

# Trend of Business Continuity Plan: A Systematic Literature Review

Silmie Vidiya Fani<sup>1</sup>, Apol Pribadi Subiadi<sup>2</sup>  
{silmie.vidiya@lapan.go.id<sup>1</sup>, apolpribadi@gmail.com<sup>2</sup>}

Department of Infomation System, Institut Teknologi Sepuluh Nopember, Surabaya<sup>1 2</sup>

**Abstract.** Business continuity is important in every organization, both small, medium and large organizations. Threats can come at any time without warning. The role of business continuity management is needed to prepare and handle the problem. The step to complete business continuity management is the need for a business continuity plan framework. This framework will be used as a reference when the business continuity plan document will be used by the organization in handling threats or disasters. In this paper, we discuss a systematic literature review of studies related to BCP. This paper presents the trend of BCP research based on previous researches. The result shows that the research trend regarding BCP has been decreased. The flow of BCP research focused on several topics such as the BCP framework, BCP adoption and element of BCP framework.

**Keywords:** Business Continuity Management, Business Continuity Plan, Systematic Literature Review

## 1 Introduction

Today the use of technology is not something new to the world. People cannot avoid the implementation of technology, and technology can change lives from communication, activities, to interactions. Many companies depend on the implementation of technology to support their business processes. The adoption of technological innovations by organizations has increased over the past few years. In general, technological changes can improve efficiency, improve quality, bring products to the market faster, and expand employee expertise. Information technology is one of the technologies that is currently widely used by companies, which can have risks, both internal and external threats. According to Cerullo (2004), the risk of threats or disruptions increases with the increasing number of companies that implementing information technology and infrastructure and becoming more connected to external networks [1]. A survey conducted by the Business Continuity Institute (2018) shows that top five risks are a cyber attack, data breaches, unplanned IT and telecom outages, disruption to utility supply and adverse weather [2]. According to the Federal Emergency Management Agency (2018), 40% of small businesses will not reopen after a natural disaster [3]. In other words, these threats can result in losses and damage for companies, both small and large.

Information systems/information technology has an important role in overcoming disruptions to maintain the business continuity of the organization. Risk management defines as a step unto mitigating future risks in many aspects, such as financial, strategy, and more. Risk management complemented by a plan which focuses on how the business should process during disruptions, named business continuity management (BCM). Implementing a business

continuity management can protect the organization against disruptions or disaster by providing suitable business continuity plan (BCP). According to Cumming (2005), companies that didn't prepare strong BCP, experience data loss, companies close (43%), companies close within two years (51%) and survive for a long time (6%) [4]. From the previous studies show that preparing a business continuity plan is very important for organizations sustainability. A business continuity plan is something that needs to be done to maintain organizations from disruptions. The statement is supported by the results of research that show that having BCP is a must, and companies must start the right business continuity plan [5]. Regardless of the importance of business continuity plan, current conditions indicate that there is still limited understanding of business continuity plan.

This study aims to review the previous literature on business continuity plan from various research backgrounds. This study was conducted to find out research trends regarding BCP. In this study, general themes are identified in many literatures so that the research flow can be identified for future research. The paper is structured as follows. In section 2 methodology, section 3 systematic literature review, section 4 result, and discussion of papers reviewed, and section 5 conclusion.

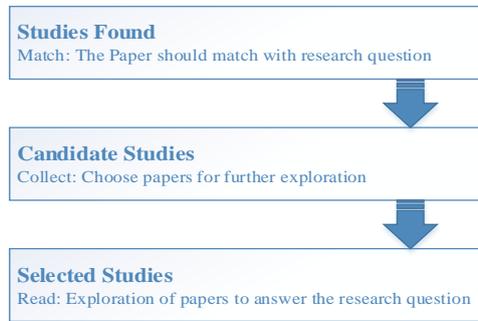
## **2 Methodology**

This research is a systematic literature review by doing several stages in completing it. According to Ridley, the first step of the systematic literature review is to conduct a comprehensive literature review [6]. The literature review conducted to understand the subject that will be explored in this research to form the background and add insight from previous studies so that the perspective of the current research position obtained. From the literature review, it is expected researchers can get the main points, problems, findings, and methods that emerged from the previous literature. According to Fink (2005), Systematic Literature Review must be systematic in following a methodological approach, explicit in explaining the procedures carried out and comprehensive [7]. This research has the three step in the process, namely: (1) Introduction includes the limit scope, determining the research question, conducting the search process which involves the selection of keywords and literature sources, performing extraction forms data from papers chosen to explore further; (2) Conducting a literature study on each selected library source and classifying the journal to see trends in research regarding the specified theme; (3) The last step will discuss the findings and final results in response to the research questions.

## **3 Systematic Literature Review**

The scope discussed in this study concerns of a business continuity plan. The research question is "does the journal discuss about Business Continuity Plan?". The literature search steps used in SLR are carried out by selecting keywords or terms in the study, identifying alternatives or synonyms from keywords, and identifying keywords in relevant papers. Search process includes the selected keywords and sources. Keyword has been focused on "business continuity plan", "business continuity management," and "disaster recovery and business continuity". Selected sources are: (1) Science Direct ([www.sciencedirect.com](http://www.sciencedirect.com)), (2) ACM

Digital Library (dl.acm.org), (3) IEEE Xplore (ieeexplore.ieee.org), (4) Emeraldinsight (emeraldinsight.com) and (5) Google Scholar (scholar.google.com).



**Fig 1.** Inclusion Criteria

The data extraction process was carried out by examining several papers found based on inclusion and exclusion criteria. These criteria used for the selection of papers will be reviewed by limiting the papers. The inclusion criteria used in this Systematic Literature Review (SLR) include:

- 1 Journals or conference papers
- 2 Journal is written in English
- 3 Journal related to the research question

Exclusion criteria used in SLR include:

- 1 Publish before
- 2 Literature in the form of review articles, encyclopedia, books, abstract conferences, discussions, news, and others.
- 3 Journal is not written in English
- 4 Literature does not relate to the research questions.

After finding several papers that became candidates, a selection was made with the appropriate paper to answer the existing research questions. The results of the extraction process obtained 26 selected papers. **Table 2.** shows the search results of the paper at the specified sources.

**Table 1.** The Result of Paper Search

Keyword	ScienceDirect	IEEE	Emerald	Google Scholar	ACM Digital Library
Business Continuity Plan	286	34	89	26	14
Business Continuity Management	139	55	92	51	3
Business Continuity	1207	957	881	94	50

**Table 1.** shows the result of the keyword search regarding BCP. Even though **Table 1.** shows the number of literatures but the actual papers that we found are less regarding of research question determination. The next stages were carried out by classifying literatures that have been selected. The classification based on categories found in the discussion of each paper such as "BCP framework, BCP adoption and the element of BCP". This classification is carried out

to find out the state of the art research that exists today about the Business Continuity Plan (BCP).

**Table 2.** Paper Classification

Category	Result	Author
<b>Business Continuity Plan Framework</b>	Seven papers that have been reviewed proposes a BCP framework that can be used for predetermined cases, such as Bank, small and medium company, organization, and department level. The framework mostly consists of Business Impact Analysis (BIA), risk analysis, training and testing, and maintenance. The principles of the framework are prevention (how to maintain the system), contention (how to handle system disruptions), recovery (how to restore the system) and contingency (how to maintain business continuity until the system recovers). The research shows that BCP is a must, and every organization must begin to plan BCP in accordance with its organization.	[8]; [9]; [10]; [5]; [11]; [12]; [13]; [14]
	The lack of knowledge, BCP understanding, and awareness is the reason why organizations did not have a business continuity plan. Most of the research shows that the majority organization recognizes disruption and disaster, but organizations did not have BCP. There is clear evidence that a company without a BCP has a low probability of survival.	[15]; [16]; [1]; [17]; [18]; [19]
<b>Business Continuity Adoption</b>	Some studies indicate the factor that impacts the success of BCP implementation are a commitment of top management support, awareness, knowledge of BCP, and culture (such as communications. Teamwork and cooperation). Lack of management support will stop organization for the development of their BCP. The organizational culture has the potential to hinder or support the development and wider adoption of BCM.	[20]; [21]
	The result shows that BCM is more economical strategy. The main benefit is that by implementing BCM steps the organization can continue the business process during the disruption period.	[22]
	Steps must be taken to ensure continuity BCM by training or awareness program to be embedded in the organization	[23]
	Risk, both external and internal will impact on business operation. Meanwhile, the supply chain is one of activity that will be damage if disruption or disaster occurs. Business continuity plan considers vital issues to be observed by organizations to assure production. All suppliers, service providers, and customers are links in the supply chain, and efficient SCM supposes that all these links respond in harmony to any disruption.	[24]; [25]; [26]
<b>The element of the Business Continuity Plan</b>	Risk Analysis is one of the important element of BCMS. In this framework, the potential threats of the organization under consideration are identified and sub-classified as disruption and operational risks. The results of applying the proposed framework in a case study demonstrate that it can effectively handle risk assessment and management process when implementing BCMS in the organization.	[27]; [28]
	BIA is a continuous process that must be performed periodically so that new impacts, which may be introduced by internal or external changes in the business environment, are captured, listed and brought to the attention of executive management. Business	[29]; [30]

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Impact Analysis (BIA) is one of the key element of BCMS. Data gathering and data analysis are two main steps of BIA. The development of BIA framework based on the characteristic of each organization.

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Integrated business continuity and disaster recovery planning framework includes all strategic, tactical and operational decision levels with different timeframes and various elements of the IBCDRP at each level. The proposed framework consists of a novel resource allocation mathematical model to determine the required resources to cope with disruptive events. [31]

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## 4 Result And Discussion

Business continuity is the organization's ability to handle and restore its business from unexpected events. Disruptions that attack the organization are expected to be able to overcome disruptions so that the business continues to operate. Organizations that did not prepare themselves in anticipation of disruption will result in losing a lot of data, resources, and even bankruptcy. This situation occurred, outside the scope of the disaster recovery plan. The plan needed by the organization to deal with the disruption can be in the form of a business continuity plan. The business continuity plan designed, and the organization will be able to deal with the disruptions that come. This concern has made some researchers conducted a study related to BCP/BCM. There is some study with different field of subject that related to BCP/BCM such as BCP framework, survey or BCP in some case studies, etc. As time goes by the trend of conducting study related business continuity is decreasing. **Table 2.** shows some studies related to BCP/BCM. Eight papers related to Business Continuity Plan (BCP) framework, thirteen papers related to BCP adoption, and five papers related to elements of BCP.

Business continuity plan will allow an organization to plan for the long-term viability of the organization. Organizations that do not have a BCP are gambling with their business and their customers. Several studies have proven organizations that did not prepare BCP has a low probability of survival [15]; [16]; [17]; [18]. From the research, some organization did have BCP because of the lack of knowledge about BCP. They care about their organization goals but they forgot of their business continuity. Management in most companies, they priorities their business growth more than their business continuity. They were focused on the goal of such as profit, innovation, and dominate the market, but they forgot to think about the risk that will be occurred outside their goals. The survey conducted by the Calgary Emergency Management Agency on 300 local businesses shows that: (1) less than half of the businesses that already have BCP; (2) 47% of business owners do not have a BCP; (3) 69% convey the reason the company does not have BCP not aware of the business continuity plan or not knowing what is needed in making BCP; (4) 16% consider that the business does not have enough resources to make plans [32]. Lack of management support, awareness, and culture also impact the success of BCP implementation [20], [21]. These factors are very important for supporting BCP implementation because improper BCP will effect organizations to handle disruptions that occur. The implementations of BCP will effect on business operation such as supply chain, this will link to all business process [24], [25], [26].

Other studies discussed BCP framework. The BCP framework is steps to prepare and deal with the problems that will occur. BCP framework in every organization will be different, depends on the organization need [33]. Business continuity plans must be specifically adjusted

to achieve organizational needs [14]. In other words, some studies show a different framework in different organizations. Most of the framework consists of Business Impact Analysis (BIA), Risk Analysis (RA), DRP, testing, and review [8], [9], [10], [5], [11], [12], [13], [14], these elements can be applied in BCP framework. BIA can be performed periodically to gather and analyze information for preparing BCP. Risk analysis conducted to identified potential threats of the organization. The element that also important in BCP is review BCP periodically, so the organization can adjust BCP with their need and the possibility of disruptions that will be arise.

## 5 Conclusion

A systematic literature review conducted research is capable of generating the research trend in Business Continuity Plan (BCP). Using systematic literature review shows the research flow, general themes can be identified regarding BCP, such BCP adoptions (include the important of BCP, the successfulness of BCP factors implementations, etc.) and BCP framework. The studies show that preparing for BCP/BCM is important for organizations. Organizations that did not have BCP will have a low probability of survive. Although BCP is important, the standard for implementing BCP is not shown. The BCP framework mostly consists of Business Impact Analysis (BIA), risk analysis, training and testing, and maintenance. Based on the review paper conducted, the trend of research on business continuity plans is greatly reduced. For further research, the four elements can be used for developing multi-usable BCP framework with adding some elements such as budgeting for BCP and add activities. In another side, implementing BCP must be considering the condition (such as culture, management support, budget) and the need of the organization.

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