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**BUSINESS CONTINUITY MANAGEMENT: DEFINITIONS, DRIVERS, PRACTICES,  
KEY PROCESSES AND EFFECTIVENESS**

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**ABSTRACT:** *This paper sheds light on the concept for business continuity management, its definitions, key processes and effectiveness. The paper gives also a clear understanding of the BCM drivers, practices*

**KEYWORDS:** **Business ,Continuity, Management, Drivers, Effectiveness.**

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## **INTRODUCTION**

This paper is an overview and a critical discussion of the research which has been conducted so far into the subject of business continuity management. The chapter begins with a definition of business continuity management, its key processes and what decides how effective it is. Then the chapter goes on to assess the application of business continuity management in the construction industry, with a discussion of the findings of empirical studies and an assessment of the operational risks which are faced by construction companies. The literature review uses a range of different sources including articles from management journals, books, and articles, which were published within construction industry magazines. All of the sources which were used were published during the last fifteen years in order to make sure that the research which was included was as useful and as recent as possible.

### **Business Continuity Management**

There is a wide range of slightly different definitions of business continuity management in the research literature. However, the generally agreed definition is the definition which is provided by the Business Continuity Institute (BCI). This definition states that business continuity management (BCM) is a ‘holistic management process [that] provides a framework for building resilience and the capability for an effective response [to potential risks] that safeguards the interests of its key stakeholders’ (Business Continuity Institute, 2005, p. 6). This is also supported by Matthys (2010), who states that planning for business continuity is a way in which companies take the steps, and use the capabilities, which are necessary, to provide protection of assets and to proceed with the company’s most important business processes after an unexpected interruption to business processes has happened. The different steps which are involved with business continuity management are displayed below.

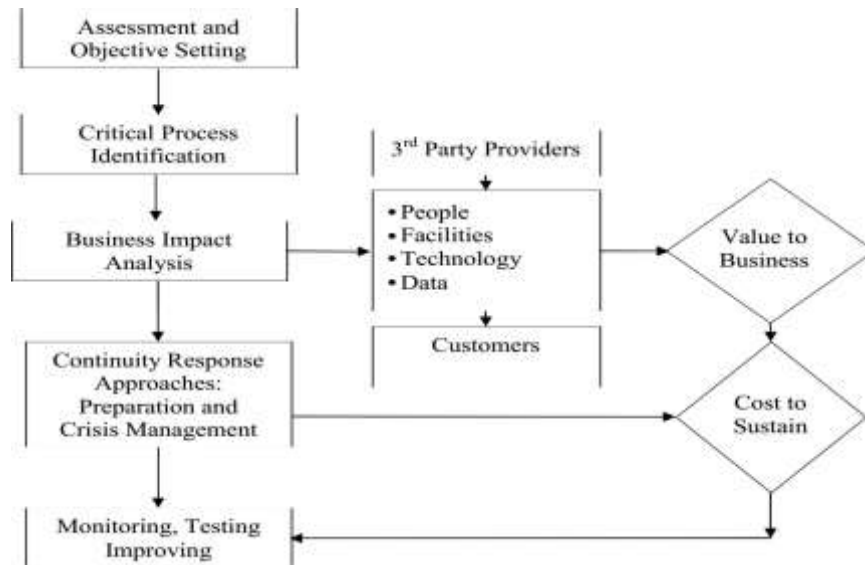


Figure 1: The process of business continuity planning (Krell, 2006)

### The Drivers of Business Continuity Management

Research suggests that there are many different issues which cause the capabilities for business continuity management in companies to increase. Firstly, there has been an increase in the number of interruptions to business operations (Alexander, 2003). In particular, there has been an increase in terrorist attacks, which have not only resulted in costs to human lives but also to businesses in all areas of the world. Statistics show that the number of terrorist attacks has increased, with 651 ‘significant terrorist attacks’ taking place in 2004, which is more than triple the number of terrorist attacks which took place during the previous year (Danner, 2005). Secondly, nowadays, more businesses are reliant on each other due to globalization. Reliance on the internet and on global technology systems means that companies are now more closely linked to their suppliers and customers. Therefore, if there is any interruption to business processes, the impact of this will be magnified. This can be seen in the case of different car production companies, which experienced significant negative effects when the border between the US and Canada was temporarily closed after the September 11th terrorist attacks, as the companies’ ‘just in time’ inventories were all used up (Hotchkiss, 2010). The number of different emergencies which affect business processes has been, and is likely to, continue for at least the next decade, according to an annual report conducted by the Swiss Reinsurance Company, which refers to a ‘discernible upward trend’ (2005, 24). For example, in 2004 alone, the emergencies that took place resulted in more than 300,000 deaths with financial losses which were worth more than USD 123 billion. Thirdly, business continuity management has now become a key part of the duty that all company directors owe to their stakeholders (Loader, 2011). This is likely to be because of the fact that protecting corporate value during times of uncertainty is an important way of protecting the interests of shareholders, because if there is an effective business continuity plan in place then it makes it possible for the organization to recover operations as soon as possible. Fourthly, there are many more industry regulations and standards in place which make it compulsory for businesses to have a certain level of business continuity management (Loader, 2011). For example, in the US, the New York Stock

Exchange introduced Rule 446, which concerned 'Business Continuity and Contingency Plans' (Krell, 2006). This rule said that it is absolutely necessary for all companies that are members of the New York Stock Exchange to have business continuity plans in place which are 'designed to enable [the organization] to meet its existing obligations to customers and address the existing relationships with other broker dealers'. It is also a requirement for all companies to update their business continuity plans every year and whenever there is a 'material change' in the 'operation, structure, business, or location' of the organization (Hotchkiss, 2010). There is a similar trend in the UK, where the Business Continuity Institute has introduced a certificate, the 'British Standard for Business Continuity management' (FBCI.PAS 56), which companies can apply for (Business Continuity Institute, 2005). The importance of the need to comply with different regulations has encouraged businesses to improve their business continuity management framework, which is shown by Deloitte & Touche, who conducted a survey showing that the need to comply with regulations is the second most common motivation for business continuity management (Lingwood, 2010).

A fifth reason for the increasing importance of business continuity management in companies is because of the benefits. According to Elliot (2009), some companies use BCM to make their products and services stand out from those of their competitors in the hope of attracting more customers. In addition, Hotchkiss (2010) suggests that continuously monitoring a business to assess the effectiveness of BCM is a useful way of reducing inefficiencies in the organization; it is also easier for businesses to keep their existing customers after they have experienced an interruption to their functions rather than trying to attract new customers, and being able to cope effectively with a crisis can be a useful way of keeping a high level of morale among employees. In the long term, therefore, BCM can be a useful way of keeping a high level of turnover after a crisis has taken place. A final and sixth reason for the increase in the importance of BCM is the fact that the majority of organizations are often seriously unprepared for crises. This has been confirmed by the findings of empirical research – a survey conducted by Deloitte & Touche among business continuity professionals working in the US concluded that there were serious weaknesses in the level of training offered in business continuity management (Lingwood, 2010). The results of the survey showed that two thirds of respondents do not have proper BCM process in place; 60 per cent of respondents do not offer any kind of training to employees to explain to them what they need to do in the event of a crisis; and just 28 per cent of respondents were aware of the different dependencies that they had on third parties. This has encouraged Deloitte & Touche (2004, p.24) to conclude that there is a 'lack of ongoing BC management and governance [compounded by] lack of executive involvement'. This is also underlined by the responses to a survey of 2,000 company executives conducted by Korn/Ferry International, which showed that most global corporations do not have any clear process in place regarding how they would react to a terrorist event or any other crisis, even though 48 per cent of respondents said that their local economies were affected by terrorism. What is very worrying is that 11 per cent of the respondents to the survey were not even aware of whether their company had any procedures in place or not. According to Glyn (2005), the biggest reason why such a large number of companies do not have effective BCM practices in place is because of the cost involved. On average, small and medium sized companies need to spend between USD 50,000 and USD 100,000 on the services of an external consultant to help them to develop a continuity plan. The cost involved is even higher for

a large corporation, which would probably need to spend between USD 750,000 and USD 2 million to develop BCM capabilities.

### **Changes in the Way that Business Continuity Management is Practiced**

Research conducted by Benvenuto and Zawada (2005) suggests that the last few years have seen a significant change in the nature of business continuity management and the way that it is practiced by organizations. Twenty years ago, most business continuity management plans focused only on the information technology and data processing divisions of a company. Then, the aim of such management was to recover the functionality of software, hardware and data. However, now, there is a greater emphasis in BCM on the need for the whole company to focus on business continuity planning, and not just the IT division. Despite this, the same methods used for the backup of data systems are currently used in other company divisions. According to McCrackan (2005), the term 'business continuity management' replaced the previous term of 'disaster recovery'. This replacement of terms suggests that modern efforts are much more proactive than before, when such approaches were simply a way of reacting to different emergencies. The principles of business continuity management state that all organizations should have a business continuity plan which outlines the steps that they will take in case an emergency happens. The first stage of developing a business continuity plan is for the executives of the company to evaluate what the continuity related objectives of a company are. Then, it is necessary for the company to decide on what they think are their most important business processes. It is then the responsibility of managers within the company (this should include finance managers) to decide on what the most important elements of those processes are (this normally includes technology systems, people and the data which is contained within systems). The aim of the business continuity plan should be to make sure that all of the components which have been identified are recovered after an interruption to business within a 'prudent amount of time' (McGee, 2004, p. 73). To decide on what is a 'prudent' amount of time, it is necessary for the company to consult people working in the accounting divisions who will be able to provide an accurate evaluation of how valuable each process is to the organization, and how much it will cost to restore the process in a certain amount of time (Toigo, 2003). When the business continuity plan has been completed, it is necessary for its usefulness to the business to be consistently monitored, for its effectiveness to be tested consistently, and, if it is decided that it is needed, for the plan to be improved or amended (Elliot, 2009).

### **How to Develop Effective BCM Capabilities**

A range of different studies have been conducted which examine the steps that companies need to take to develop effective capabilities for BCM and to increase their ability to recover operations after a crisis. These findings are summarized in the steps outlined below:

#### *1. Assessment of Organizational Situation and Setting of Objectives*

In order to be successful, it is very important for the company to have the support of the senior executive teams. Then, the team responsible for developing the BCM plan needs to be decided upon and it also needs to be decided who will be the executive whom the team will report to. Once this has been decided, the team needs to assess the strategic plan of the organization in order to evaluate the plans for disaster recovery and BCM which currently exist, review the regulations and the requirements which exist in relation to BCM, and use this information to prepare an initial

BCM policy which will state the objective of the company's plans for business continuity (McCrackan, 2005).

## 2. *Critical Process Identification*

The team then needs to decide which are the most critical business processes in the organization. They also need to decide what the key objectives and key components and metrics of each of the processes are (these could include legal requirements, contracts with third parties and different performance metrics). At this stage, the team should also decide what the most important tools and resources are which need to be in place in order for each of these processes to be effective (these resources usually include software, people, skills, facilities, equipment and information) (McGee, 2004).

## 3. *Business Impact Analysis*

The team then needs to decide what impact different disasters will have on these business processes, and in particular, how these crises are likely to impact issues such as the reputation of the company, its financial position, its relationships with suppliers and customers, its relations with investors and its human resources. This stage needs to include the calculation of metrics such as the maximum tolerable outage (MTO) and the recovery point objective (RPO) which is associated with each process (Benvenuto & Zawada, 2004).

## 4. *Continuity Response Approaches*

The team needs to decide what proactive steps they can take in order to restrict the effects of a crisis both in terms of preparation for a crisis and in terms of crisis management. In terms of preparation, McCrackan (2005) comments that it is important to consider the organization's human resources capabilities; in particular, the team needs to prepare a succession plan to protect their existing human resources by preventing more than a certain number of important managers from travelling together at the same time, to ensure that all communications related to business continuity are effectively communicated, and to ensure that contact lists are drawn up which make clear the different responsibilities that need to be fulfilled in the case of a crisis. The plan also needs to take into consideration the steps which the company should take to use alternative facilities in the case of a crisis, bearing in mind the amount of time and the scope that existing backup facilities can use to help to maintain critical business facilities (Toigo, 2003). It is very important to ensure that the team responsible communicates closely with IT managers in order to ensure that the recovery time of each of the critical IT processes is decided, and to also ensure that the data backup processes in the event of a crisis are available and working properly. Finally, it is essential that the BCM plan sets out how to deal with suppliers and customers in the event of a crisis; this can be determined by distributing questionnaires to the organization's most important suppliers to decide what their BCM capabilities are, and to decide upon alternative suppliers that can be used in the event of a crisis. It is also useful for the company to share all of its knowledge about BCM with its biggest suppliers and customers.

The second section of the plan identifies the steps which the company should take in order to respond directly to a crisis. This part of the plan should consist of identifying which key executives are responsible for implementing the plan; deciding the way in which the company should communicate with the family members of employees if their safety is at risk; establishing a time

frame within which decisions should be made; determining backups and alternative arrangements if the initial plan for how to respond to the crisis is not possible; and deciding the steps which should be followed in order to communicate details of the crisis to regulators, investors, employees, the media, the community, the bank, and finally, to suppliers and customers (Benvenuto & Zawada, 2004).

#### 5. *Continuous Monitoring and Improvement*

One of the most important issues that needs to be considered in order to increase the effectiveness of BCM is for the company to continue to monitor the usefulness of the plan in response to changes such as mergers and acquisitions (Glyn, 2005). This testing needs to be accompanied by tests of the plans at least once a year, which will encourage the members of the organization to react in as realistic a way as possible to pretend crises. These tests will make it possible for the company to identify any weaknesses in their plans (McGee, 2004).

Although these findings are the consensus among the existing researchers about the most effective way of developing business continuity management, it could be said that these findings are not very useful because they are all focused on large corporations that are publicly owned. In addition, the majority of studies are focused on the BCM practices of companies located in Western countries, mainly the UK, the US and Australia. As a result, these issues might not apply to small and medium sized companies which are privately owned and therefore do not have the same types of relationships with their stakeholders.

### **Operational Risk and Business Continuity Management in Construction Companies**

#### **Operational Risks in Construction Companies**

The management of operational risks in the construction industry dates back to the early 1990s. According to Glyn (2005), the key steps of risk management and business continuity management in construction companies increase knowledge of the consequences of different risks; develop a more strict way of managing risks; centralize management control; increase the transfer of risk information between relevant personnel; and reduce the long term expenditure associated with corporate crises. However, construction companies are much more complex than other organizations in terms of their operational risk because they usually have hundreds of different stakeholders (Jobst, 2007). The amount of empirical research, which has been conducted into BCM in construction companies, is very limited – one significant example includes a study into the practice of BCM in construction companies which operate in Singapore (Low, Liu & Sio, 2010). The methodology the authors used was a survey of a sample of 22 construction companies in Singapore. The results of the survey found that the majority of the companies surveyed did not have any type of BCM in their company which would protect them from crises, although they knew that it would be useful to have a business continuity plan in place. This suggests that there is still room for improvement in the area of BCM in construction companies. However, this is limited by the fact that the survey was only conducted on large-scale construction companies, which means that these findings are not likely to be useful for smaller companies.

The specific nature of construction companies means that they face very particular operational risks, which need to be managed. According to Odeh and Battaineh (2002), who studied the most

significant sources of risks in Asian construction companies, there were seven sources of risk. These included risks related to payments and financing; to failures of planning; problems with subcontractors; slow decision-making; lower than expected labor productivity; interference from owners; and the inexperience of contractors (Toigo, 2003). This was also researched by Mills, who argues that there are three key risks which companies need to control – these are related to the quality of material, the weather and the productivity of labour. Another study, conducted by Cohen and Palmer (2004), argues for a range of different risk sources including force majeure; problems with technology; errors with design; changes in the scope of the project; problems with the skill levels of staff; and changes in the project scope. The reason why it is so difficult to effectively manage risk in construction companies is due to the fact that construction tasks are interdependent and there is a great deal of uncertainty. Also, although the risks are usually identified during the early stages of a product, the effects of these risks are not clear until production has begun.

### **How to Manage Operational Risks and Business Continuity in Construction Companies**

Many research studies focus on the steps that need to be followed in order to ensure good business continuity in construction companies which experience a crisis. These steps are listed below:

#### *1. Identification of risk*

The identification of risks is so important that Chapman (1997) claims that it affects the success of the whole business continuity management process. This is also commented on by Skitmore and Lyons (2004), who state that the identification of risks needs to be repeated, rather than being a one-off process, and that even in later stages of the project, risks need to be identified. Different processes which can be used to identify risks include brainstorming, modelling, checklists and the use of project plans (Alexander, 2003). According to Ward and Chapman (2003), it is best to use an uncertainty perspective when identifying risks.

#### *2. Estimation of risk*

Once the risks have been identified, the construction company needs to measure the size of each risk based on the likelihood that they will occur and, if they do occur, the effect that they will have on the organisation. This will help to identify the major risks which need to be tackled. These risks can then be prioritised in order of their effect on the company. This can be done using qualitative or quantitative analysis or through the use of a probability impact grid (see figure 2 on the following page).

Impact	high			
	medium			
	low			
		low	medium	high

Figure 2: Risk probability impact grid (Klemetti, 2006)

### 3. Responses to risks

According to Wallace and Webber (2004), there are four ways for construction companies to deal with risks: they can avoid the risk by changing their project plans so the risk no longer exists; they can use contracts to transfer the risk to a third party; they can mitigate the risks by reducing its probability or impact; or they can accept the risk by factoring in the potential consequences which will happen. Research conducted by Artto, Kujala and Martinsuo (2005) suggests that it is very important that there be close communication and teamwork in order to effectively manage the process of risk control. Saari (2004) argues that an effective way for construction companies to assess the process of risk management is by giving different risks different statuses – for example, a risk should belong to one of the following outcomes: identified, assessed, responses implemented, occurred or avoided.

### 4. Company level management of risks

The agreement by many of the researchers who have studied in this area is that, to be effective, the management of operational risk that is associated with individual construction projects needs to be tied into the risks of the overall company strategy. In other words, in order to ensure good business continuity management at the company level, it is important for the company to treat each of their different construction projects as a portfolio which is measured according to their level of risk. This will mean that the company can be aware of the construction projects which are the riskiest and then take steps to control these risks and reduce their impact on the operations of the whole company.

According to Wallace and Webber (2004), the construction industry still has poor levels of risk management due to the fact that they rely mainly on contracts for the transfer of risk instead of proactively trying to manage risk themselves. As well as leading to many disputes, the cost of



contract clauses raises the cost of construction projects by between 8 and 20 per cent. The research conducted by Wallace and Webber (2004) also shows that, in most cases, construction risks are not managed in a systematic way and are based on human experience, assumptions and judgement, which are very subjective. This is criticized because, in most cases, the judgements are affected by the individual background and assumptions of the person responsible; also, the fact that this knowledge is not recorded means that it is impossible to transfer. Matthys (2010) argues that there is a common attitude in construction companies that business continuity management is just a waste of money – thus, any form of risk management which takes place is only carried out in the risk identification phase rather than being a continuous process. There is currently no industry accepted model of how to analyze and manage risk, which means that only a small number of people have the expertise necessary to manage it. Odeh and Battaineh (2002) suggest that, for more effective BCM, construction companies need to get better at managing their operational risks. For example, they could provide incentives for early completion in their contracts. This is expanded on by Floricel and Miller (2001), who suggest that all companies need to have a financial safety reserve which can reduce the financial impact of crises that do occur, while Zaghloul and Hartman (2003) suggest that a risk-sharing system should be introduced which would spread risks across different parties.

## CONCLUSION

The research conducted in the literature review suggests that there is a range of different risks which construction companies are exposed to, and which are managed. These range from factors which are beyond the control of the company, such as weather, changes in the scope of the project, and interference of the owner, to poor quality of materials and insufficient skill among staff. The results of the studies suggest that risk management within construction companies is not being measured in a very systematic way and that there are areas for improvement. The methodology used in the studies suggest that the majority of the analysis is theoretical in nature; while this has benefits, there is a lack of studies which have been conducted using case studies. As a result, a lot of the practical aspects which affect risk management in construction companies are missing.

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