infrastructure (information technology ~~facility facilities~~, technology), human error (leadership, ~~employee~~ employees), company characteristic characteristics (size and ~~kind~~ type of business) or the combination of them (Smith Anne.et.,al, 2013).

To solve these problems, the main purpose of this study is to provide a general overview of the ~~relations among~~ relationship between Business Process Reengineering BPR variables, ~~variable of~~ competitive advantage variables, ~~variable of~~ organizational commitment variables, ~~variable of~~ organization organizational change management variables, ~~variable of~~ information and communication technology variables which is supported by IDEF0 method based on previous researches in journal and proceeding.

Literature Study

Competitive Advantage

A competitive advantage is very important for a company, because it shows its performance. It is a company position for the competitors. Porter (1998) said, there are two methods to create a competitive advantage, the first is saving of cost that will make a cost advantage, it occurs when a company provides the same service as its competitors with a lower cost. The second is the differentiation, this advantage occurs when a company provides a larger service at the same price ~~of~~ as its competitors. This is overall known as a position advantage because it shows the company's position in its industry as a leader in service or superior cost.

The company has the advantages through resources and capabilities that are superior for the competitors. Then as long as the company applies a strategy that utilizes these resources and capabilities effectively, so it is possible to create a competitive advantage. This is achieved through the plan and management strategy which is an ongoing process that evaluates, controls and checks business, competitors and industry overall. Moreover, setting a goal and strategy to overcome the obstacles achieving a success (Nimsith SI, Rifas AH, Cader MJA, 2016).

A competitive advantage can be described as a management concept that has been so popular in contemporary literature management. The reason behind this popularity because the rapid change that must be faced by the company today. The complexity of the business environment, the impact of globalization and unstructured market, consumer needs, competition revolution of information and communication technology and global trade continuously change (Moghli Abou A. A,et.al, 2012).

Porter (1998) considered that the competitive advantage is corporate activity through flexibility, product or service supply, on time, cost efficiency and owned differentiation value which can increase business performance toward competitors. Ferreira Daniel and Kittsteiner Thomas (2012) said that competitive advantage can be developed by a model where competitive pressure will become a stimulation for organization change. A competitive advantage can be through a business strategy based on differentiation, coordination and focus. According to Markiewicz Piotr (2011) a strategy process is influenced by the organization, innovation, creativity and perception.

Kasasbeh Ermad et.,al (2017) explained that a competitive advantage can be reached by a concept related to business process reengineering that will make the organization as a leader toward competitors in its sector. Specifically the stock of the organization that will make a profit in a competitive market. The dimensions of competitive advantage can be found through service quality, organization growth, performance, marketing innovation, creativity, customer orientation and market differentiation.

Business Process Reengineering

~~Business Process Reengineering~~ **BPR** is a set of management activity that replaces **the** traditional one and establishes a reasonable business process through optimization, employee authorization, customer suggestion and the application of information and communication technology. ~~Business process reengineering~~ **BPR** replaces **the** traditional labor-sharing system and emphasizes to act for the direction of work and process creating some new management principles for **the** business company (Ringim Kabiru Jinjiri.,et.al, 2013).

The failure of business process reengineering implementation was in research of Altinkemer K,et.al (1998), there were 2 of 35 companies that failed to implement business process reengineering. But both aimed a success of ~~business process reengineering~~ **BPR** implementation after they did process repairing. Muthu Subramanian et.,al (1999) had the same opinion that 50%-70% support for reengineering was ~~fail~~ **failed** in bringing dramatic change.

Ramanigopal C.S (2011) defined ~~business process reengineering~~ **BPR** is an available modern tool to manage the change the purpose of ~~BPR business process reengineering~~ where can redesign and change existed business practice and process for achieving an organization performance improvement dramatically. Ringim Kabiru Jinjiri et.al (2013) said that ~~BPR business process reengineering~~ is defined as a complete and radical process transformation which change bureaucratic structure within **the** organization for core process specialization.

Organizational Commitment

Organizational commitment in the implementation of BPR is very influential to achieve the success of the company (Osano and Okwena, 2015). Every business process that has been undertaken and committed to the management has been properly communicated to all elements within the organization early. This will make the implementation of BPR in progress can run well.

Organizational Change Management

Nzewi Hope et.al (2015) and Ringim et.al (2013) says that one of the factors that affect the BPR is organizational change management, redesigning the entire process from the old approach to a newer approach needs to be improved to achieve better performance due to a changes in government policies and competition that exists today.

Information and Communication Technology

Osano and Okwena (2015) describes the BPR is the aspect that leads to a change and introduces new processes and a new working style, so that certain elements needed to make a change. Among them is the management of information technology (IT) that can not be ignored for a radical redesign of an organization.

IDEF0 Model

IDEF0 model (Integration Definition Language 0), is a SADT-based (Structure Analysis and Design Technique) system modeling method developed by Douglas T. Ross and SofTech, Inc. In its original form IDEF0 includes a definition language and graphical modeling (syntax and semantics) that describes a comprehensive methodology for model building. IDEF0 (Integration Definition language 0) is a modeling language that uses images with a comprehensive explanation to explain the development stages or methodology of a system. The system is modeled as a group of functions that are interconnected with one another to form a major function. These functions describe what is done by the system, so anything that control, process, processed, and generated by the system can be known (Clarence, 1998).

Methodology Methodology

This research uses qualitative methods looks by looking at the literature review of some journals. By looking at secondary data coming from the internet, report and review journals. Achieve a competitive advantage every organization is required to conduct BPR. ~~business process reengineering (BPR)~~. A radical business change will inevitably have to be done in the face of disruptive innovation. Implementation of BPR ~~business process reengineering~~ will be successful if supported in terms of an organization that is organizational commitment and organizational change management. In terms of technology platform implementation business process reengineering must develop information and communication technology (ICT).

To support the implementation of BPR, it can be done by developing the business process by using IDEF0 model. The IDEF0 model for the business process will be shown in the form of building blocks activity in figure 1.

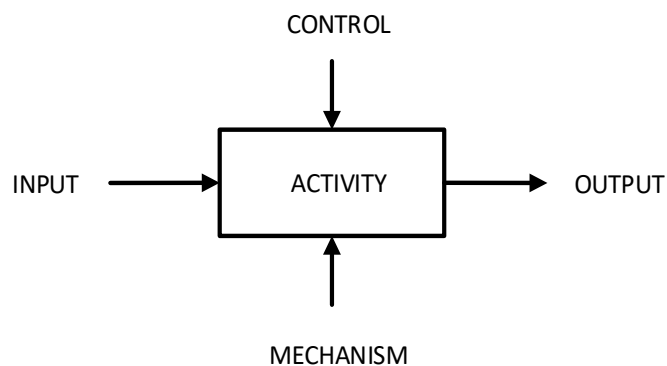


figure 1. Building blocks in the IDEF0 model

IDEF0 looks at a system as a collection of activities that use ICOM (Input-Control-Output-Mechanism). ICOM to embody its function. Activity and ICOM is a constituent component of the system that must be identified in the formation of the model (Tsironis Loukas. et.al, 2008). In other words, the model of a system using the method of IDEF0 is a depiction of the activity and ICOM of a system as in figure 2.

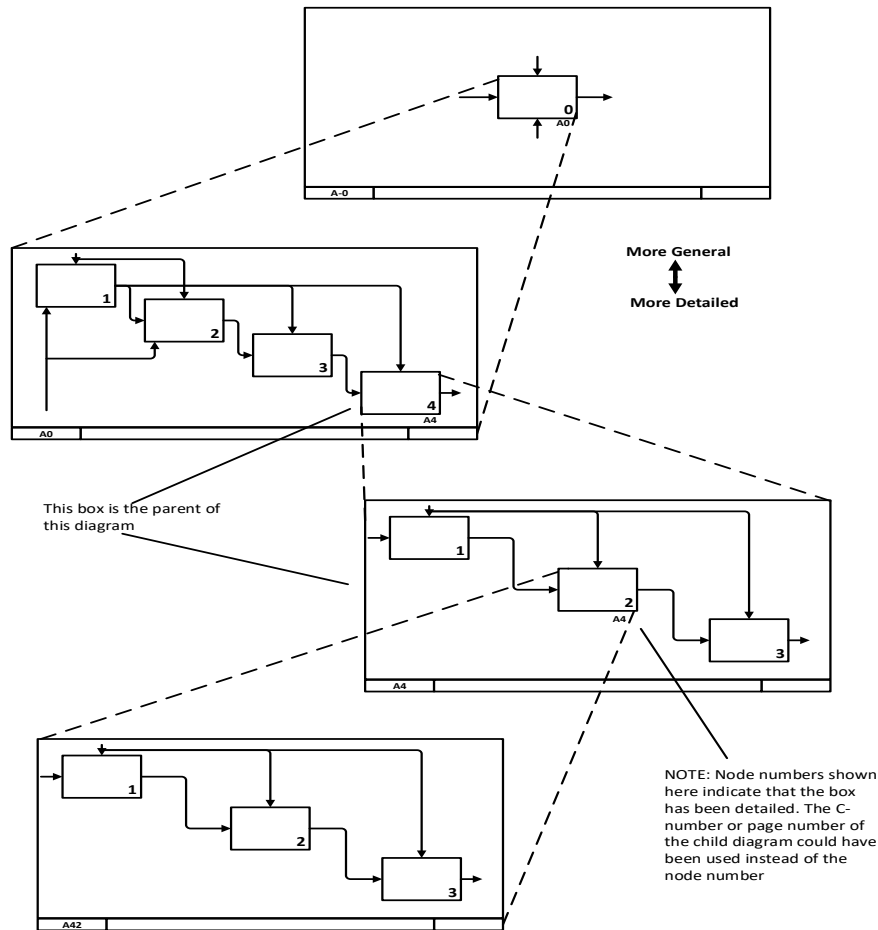


figure 2. Decomposition in IDEF0

Results and Discussion

The failure rate of the implementation of **BPR** business process reengineering is large. The success of **BPR** business process reengineering is supported by organizational commitment, organizational change management and understanding of technology, especially information and communication technology (ICT).

Organizational Commitment Relationship toward Business Process Reengineering

Organizational commitment relationship toward business process reengineering

In the The research of Jurisch Marlen Christin et.al (2016) said that an organization **organizational** commitment affects a **the performance of** business change **performance** and process performance. The study of Mlay Violet Samali (2013) **showed shows** that 81 % of employees believe and **agreed agree** to the implementation of business process reengineering, the remain are still **hesitate in doubt**. This result showed that there is a great commitment of **employee employees** in the implementation of business process reengineering, similar to the result of this study, the study of Goksoy Asli, et.,al (2012) showed 85,4% **are agree agreed** that commitment and leadership support for the implementation of business process reengineering.

- To understand easily the relationship between the organization organizational commitment and business process reengineering is presented by in figure 4 3 below.



Organizational commitment relationship toward business process reengineering

three results of study above show that there is an influence between organization organizational commitment and business process reengineering. It can be concluded that an organization organizational commitment has an effect toward influences business process reengineering.

~~Organizational Commitment Relationship toward Competitive Advantage~~
Organizational commitment relationship toward competitive advantage

The previous research showed that there is a relationship between an organization organizational commitment and a competitive advantage. The research of Tabar Mohammad Zangene (2013) described a finding of research based on the structural equation model shows that the quality of commitment in organization commitment has a significant effect toward customer orientation as a part of competitive advantage explained that research findings based on structural equation model show that the quality of commitment in organizational commitment has a significant effect on customer orientation as part of competitive advantage. The study of Savaneviciene Asta (2012) explained explains that an organization organizational commitment is the goal of human management based on quality and flexibility which is the dimension of competitive advantage. And the research of Brentani de Ulrike, Kleinschmidt J Elko, (2004) also described explained that an organization organizational commitment and organization organizational culture are strongly influenced by new product development as a part of superior product.

To understand easily the relationship between the organization organizational commitment and competitive advantage is presented by in figure 5 4 below.

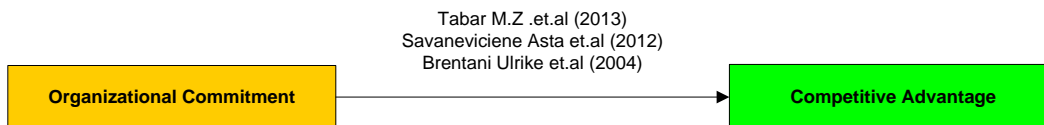


Figure 5 figure 4. Organizational commitment relationship toward competitive advantage

This opinion shows that there is an influence between the organization commitment and competitive advantage. Therefore, it can be concluded that an organization commitment has an effect toward a competitive advantage.

~~Organization Change Management Relationship toward Business Process Reengineering~~
Organizational Change Management Relationship toward Business Process Reengineering

The previous research said that there is a relationship between organization organizational change management and BPR business process reengineering. In research of Mlay Violet Samali (2013) stated that the organization organizational commitment, organization organizational change management and information technology have a big effect toward on BPR business process reengineering. The research of Anand Gopesh et.,al (2009) explained that an organization organizational change that occurred in five companies requires continuous process improvement as a potential dynamic ability within an

organization. Furthermore in the study of Al-Mashari Majed, et.,al (2001) described the success of **BPR business process reengineering** implementation is associated with a methodological use. An **organization Organizational** change management is an area that needs to be methodologically handled by researchers. In this case also shows that the diagnosing of the current process is an important stage in **BPR business process reengineering**, and a **the** organization has a difficult task implementing of it. It also shows the importance of commitment and process implementation of **BPR business process reengineering**. Similarly, in the study of Altinkemer K (1998) explained that the organization requires a change **in order to improve organizational performance** for improving an organization's performance, and the change **changes** will occur when **BPR business process reengineering** was implemented.

To understand easily the relationship between the **organization organizational** change management and **BPR business process reengineering** is presented by **in** figure 6 5 below.

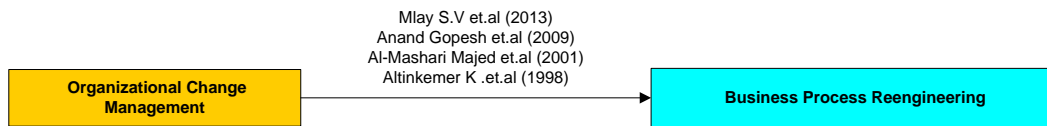


Figure-6 **figure 5.** **Organization Organizational** change management relationship toward business process reengineering

According to four opinions above, they show that there is an influence between **organization organizational** change management and **BPR business process reengineering**. It can be concluded that the **organization organizational** change management has an effect toward on **BPR business process reengineering**.

Organization Change Management Relationship toward Competitive Advantage
Organizational change management relationship toward competitive advantage

There is a relationship between the **organization organizational** change management and competitive advantage. The research of Tudor Liviu and Bisa Christian (2015) explained that the **organization organizational** change management is a very important **organization organizational** competitive advantage. Thus, it can ensure organization's progress and **facilitate facilitating** a better performance than competitors. The study of Fok Yew Oon and Ahmad Hartini (2014) said that the **organization organizational** change management has **had** a strong effect toward operational advantage. The research of Ferreira Daniel and Kittsteinner Thomas (2012) explained that the business strategy model is a catalyst for an **organization organizational** change. A simple business strategy is invaluable because an employee needs to coordinate his effort to build strategic **capability capabilities** as a competitive advantage.

To understand easily the relationship between the **organization organizational** change management and competitive advantage is presented by **in** figure 7 6 below.

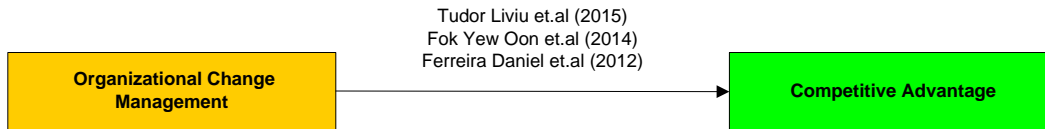


Figure 7 figure 6. Organization Organizational change management relationship toward competitive advantage

The opinions above indicate an influence between the organization organizational change management and competitive advantage. It can be concluded that the organization organizational change management has had an effect toward a competitive advantage.

Information and Communication Technology Relationship toward Business Process Reengineering
Information and communication technology relationship toward business process reengineering

In the previous research said that the there is a relationship between the information and communication technology and the BPR business process reengineering. The search of Huang Yan Shaio et.,al (2014) resulted that the information and communication technology has a strong relationship toward the BPR business process reengineering and performance. The study of Mlay Violet Samali et.,al (2013) explained that the organization commitment, organization change management and information and communication technology have a positive effect toward organizational commitment, organizational change management and information and communication technology have a positive effect on BPR business process reengineering. Maroofi Fakhraddin et.,al (2013)'s research described that the information and communication technology has a strong influence toward the BPR business process reengineering, internal business process processes, organization, customer satisfaction and financial performance. The study of Anand Gopesh et.,al (2009) explained that how the organization organizational learning theory informs the theory of continous improvement and it is possible allows to see such improvement as a dynamic ability in the organization through an information technology. The search research of Shin Namchul dan and Jemella F Donald (2002), explained that BPR business process reengineering can be applied in a bank by using 4 variables. They are process, organization, finance, and information and communication technology. The research of Davenport H Thomas and Short E James (1990), described that the information and communication technology has a major influence toward business process redesign.

To understand easily the relationship between the information and communication technology and BPR business process reengineering is presented by in figure 8 7 below.

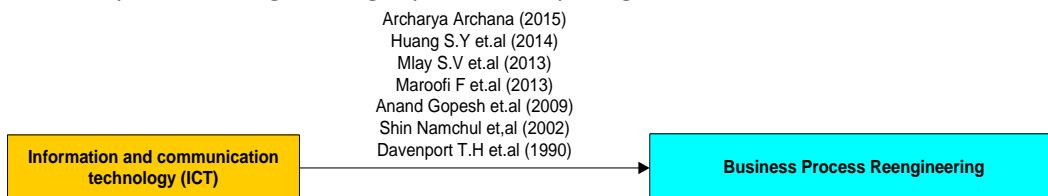


Figure8 figure 7. The information and communication technology relationship toward business process reengineering

The seven opinions above indicate that there is an influence between the information and communication technology with ~~BPR business process reengineering~~. So, it can be concluded that the information and communication technology has an effect toward ~~BPR business process reengineering~~.

~~Information and Communication Technology Relationship toward Competitive Advantage~~
Information and communication technology relationship toward competitive advantage

In the previous research said that there is a relationship between the information and communication technology and competitive advantage. The research of Patroba Momanyi M et.,al (2016) explained that the information and communication technology through investment, risk management and operation has a strong influence toward competitive advantage. Similarly to the research of Chi Jiayu and Sun Ling (2015) said that the competitive advantage is influenced by the information and communication technology through process, source and impact of information technology. The research of Breznik Lidija (2012) said that the competitive advantage can occur when the information and communication technology is implemented. The study of Ong W J (2008) explained that the information and communication technology through knowledge, operation and object has a strong influence toward competitive advantage. Similarly to the research of Vargas Alfonso, et.,al (2003) explained that the implementation of the information and communication technology has a strong influence toward competitive advantage through organization performance. ~~A human Human~~, management and technology have a strong influence toward competitive advantage through information technology function.

To understand easily the relationship between the information and communication technology and competitive advantage is presented by in figure 9 8 below.

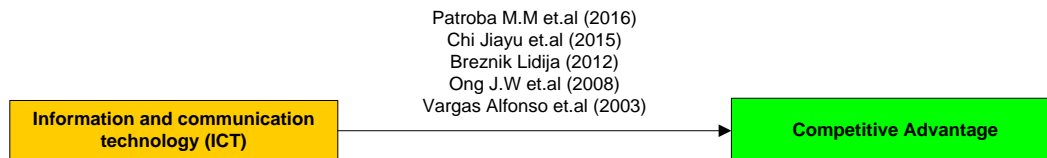


figure 9 figure 8. The information and communication technology relationship toward competitive advantage

The five studies above showed that there is an influence of the ~~between~~ information and communication technology toward competitive advantage. And finally, it can be concluded that the information and communication technology has an effect toward competitive advantage.

~~Business Process Reengineering Relationship toward Competitive Advantage~~
Business process reengineering relationship toward competitive advantage

Some previous studies showed that there is a relationship between ~~BPR business process reengineering~~ and competitive advantage. The research of MS Saeed dan and A Nasar (2016), explained that Pakistan commercial banks are required to implement continuous improvement process in realizing the process of bank system, and to adjust themselves in focusing on the existing finance and ~~trend trends~~ at the international level to enlarge a ~~the~~ competitive advantage. The study of Huang Yan Shaio,et.,al (2014) explained that the information and communication technology has a strong influence toward ~~BPR business process reengineering~~ and performance as a competitive advantage. The research of Wang Lixia (2012) said that the bank system process is a good management model to be implemented in China to

build a modern commercial bank through an information technology. Then the study of Aregbeyen Omo (2011) explained that the failure to review the implementation of **BPR business process reengineering** in Nigeria because a decline occurred in the organization's performance during 10 years. The study of Sidikat Adeyemi dan **and** Ayanda Mukaila Aremu (2008) explained that an organization's performance is strongly influenced by process, quality and strategy as a dimension of competitive advantage. Similarly to the study of Magutu Peterson (2010) explained **that** the implementation of **BPR business process reengineering** is able to give **can provide** added value in the form of competitive advantage for Wrigley's company.

To understand easily the relationship between the **BPR business process reengineering** and competitive advantage is presented **by** in figure 10 9 below.

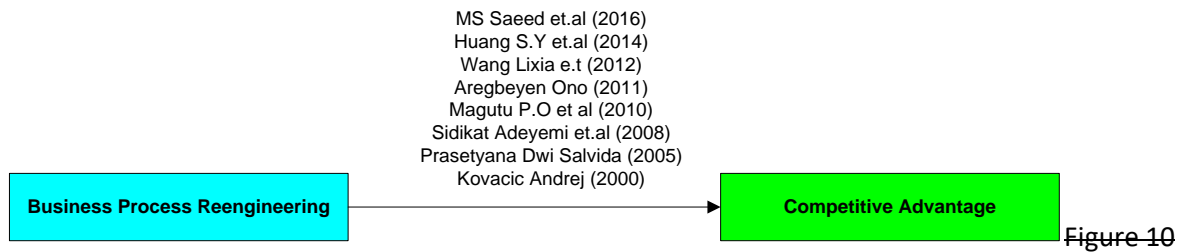


figure 9. Business process reengineering relationship toward competitive advantage

Finally, the opinions of researches above showed that there is an influence between **BPR business process reengineering** and competitive advantage. So it can be concluded that **BPR business process reengineering** has an effect toward competitive advantage.

Table 1. The Research of all variable

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
1	Jurisch M C.,et.al. 2015	√						Quantitative, PLS
2	Mlay V S.,et.al. 2013	√	√	√				Kuanlitatif, Qualitative, SPSS, EView3 dan Excel 2007
3	Goksoy Asli.,et.al. 2012	√		√	√			Quantitative, Analisis regresi
4	Tabar M Z.,et.al. 2013	√				√		Quantitative, SEM
5	Savaneviciene A. et.al. 2012	√				√		Quantitative, Qualitative
6	Brentani de U.,et.al. 2004	√				√		Quantitative, AMOS
7	Anand G.,et.al. 2009	√	√	√	√			Quantitative, Qualitative
8	Shin N.,et.al. 2002		√	√	√			Kualitatif
9	Al-Mashari M.,et.al. 2001		√		√			Qualitative
10	Altinkemer K.,et.al. 1998		√		√			Qualitative

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
11	Tudor L.,et.al. 2015		√			√		Quantitative
12	Fok Y O.,et.al. 2014		√			√		Quantitative, SPSS
13	Ferreira D.,et.al. 2012		√			√		Quantitative
14	Markiewicz P. 2011		√			√		Qualitative
15	Huang Y S.,et.al. 2014			√	√	√		Quantitative
16	Maroofi F.,et.al. 2013			√	√			Quantitative, AMOS
17	Davenport H T.,et.al. 1990			√	√			Qualitative
18	Prasetyana D S. 2005				√			Qualitative
19	Ellitan Lena. 1999	√	√	√	√			Qualitative
20	Acharya A. 2005			√	√			Quantitative, SPSS
21	Waiganjo W E.,et.al. 2012					√		Qualitative
22	Patroba M M.,et.al. 2016			√		√		Quantitative, SPSS
23	Chi J.,et.al. 2015			√		√		Qualitative
24	Breznik L. 2012			√		√		Qualitative
25	Bulatovic et.al. 2011			√				Qualitative
26	Ong W J. 2008			√		√		Quantitative
27	Vargas A.,et.al. 2003			√		√		Quantitative
28	M.S Saeed.,et.al. 2016					√		Qualitative
29	Wang L.,et.al. 2012					√		Qualitative
30	Aregbeyen O. 2011				√	√		Qualitative
31	Sidikat A.,et.al. 2008				√	√		Quantitative
32	Magutu P.,et.al. 2010				√	√		Quantitative
33	Allen J N.,et.al. 1993	√						Quantitative, MANOVA
34	Xiaoli L. 2010				√	√		Quantitative, SEM, SPSS, Lisrel
35	Sarkis et.,al. 1995						√	Qualitative
36	Min et.al. 1996				√		√	Qualitative
37	M. Dachyar et.al. 2016				√		√	Qualitative

Source : Arranged Data, 2018

Based on the relationship between each variable that has a mutual influence, then in figure 10 can be seen a model that describes the relationship and the influence between each variable contained in a paradigm model that is developed and sought the influence of these variables

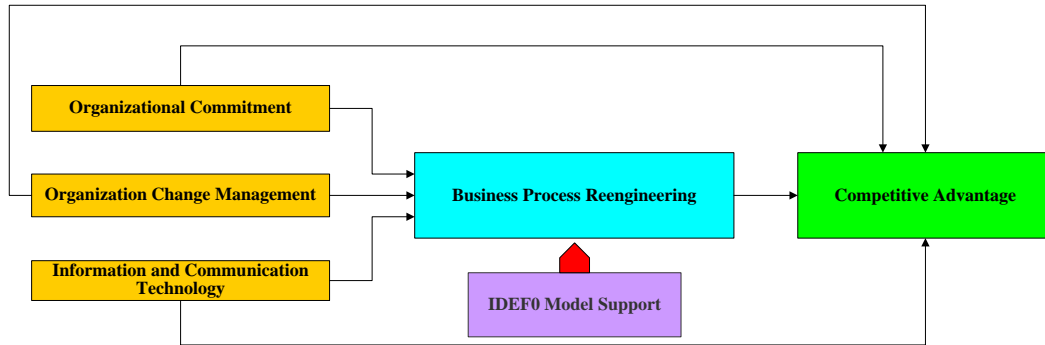


Figure 10. Paradigm Model

Based on the results of previous studies, a paradigm model can be developed that can be developed for the manufacturing industry or service industry in the implementation of BPRs to improve future competitive advantage.

Conclusion

The previous research in journal or proceeding showed that the variables of competitive advantage, business process reengineering, ~~organization~~ organizational commitment, ~~organization~~ organizational change management and information and communication technology have interrelated relations. To be able to compete in the competition due to the global change, an organization must have a competitive advantage. This competitive advantage occurs by implementation of BPR ~~business process reengineering~~ through the ~~organization~~ organizational change. In order to a success of BPR ~~business process reengineering~~ implementation, an organization must have an ~~organization~~ organizational commitment (from top to bottom level), ~~organization~~ organizational change management (vision, mission and organization strategy), capability and availability of information and communication technology.

IDEF0 model is one of the ways of can doing support BPR. A process change due to a replacement from a traditional process to a technology-based process which can be described by IDEF0 that explains the process order based on the hierarchy activity. For each building blocks consist of input: something that is transformed by an activity. Control : something that determines how an activity occurs but is not transformed by it. Output : something that is produced by the activity and mechanism : people, facilities, machines, or others that run the activities.

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Reengineering Support for Competitive Advantage through Organizational Basis, Information and Communication Technology : a Literature Review

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Abstract

The point of view of this research is to collect and to investigate the previous research that is related to reengineering with BPR in manufacturing Industry to achieve a "Competitive Advantage". The purpose of this study is to provide a general overview of relationship between business process reengineering variables, competitive advantage variables, organizational commitment variables, organizational change management variables, information and communication technology variables which are supported by IDEF0 method.

This research overall used secondary data sources from a research that were published in journal and proceeding for the variables of BPR, competitive advantage, organizational commitment, organizational change management information and communication technology which is supported by IDEF0 method.

This research is limited to the existing research subject that was in online media and the specific purpose is to review a progress in the BPR which mainly based on organization, information technology and engineering.

the conclusion of the previous researches said that there were influencing variables toward BPR which is related to competitive advantage.

Keywords: Business process reengineering, Competitive advantage, Organization, Information and communication technology.

Introduction

In the early 1990's, the term of Business Process Reengineering (BPR) ~~term~~ was already known to the business world in America since its introduction by Hammer (1993), Business Process Reengineering was not only used in the manufacturing industry but also in the business sector for the service industry. Hammer was the first person to introduce the name of business process reengineering and he was

considered as the father of business process reengineering. The early understanding of business process reengineering was a tool which used to bring drastic changes to business processes and was adopted by an American Company which focused in the private sector, in the early 1990's as a substitute for the use of total quality management (TQM), an improved method which developed in Japan. BPR can be mentioned as a new approach for the organizations that requires process management that brings a drastic changes in organizational performance.

The current competition is not only occurring regionally but also globally. The organization seeks to improve competitive advantage to deal with major changes, one of which can be done by conducting business process reengineering, they redesign business process drastically. Besides there is an issue said that most of the organization that implements business process reengineering as their main focus and it shows the failure in implementation of business process reengineering (Ramanigopal.,et.al, 2011)

Nowadays this change occurs in every sector such as transportation sector which is implemented by online, online shops (e-commerce) such as Amazon.com and financial technology like the emergence of fintech in the world. The rapid change of information technology will be a commercial arena that gives a birth to organizational change. Organizations must restructure and redefine their business strategy to solve this major change. BPR is a popular management tool for dealing a rapid technological and business changes (Ozcelik, 2010; Ranganathan, Teo and Dhaliwal, 2011). Beside that success, the research of Al-Mashari, Zairi & Al-Mudimigh (2011) and Chiplunkar, et.,al (2003), illustrates that up to 70% of BPR failure occurs at the implementation stage. It is caused by the lack of understanding of management within an organization.

The failure of BPR occurred at implementation process (procedures, processes, management) infrastructure (information technology facilities, technology), human error (leadership, employees), company characteristics (size and type of business) or the combination of them (Smith Anne.et.,al, 2013).

To solve these problems, the main purpose of this study is to provide a general overview of the relationship between BPR variables, competitive advantage variables, organizational commitment variables, organizational change management variables, information and communication technology variables which is supported by IDEF0 method based on previous researches in journal and proceeding.

Literature Study

Competitive Advantage

A competitive advantage is very important for a company, because it shows its performance. It is a company position for the competitors. Porter (1998) said, there are two methods to create a competitive advantage, the first is saving of cost that will make a cost advantage, it occurs when a company provides the same service as its competitors with a lower cost. The second is the differentiation, this advantage occurs when a company provides a larger service at the same price as its competitors. This is overall known as a position advantage because it shows the company's position in its industry as a leader in service or superior cost.

The company has the advantages through resources and capabilities that are superior for the competitors. Then as long as the company applies a strategy that utilizes these resources and capabilities effectively,

so it is possible to create a competitive advantage. This is achieved through the plan and management strategy which is an ongoing process that evaluates, controls and checks business, competitors and industry overall. Moreover, setting a goal and strategy to overcome the obstacles achieving a success (Nimsith SI, Rifas AH, Cader MJA, 2016).

A competitive advantage can be described as a management concept that has been so popular in contemporary literature management. The reason behind this popularity because the rapid change that must be faced by the company today. The complexity of the business environment, the impact of globalization and unstructured market, consumer needs, competition revolution of information and communication technology and global trade continuously change (Moghli Abou A. A,et.al, 2012).

Porter (1998) considered that the competitive advantage is corporate activity through flexibility, product or service supply, on time, cost efficiency and owned differentiation value which can increase business performance toward competitors. Ferreira Daniel and Kittsteiner Thomas (2012) said that competitive advantage can be developed by a model where competitive pressure will become a stimulation for organization change. A competitive advantage can be through a business strategy based on differentiation, coordination and focus. According to Markiewicz Piotr (2011) a strategy process is influenced by the organization, innovation, creativity and perception.

Kasasbeh Ermad et.,al (2017) explained that a competitive advantage can be reached by a concept related to business process reengineering that will make the organization as a leader toward competitors in its sector. Specifically the stock of the organization that will make a profit in a competitive market. The dimensions of competitive advantage can be found through service quality, organization growth, performance, marketing innovation, creativity, customer orientation and market differentiation.

Business Process Reengineering

BPR is a set of management activity that replaces the traditional one and establishes a reasonable business process through optimization, employee authorization, customer suggestion and the application of information and communication technology. BPR replaces the traditional labor-sharing system and emphasizes to act for the direction of work and process creating some new management principles for the business company (Ringim Kabiru Jinjiri.,et.al, 2013).

The failure of business process reengineering implementation was in research of Altinkemer K,et.al (1998), there were 2 of 35 companies that failed to implement business process reengineering. But both aimed a success of BPR implementation after they did process repairing. Muthu Subramanian et.,al (1999) had the same opinion that 50%-70% support for reengineering was failed in bringing dramatic change.

Ramanigopal C.S (2011) defined BPR is an available modern tool to manage the change the purpose of BPR where can redesign and change existed business practice and process for achieving an organization performance improvement dramatically. Ringim Kabiru Jinjiri et.al (2013) said that BPR is defined as a complete and radical process transformation which change bureaucratic structure within the organization for core process specialization.

Organizational Commitment

Organizational commitment in the implementation of BPR is very influential to achieve the success of the company (Osano and Okwena, 2015). Every business process that has been undertaken and committed to the management has been properly communicated to all elements within the organization early. This will make the implementation of BPR in progress can run well.

Organizational Change Management

Nzewi Hope et.al (2015) and Ringim et.al (2013) says that one of the factors that affect the BPR is organizational change management, redesigning the entire process from the old approach to a newer approach needs to be improved to achieve better performance due to a changes in government policies and competition that exists today.

Information and Communication Technology

Osano and Okwena (2015) describes the BPR is the aspect that leads to a change and introduces new processes and a new working style, so that certain elements needed to make a change. Among them is the management of information technology (IT) that can not be ignored for a radical redesign of an organization.

IDEFO Model

IDEFO model (Integration Definition Language 0), is a SADT-based (Structure Analysis and Design Technique) system modeling method developed by Douglas T. Ross and SofTech, Inc. In its original form IDEFO includes a definition language and graphical modeling (syntax and semantics) that describes a comprehensive methodology for model building. IDEFO (Integration Definition language 0) is a modeling language that uses images with a comprehensive explanation to explain the development stages or methodology of a system. The system is modeled as a group of functions that are interconnected with one another to form a major function. These functions describe what is done by the system, so anything that control, process, processed, and generated by the system can be known (Clarence, 1998).

Methodology

This research uses qualitative methods by looking at the literature review of some journals. By looking at secondary data coming from the internet, report and review journals. Achieve a competitive advantage every organization is required to conduct BPR. A radical business change will inevitably have to be done in the face of disruptive innovation. Implementation of BPR will be successful if supported in terms of an organization that is organizational commitment and organizational change management. In terms of technology platform implementation business process reengineering must develop information and communication technology (ICT).

To support the implementation of BPR, it can be done by developing the business process by using IDEFO model. The IDEFO model for the business process will be shown in the form of building blocks activity in figure 1.

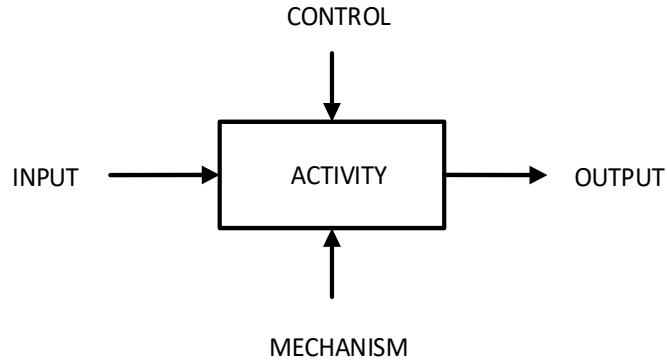


figure 1. Building blocks in the IDEF0 model

IDEF0 looks at a system as a collection of activities that use ICOM (Input-Control-Output-Mechanism). ICOM to embody its function. Activity and ICOM is a constituent component of the system that must be identified in the formation of the model (Tsironis Loukas. et.al, 2008). In other words, the model of a system using the method of IDEF0 is a depiction of the activity and ICOM of a system as in figure 2.

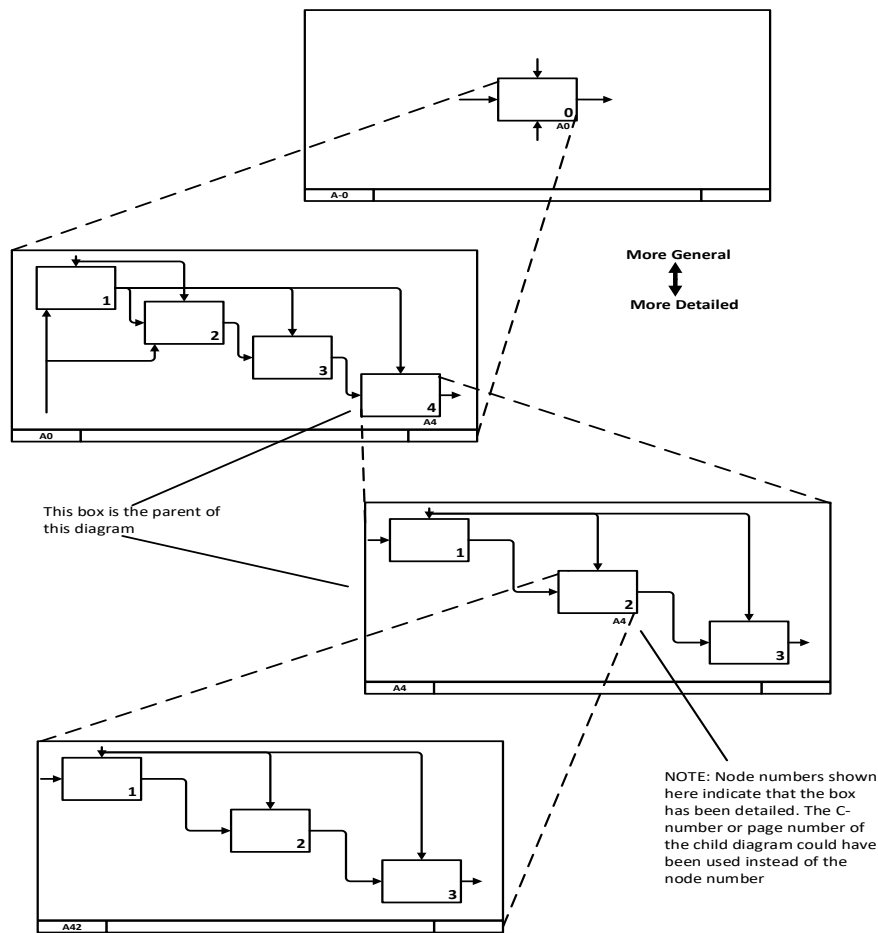


figure 2. Decomposition in IDEF0

Results and Discussion

The failure rate of the implementation of BPR is large. The success of BPR is supported by organizational commitment, organizational change management and understanding of technology, especially information and communication technology (ICT).

Organizational commitment relationship toward business process reengineering

In the research of Jurisch Marlen Christin et.al (2016) said that organizational commitment affects a the performance of business change and process performance. The study of Mlay Violet Samali (2013) shows that 81 % of employees believe and agree to the implementation of business process reengineering, the remain are still in doubt. This result showed that there is a great commitment of employees in the implementation of business process reengineering, similar to the result of this study, the study of Goksoy Asli, et.,al (2012) showed 85,4% agreed that commitment and leadership support for the implementation of business process reengineering.

- To understand easily the relationship between the organizational commitment and business process reengineering is presented in figure 3 below.



Organizational commitment relationship toward
business process reengineering

three results of study above show that there is an influence between organizational commitment and business process reengineering. It can be concluded that organizational commitment influences business process reengineering.

Organizational commitment relationship toward competitive advantage

The previous research showed that there is a relationship between an organizational commitment and a competitive advantage. The research of Tabar Mohammad Zangene (2013) explained that research findings based on structural equation model show that the quality of commitment in organizational commitment has a significant effect on customer orientation as part of competitive advantage. The study of Savaneviciene Asta (2012) explains that organizational commitment is the goal of human management based on quality and flexibility which is the dimension of competitive advantage. And the research of Brentani de Ulrike, Kleinschmidt J Elko, (2004) also explained that organizational commitment and organizational culture are strongly influenced by new product development as a part of superior product.

To understand easily the relationship between the organizational commitment and competitive advantage is presented in figure 4 below.

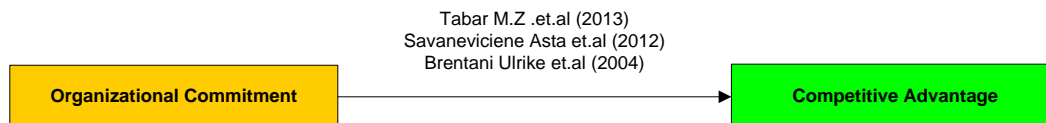


figure 4. Organizational commitment relationship toward competitive advantage

This opinion shows that there is an influence between the organization commitment and competitive advantage. Therefore, it can be concluded that an organization commitment has an effect toward a competitive advantage.

Organizational Change Management Relationship toward Business Process Reengineering

The previous research said that there is a relationship between organizational change management and BPR. In research of Mlay Violet Samali (2013) stated that the organizational commitment, organizational change management and information technology have a big effect on BPR. The research of Anand Gopesh et.,al (2009) explained that an organizational change that occurred in five companies requires continuous process improvement as a potential dynamic ability within an organization. Furthermore in the study of Al-Mashari Majed, et.,al (2001) described the success of BPR implementation is associated with a methodological use. Organizational change management is an area that needs to be methodologically handled by researchers. In this case also shows that the diagnosing of the current process is an important stage in BPR, and the organization has a difficult task implementing it. It also shows the importance of commitment and process implementation of BPR. Similarly, in the study of Altinkemer K (1998) explained that the organization requires a change in order to improve organizational performance, and the changes will occur when BPR was implemented.

To understand easily the relationship between the organizational change management and BPR is presented in figure 5 below.

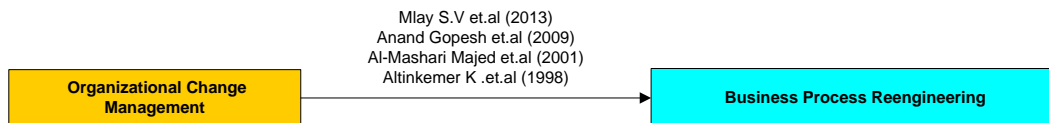


figure 5. Organizational change management relationship toward business process reengineering

According to four opinions above, they show that there is an influence between organizational change management and BPR. It can be concluded that the organizational change management has an effect on BPR.

Organizational change management relationship toward competitive advantage

There is a relationship between the organizational change management and competitive advantage. The research of Tudor Liviu and Bisa Christian (2015) explained that the organizational change management is a very important organizational competitive advantage. Thus, it can ensure organization's progress and facilitating a better performance than competitors. The study of Fok Yew Oon and Ahmad Hartini (2014) said that the organizational change management had a strong effect toward operational advantage. The research of Ferreira Daniel and Kittsteinner Thomas (2012) explained that the business strategy model is a catalyst for an organizational change. A simple business strategy is invaluable because an employee needs to coordinate his effort to build strategic capabilities as a competitive advantage.

To understand easily the relationship between the organizational change management and competitive advantage is presented in figure 6 below.

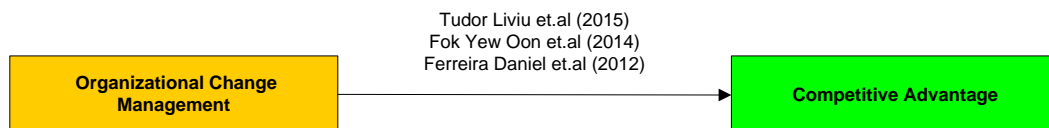


figure 6. Organizational change management relationship toward competitive advantage

The opinions above indicate an influence between the organizational change management and competitive advantage. It can be concluded that the organizational change management has had an effect toward a competitive advantage.

Information and communication technology relationship toward business process reengineering

In the previous research said that is a relationship between the information and communication technology and the BPR. The search of Huang Yan Shaio et.,al (2014) resulted that the information and communication technology has a strong relationship toward the BPR and performance. The study of Mlay Violet Samali et.,al (2013) explained that organizational commitment, organizational change management and information and communication technology have a positive effect on BPR. Maroofi Fakhraddin et.,al (2013)'s research described that the information and communication technology has a strong influence toward the BPR, internal business processes, organization, customer satisfaction and financial performance. The study of Anand Gopesh et.,al (2009) explained that how the learning theory informs the theory of continuous improvement and allows to see such improvement as a dynamic ability in the organization through an information technology. The research of Shin Namchul and Jemella F Donald (2002), explained that BPR be applied in a bank by using 4 variables. They are process, organization, finance, information and communication technology. The research of Davenport H Thomas and Short E James (1990), described that the information and communication technology has a major influence toward business process redesign.

To understand easily the relationship between the information and communication technology and BPR is presented in figure 7 below.

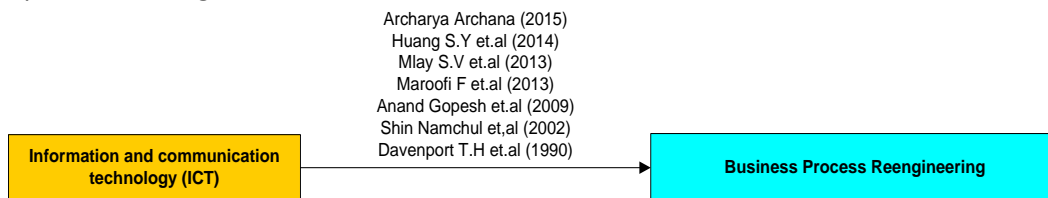


figure 7. The information and communication technology relationship toward business process reengineering

The seven opinions above indicate that there is an influence between the information and communication technology with BPR. So, it can be concluded that the information and communication technology has an effect toward BPR.

Information and communication technology relationship toward competitive advantage

In the previous research said that there is a relationship between the information and communication technology and competitive advantage. The research of Patroba Momanyi M et.,al (2016) explained that the information and communication technology through investment, risk management and operation has a strong influence toward competitive advantage. Similarly to the research of Chi Jiayu and Sun Ling (2015) said that the competitive advantage is influenced by the information and communication technology through process, source and impact of information technology. The research of Breznik Lidija (2012) said that the competitive advantage can occur when the information and communication technology is implemented. The study of Ong W J (2008) explained that the information and communication technology

through knowledge, operation and object has a strong influence toward competitive advantage. Similarly to the research of Vargas Alfonso, et.,al (2003) explained that the implementation of the information and communication technology has a strong influence toward competitive advantage through organization performance. Human, management and technology have a strong influence toward competitive advantage through information technology function.

To understand easily the relationship between the information and communication technology and competitive advantage is presented in figure 8 below.

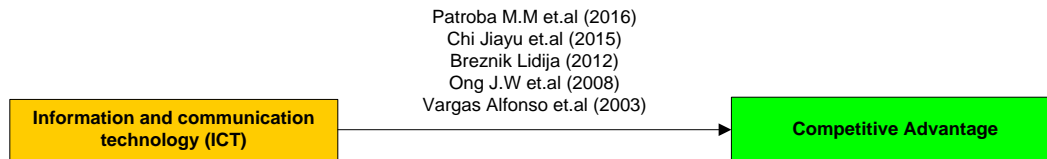


figure 8. The information and communication technology relationship toward competitive advantage

The five studies above showed that there is an influence between information and communication technology toward competitive advantage. And finally, it can be concluded that the information and communication technology has an effect toward competitive advantage.

Business process reengineering relationship toward competitive advantage

Some previous studies showed that there is a relationship between BPR and competitive advantage. The research of MS Saeed and A Nasar (2016), explained that Pakistan commercial banks are required to implement continuous improvement process in realizing the process of bank system, and to adjust themselves in focusing on the existing finance and trends at the international level to enlarge a the competitive advantage. The study of Huang Yan Shaio,et.,al (2014) explained that the information and communication technology has a strong influence toward and performance as a competitive advantage. The research of Wang Lixia (2012) said that the bank system process is a good management model to be implemented in China to build a modern commercial bank through an information technology. Then the study of Aregbeyen Omo (2011) explained that the failure to review the implementation of BPR in Nigeria because a decline occurred in the organization's performance during 10 years. The study of Sidikat Adeyemi and Ayanda Mukaila Aremu (2008) explained that an organization's performance is strongly influenced by process, quality and strategy as a dimension of competitive advantage. Similarly to the study of Magutu Peterson (2010) explained that the implementation of BPR can provide added value in the form of competitive advantage for Wrigley's company.

To understand easily the relationship between the BPR and competitive advantage is presented in figure 9 below.

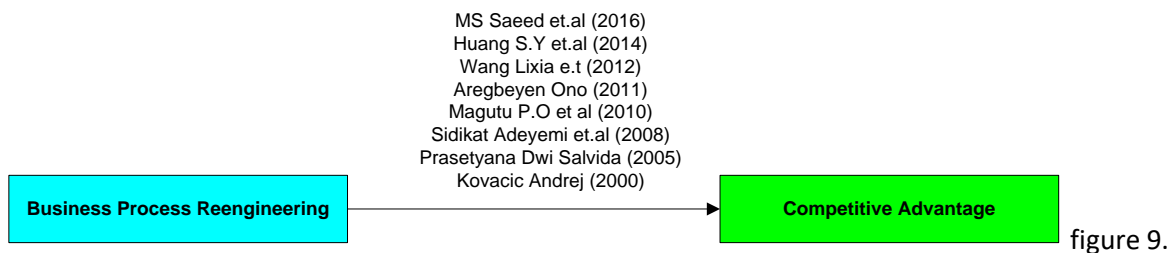


figure 9.

Business process reengineering relationship toward competitive advantage

Finally, the opinions of researches above showed that there is an influence between BPR and competitive advantage. So it can be concluded that BPR has an effect toward competitive advantage.

Table 1. The Research of all variable

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
1	Jurisch M C.,et.al. 2015	√						Quantitative, PLS
2	Mlay V S.,et.al. 2013	√	√	√				Kuanlitatif, Qualitative, SPSS, EView3 dan Excel 2007
3	Goksoy Asli.,et.al. 2012	√		√	√			Quantitative, Analisis regresi
4	Tabar M Z.,et.al. 2013	√				√		Quantitative, SEM
5	Savaneviciene A. et.al. 2012	√				√		Quantitative, Qualitative
6	Brentani de U.,et.al. 2004	√				√		Quantitative, AMOS
7	Anand G.,et.al. 2009	√	√	√	√			Quantitative, Qualitative
8	Shin N.,et.al. 2002		√	√	√			Kualitatif
9	Al-Mashari M.,et.al. 2001		√		√			Qualitative
10	Altinkemer K.,et.al. 1998		√		√			Qualitative
11	Tudor L.,et.al. 2015		√			√		Quantitative
12	Fok Y O.,et.al. 2014		√			√		Quantitative, SPSS
13	Ferreira D.,et.al. 2012		√			√		Quantitative
14	Markiewicz P. 2011		√			√		Qualitative
15	Huang Y S.,et.al. 2014			√	√	√		Quantitative
16	Maroofi F.,et.al. 2013			√	√			Quantitative, AMOS
17	Davenport H T.,et.al. 1990			√	√			Qualitative
18	Prasetyana D S. 2005				√			Qualitative
19	Ellitan Lena. 1999	√	√	√	√			Qualitative
20	Acharya A. 2005			√	√			Quantitative, SPSS
21	Waiganjo W E.,et.al. 2012					√		Qualitative
22	Patroba M M.,et.al. 2016			√		√		Quantitative, SPSS
23	Chi J.,et.al. 2015			√		√		Qualitative
24	Breznik L. 2012			√		√		Qualitative
25	Bulatovic et.al. 2011			√				Qualitative
26	Ong W J. 2008			√		√		Quantitative
27	Vargas A.,et.al. 2003			√		√		Quantitative
28	M.S Saeed.,et.al. 2016					√		Qualitative
29	Wang L.,et.al. 2012					√		Qualitative
30	Aregbeyen O. 2011				√	√		Qualitative

No	Writer, Year	Organizational Commitment Variable	Organization Change Management Variable	Information and communication Technology Variable	BPR Variable	Competitive Advantage Variable	IDEFO	Method
31	Sidikat A.,et.al. 2008				√	√		Quantitative
32	Magutu P.,et.al. 2010				√	√		Quantitative
33	Allen J N.,et.al. 1993	√						Quantitative, MANOVA
34	Xiaoli L. 2010				√	√		Quantitative, SEM, SPSS, Lisrel
35	Sarkis et.,al. 1995						√	Qualitative
36	Min et.al. 1996				√		√	Qualitative
37	M. Dachyar et.al. 2016				√		√	Qualitative

Based on the relationship between each variable that has a mutual influence, then in figure 10 can be seen a model that describes the relationship and the influence between each variable contained in a paradigm model that is developed and sought the influence of these variables

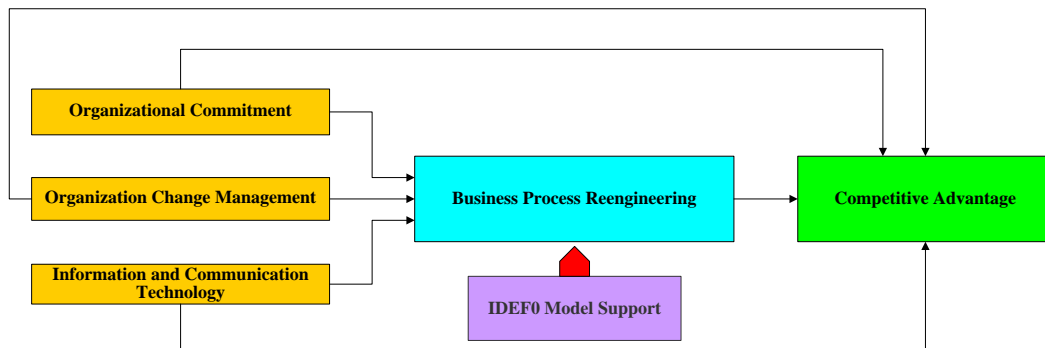


Figure 10. Paradigm Model

Based on the results of previous studies, a paradigm model can be developed that can be developed for the manufacturing industry or service industry in the implementation of BPRs to improve future competitive advantage.

Conclusion

The previous research in journal or proceeding showed that the variables of competitive advantage, business process reengineering, organizational commitment, organizational change management and information and communication technology have interrelated relations. To be able to compete in the competition due to the global change, an organization must have a competitive advantage. This competitive advantage occurs by implementation of BPR through the organizational change. In order to a success of BPR implementation, an organization must have an organizational commitment (from top to bottom level), organizational change management (vision, mission and organization strategy), capability and availability of information and communication technology.

IDEFO model is one of the ways of can doing support BPR. A process change due to a replacement from a traditional process to a technology-based process which can be described by IDEFO that explains the

process order based on the hierarchy activity. For each building blocks consist of input: something that is transformed by an activity. Control : something that determines how an activity occurs but is not transformed by it. Output : something that is produced by the activity and mechanism : people, facilities, machines, or others that run the activities.

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