

LUISS



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Chair of *Corporate Governance*

**BUSINESS CONTINUITY PLAN: HOW TO KEEP YOUR COMPANY
CONTINUOUS.**

**CASE STUDIES: HOW COMPANIES HAVE IMPLEMENTED AND ACTIVATED
THE BCP DURING THE COVID-19 EMERGENCY.**

SUPERVISOR

Prof. **Giovanni Fiori**

CANDIDATE:

Flavio Ghiraldelli

Matr.704341

CO-SUPERVISOR

Prof. **Simone Scettri**

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INTRODUCTION

Business continuity planning is not about preventing any loss following disaster, it is about limiting losses to a defined, acceptable level. Nowadays, companies are working in an increasingly dynamic environment that makes any activity more susceptible to global issues. The repercussions of a business interruption are now much more serious rather than in the past, and so the purpose of companies is to preserve their business whatever the situation. This paper intends to bring the reader closer to the theme of business continuity, not only through the illustration and explanation of what a Business Continuity Plan is and how to build it effectively, but also through the analysis of cases study of companies that have, firstly structured and then currently activated these plans. Indeed, the current Covid-19 emergency challenged companies to keep their business going, working in an unexpected environment. Companies had to show their resilience, adaptability to the emergency and put in place a system that allows them to quickly respond to constant changes required by the situation.

The paper is divided into three chapters that includes both descriptive and experimental sections. The first chapter is an introduction to the theme of business continuity, indeed, it aims to give a general comprehension of the action to be taken in order to organize a company to prevent a crisis. This chapter goes through communication, capabilities, training, behavior and assessment, which are the pillars for the implementation of a Business Continuity Plan (BCP). Over the second chapter I deeply analyze the Business Continuity theme, focusing on its functions, phases, governance and objectives. Through the comprehension of the second chapter it is possible to understand the key elements of a BCP and its essential function as business continuity tool. Therefore, the first two chapters are preparatory for the understanding of the second section, in which the topics discussed so far will meet an actual application.

The third chapter represents the second section in which information on the companies' Business Continuity Plans have been collected and analyzed. The companies included in the study are all operating in the pharmaceutical sector:

- Bristol-Myers Squibb
- Novartis Group
- 3M
- Johnson & Johnson

The information has been gathered through several interviews done with each of the given company. Therefore, the qualitative research highlighted not only how these companies have structured and implemented a business continuity plan, but also how they have activated it following the pandemic emergency. On one hand, through the analysis of elements such as the birth of the plan in these companies, the governance structure, the roles inside a BCP and its implementation and simulation, it is possible to understand how the

companies have structured a general plan ready to be activated for different emergencies. On the other hand, the second side of the chapter focuses on the actual activation of a Business Continuity Plan following the current emergency. The company's commitment to planning and organizing business continuity plans is tested by a real case, different from all simulations made before. Additionally, the chapter analyzes the critical business processes that need to be protect during Covid-19 emergency as well as the key element to evaluate the performance of the plan, with a focus on the remote working theme.

Lastly, the third chapter involves several Considerations and the Conclusion that try to give an understanding of the results of the research as well as to highlight the core components for business continuity. This last section is also aimed, as far as possible, at underlining some considerations for a better implementation of business continuity plans.

HOW TO ORGANIZE A COMPANY TO PREVENT A CRISIS

Surely a crisis is an unexpected situation different from the daily problems of an organization. Moreover, companies come in all shape and size, and so do the crisis they face and the possible ways of resolving them. Crisis can derive from man-made problems or natural disasters such earthquakes, floods or pandemics. Due to the fact that a crisis can threaten the reputation and even the existence of an organization, it is necessary to put in place appropriate measures in advance. A crisis is an emergency situation that requires critical decisions, outside the normal decision making and directing powers and cannot be managed by ordinary tools. Crisis management therefore is a management approach that helps to avoid, mitigate or attenuate any situation that is dangerous, unstable or potentially damaging for your organization the ability of an organization to manage a crisis situation depends on its preparation. As a crisis usually occurs unexpectedly and it represents a latent risk to the business, the organization of an up to date crisis management plan offers protection and can limit potential damages¹.

I would like to report a simplified situation that involved a big multinational company which was responsible for staff mobility. Some buildings of this corporation were based in Beirut, Lebanon. As soon as the corporation learned of the first incidents in Lebanon it was concerned about preparing for possible buildings closure and how to turn back the staff and their families. Not long after the situation got worse and the threat of a local war was serious. The corporation response has been really quick due to the fact that it had already prepared an emergency plan and all people have been saved from clash consequences in time. Hence, if organizations are attentive to signals coming from inside and outside, crisis may be avoided or better managed². A negative event could easily become a crisis if there are two factors: presence of the negative event in the media and the public opinion. What if the big multinational company did not succeed in rescuing people in time? The news spreading by media and the feeling of public opinion that that multinational company was not able to take care of its own people could lead to a crisis. Fortunately, the company in question managed to control the situation and the negative event did not became a crisis, indeed it has become a proof of how the company is able to manage difficult situations.

By the prior example we understood the importance of preventing a crisis or a situation that can lead to a crisis. In order to do so methodologies and good practice tools are put in place. As the reader knows a crisis can hit at all times and sometimes without any warning signals. For that reason, organizations should guarantee at any time the pillars not only to run the business during normal times but also during a negative period. In the

¹ Ioan, G. (2011). General Aspects of the Economical Crisis. *Acta Universitatis Danubius. Economica*, 7(1), 20-29.

² Wright, A. C. Manuale di business continuity e crisis management.

following paragraphs same starting reflections are discussed in such a way as to give basic elements of business continuity and how to reach it.

1.1 COMMUNICATION

Which are the communication channels, content and strategy inside and outside the organization? In order to be well prepare for a negative event these should be predetermined.

Communication is not only important because it facilitates organization inside the company but also it represents a connection to the media and to all company stakeholders.

In order to be more efficient an organization should proceed with a well-balanced and continuous over time information program which leads to action methodologies. The guiding idea is to have communications characterized by technician role enactment and communications service departments or units carrying out low-level communication mechanics, to a strategic management function. As a management function, communications practitioners would then enact managerial roles by participating in strategic decision making and by overseeing a range of management and decision-making oriented activities including analysis and research, the formulation of communications objectives for the organization, the design of short-term and long-term organizational philosophies. The layers between the corporate, business unit and corporate communications levels need to be permeable and flexible, allowing decentralized initiatives and input from the lower level corporate communications function to the higher senior management rank. For this to happen communications practitioners need to meet management expectations in terms of understanding and responding to the needs and concerns of the corporation³. Communication needs to be clear, fast and focused. As mentioned above communication is not only reported to internal staff, but it must also be aimed at all corporate stakeholders. Institutions, clients, suppliers, press, investors, regulatory bodies and whoever with an interest in the company have to be informed. A plan shall include all the instructions regarding how to communicate with these subjects.

Simple rules:

- prepare one or more prototypes of press releases
- the message shall be synthetic but at the same time it has to gives a complete picture of the situation
- include names and mention reference of people who can give more details to the press
- avoid mixed messages that may confuse stakeholders
- identify who is in charge of facing journalists and reporters
- take care of the people of the company
- be clear about the situation the company is facing

³ Cornelissen, J. P. (2008). Corporate communication. *The International Encyclopedia of Communication*.

When a crisis occurs is too late to create the communication lines guide. Good communication plays an important role in crisis management and consists of a proactive policy. Training is a mandatory activity with the purpose of improving communication skills when facing a crisis.

Last but not least, IT systems must be always available and updated in such a way as to allow a steady communication at any time. Referring to the event of Covid-19, organizations were forced to leave staff at home overnight. On one hand, the organizations that already had IT communication system ready have ensured a standard flow of information. On the other hand, organizations that were not ready have wasted valuable time to put these systems in place.

1.2 CAPABILITY

Capability refers to the ability of a company to manage a possible crisis situation and how to react to this. Since the company is composed by people and connections among people, in order to be well prepare both these aspects should be developed. The company's top management is responsible for identifying the threats and implementing organizational solutions. Leaders have to be committed to the accomplishment of organizational goals and to the goals of learning and the need to help identify performance gaps and then set goals that encourage the search for knowledge to solve the negative situations that an organization is going to face. The first impulse comes from company's top management as in a crisis, leaders serve as a repository for people's fear. Leaders are essential to lead their organization through a negative event and provide their audience with a vision of the aftermath of the event. The surprise element of most crises imply that tough decisions need to be made quickly.

For that these reasons the crisis management team (CMT) have to command and control and not get lost in endless debates to make decision. CMT is made to react to a possible crisis situation managing the event strategically and proactively. Crisis leaders must assign scenario planners on their team whose sole responsibility it is to generate scenario permutation based on the events and potential stakeholder reactions. Crisis management team should be made not only as a merely functionally structure but it should be also suitable for the organization⁴. In a crisis situation, strong leadership is therefore not a luxury, but a necessity. The second point I would like to underlie is the connection among company's people. With the goal to reach a faster reaction following a negative event, people who make up the organization must be ready and knowledgeable. For this purpose, companies should organize a training system that aim not only to make aware of what threats it can be affected, but also to increase responsiveness to those events.

⁴ Goh, S. C., & Ryan, P. J. (2002, April). Learning capability, organization factors and firm performance. In *Third European conference on organizational knowledge, learning and capabilities* (pp. 5-6).

1.3 TRAINING

We already know the importance of sensitizing the staff of the organization which leads to a point ahead. The basic object is to create a corporate social responsibility for employees. It leads to act not only for my own sake but also for the company interest, due to the fact that what is good for the company is good for me too since I am an integral part of the organization.

Training situations should resemble crisis situations to reflect and improve participants' procedural knowledge. The more the simulation is close to the reality the more it will be efficient. A simulation game provides a learning method that helps the staff to gain experience without any negative effect of a real emergency. As the reader might think a simulation cannot perfectly adapt to what concerns a real emergency. It is enough to take into account a fire test. There is no stress and no flames during a fire test and probably all the people will exit the building in a neat row if they know the protocol. But flames, stress and chaos could create a different situation when it's time to deal with a real blaze. It will not be as easy as the training simulation. Only through the repetitiveness of simulation and their assimilation flames can be managed since people already know what to do even in a stressful situation. A protocol to resolve all these negative events should be prepared and tested in order to get a faster reaction when the problem occurs. Simulations can be classified into simulations of natural dependencies and dynamics, and social simulations.

The training preparation usually starts with the elaboration of a scenario. It includes different actions at different times. It is useful to keep in mind that roleplaying is one of the main components in creating collaborative awareness. Elements like a proactive policy, a defined organizational structure, infrastructures and crisis simulations are basic requirements. The aim of the training is to achieve the necessary competencies. Another aim is the advance of the use of crisis management systems (emergency skill training) and the reduction of stress (stress reduction training)⁵. It should support group interaction, communication and the modelling, processing, logging and evaluation of the training. It is customary to follow different steps in order to reach a good training simulation:

- Preparation: planning scenario; allocate events; planning actions and reactions
- Simulation: scenario management; communication; follow protocol
- Evaluation: communication protocol; evaluate collectively and individually; ratings and comment⁶

⁵ Reuter, C., Pipek, V., & Muller, C. (2009). Avoiding crisis in communication: a computer-supported training approach for emergency management. *International Journal of Emergency Management*, 6(3-4), 356-368.

⁶ Benjamins, T., & Rothkrantz, L. J. M. (2007). Interactive simulation in crisis management. In *Proceedings of the 4th International Conference on Information Systems for Crisis Response and Management ISCRAM2007* (pp. 571-580).

1.4 BEHAVIOR

Crisis situations often have extensive consequences on the behavior of the people affected as well as the actors responsible for crisis management. Organizations are trained to operate along established protocols, but there is a large part of the coordination work that goes along with more informal lines, and it is based on the individual experience of the crisis managers involved, and on the specific characteristics of a crisis. Roleplaying is one of the main components in creating collaborative awareness. If every agent is allocated to a specific role, and they are well prepared to do that, a group consciousness can be identified and a threat can be better managed. On one hand, as described in the training section, it is possible to improve people's behavior respect to negative events through the practice. On the other hand, one of the main important things is to establish a climate of trust, respect and collaboration with all people who have an interest in the company.

1.5 ASSESSMENT

A company should always carry out an assessment of what are its strengths and weaknesses in such a way that it is aware of what are the critical processes that must be protected, especially during a negative event. Self-assessment is carried out in organizations for a number of reasons, for example, changes in the internal and external environment, changes in leadership and direction, a need to develop quality-based procedures, or as part of a continuous improvement strategy. One of the outputs of the self-assessment process is its impact on the culture of an organization, in making it more cohesive; coordinating a joint working project, involving teamwork, maximum utilization of resources, working towards a uniform goal and generally making a more productive working unit⁷. Moreover, vulnerability assessment highlights the processes at risk if the company is dealing with a different situation respect to its typical day. In the next chapter we focus deeper on the assessment of critical areas of business, how the assessment should be structured, carried out and evaluated. These processes are known as Business impact analysis (BIA) and risk assessment. They are one of the first tasks that must be conducted when it comes to structuring a business continuity plan.

All these tools described are intended to ensure the stability of an organization and its preparation. The lack of these aspects may represent an alert for organizations.

In the next chapter we go through a deeper analysis of the structures aimed to bear and react to a possible crisis situation.

⁷ Ritchie, L., & Dale, B. G. (2000). Self-assessment using the business excellence model: A study of practice and process. *International Journal of Production Economics*, 66(3), 241-254.

CHAPTER II

BUSINESS CONTINUITY PLAN

It has never been more important to protect your business from the unexpected. Whether this is from power cuts, IT systems or equipment failure, industrial actions, or natural disasters, you need to make sure your business is not vulnerable to disruption and you can recover it as quickly as possible.

2.1 DEFINITION

Before going through a Business Continuity Plan, we need to understand what is Business Continuity.

According to ISO 22301 Business Continuity is *“the capability of an organization to continue delivery of products or services at acceptable predefined levels following a disruptive incident”⁸*.

(ISO 22301 is the standard which refers to business continuity, and it aimed to provide a systemic approach for the preparation of a prevention and emergency plan.)

As we read from the definition of business continuity, it is expressed as a continuous process, as it actually is. Moreover, the goal is not about going on as if nothing happened, but going on “at acceptable predefined level”, therefore a level of production and service that allowed the organization to continue its existence until the disruptive event is resolved.

In order to reach this target a Business Continuity Plan (BCP⁹) is needed. ISO 22301 defines a BCP as *“documented procedures that guide organizations to respond, recover, resume and restore to a pre-defined level of operation following disruption”* (clause 3.5)

As a consequence, it is possible to understand that the BCP is just a means to the purpose of business continuity.

2.2 PURPOSES AND FUNCTIONS

A business continuity plan offers to an organization the tools for continuing its business following a disruptive event. Since the term “disruptive event” may be too general I would like to report a list of events which may require the activation of a BCP.

I. Natural events

- an earthquake causing damages to buildings or people
- river overflowing or lake flooding that could force you to evacuate a wide area
- hurricane or strong wind that ruin building or hurt people

⁸ GPG, Business Continuity Institute; ISO 22301

⁹ Business Continuity Plan will be reported with the acronym of BCP

- a fire near headquarters that forces to evacuate the area
 - pandemic that could reach an area in which your organization is established
- II. Human mistakes that could occur in various area, activities or locations.
- unintentionally cancellation of necessary information
 - a carelessness starts a fire and some people remain intoxicated
 - disclosure of clients' private data and information
 - incorrectly editing of a computer program that involves the blockage of a highly critical procedure
- III. Breakdown of processing systems or data communication
- technology systems power outage of the organization
 - production line blockage for a long time period
- IV. Political events
- V. Sabotages or terrorist acts
- Cybercrime: phishing attack

Most of the times these circumstances are unexpected and needed a fast response from the organization. The reaction will be quick only if the companies have assimilated the culture of business continuity and if they have already implemented plans that make companies able to carry on with their business.

As Nassim Nicholas Taleb theorized in his book: "Black swan, the impact of the highly improbable", it is not possible to predict each event. We tend to give explanation of an event only after it has already happened¹⁰.

Nevertheless, even if it is difficult to predict events, it is useful understand that most of the events that could happen have similar consequences. If we refer to the list of events above, we can realize that "Natural events" have the consequence of make difficult for company's employees to go to the office as normal. Therefore, organizations should include in their business continuity plans an alternative site where move at least the people working in critical processes necessary for ensure the business continuity. Certainly, the alternative site should be set in a place not reachable by the same natural event that struck the headquarters. So, if the headquarters is in danger of flooding the alternative site should be raised above sea or river level. If the main offices are in a seismic risk area, the alternative site should be in a more secure zone.

On the other hand, if the alternative site is inaccessible, unusable or too expensive to achieve it is advisable to create a proven business system that allows people to work from home and reach the same goal. Surely the

¹⁰ Taleb, N. N. (2007). *The black swan: The impact of the highly improbable* (Vol. 2). Random house.

tools should be provided in advance and not only after the emergency occurred, as well as the training and practice that is behind.

In order to understand better this point, I report an example related to the current pandemic situation.

Included in “Natural events” a pandemic is outside the speech made before referring to the alternative site.

Even if an organization has an alternative site, it will be inaccessible since, differently from an earthquake, a river overflowing or a fire, a pandemic hit a larger area and it is likely that both the buildings (headquarters and alternative site) will be inaccessible. One of the companies I interviewed was really well prepared for a situation in which people could no longer go to the central offices. Even if they were provided with an alternative location, the company has committed for years to create a system that would allow people to work from home with the same modes and reaching the same performance as if they worked from the office.

I will further explore the way in which they reached this objective later. In this paragraph is enough to understand how the competence and preparation allowed the organization to have a quick reaction. Through these competences the organization managed to continue its business even if workers could not go to the office. A business continuity plan does not concern the exact prediction of any event, but it is closer to the fact to be prepared for any event in order to be able to continue the business an acceptable level at least.

The ultimate aim of a BCP culture is to enhance the resilience of an organization facing a difficult situation.

2.3 ESSENTIAL PHASES OF A BCP

In the first section of this paragraph I partly refer to the chapter “how to organize a company to prevent a crisis” due to the fact the tools explained are the first pillars to implement a business continuity approach in the organization.

Preliminary phases of a business continuity plan are:

- identify processes
- identify the risks
- design preventive and continuity solutions to ensure that the organization can continue the activity even at a limited level

Through an assessment of process, it is possible to have an overall idea of what are the critical procedures inside the organization.

Going more into detail, the main phases for the construction of an efficient and effective system of business continuity can be summarized in:

- Planning: definition of the area of action; preparatory activities (background, analysis of the production chain and organization, document management and so on)
- Execution: identification of critical processes; identification of possible threats; analysis of the identified risks and their possible treatment; design and implementation of preventive measures of emergency and recovery
- Check: test, drills and internal audit
- Plan correction¹¹

Each plan should include: purpose and scope of action; objectives; activation criteria and procedures; implementation procedures; roles, responsibility and authority; requirements and procedures for communication; interdependencies and internal and external interactions; resources; information flow and documentation processes.

¹¹Wright, A. C. Manuale di business continuity e crisis management.

2.3.1 RISK ASSESSMENT

After we have examined the context of action plans of the organization, its background and how the production chain works it comes to the next step of risk assessment. Conducting a comprehensive assessment is the starting point to identify gaps and design an action plan. Through the phase of risk assessment, we aim to identify the critical processes inside the company. To do this, the estimations of economic losses related to the increase of the inactivity time of the process are useful. Considering not only economic losses but also the impact of inactivity on the reputation and brand. Since quantify the economic damage can be difficult for certain types of processes, organization may include only a qualitative valuation (low-impact, medium-impact or serious-impact consequences). Once these consequences are estimated they should be compared with the organization's ability to absorb them or not. As consequence we are now able to understand how to deal with the analyzed event: absorb it, don't accept it, mitigate or if possible transfer it to third parties through an insurance policy or transfer the process to an outsourcer.

2.3.2 THE PHASES OF RISK ASSESSMENT

- Risk identification: pinpoint what may happen, when, where, how and why.
- Risk analysis: identify external controls, determine the probability of occurrence of a certain negative event, determine the consequences and structure a risk level.
- Risk evaluation: compare the results with the possibility for the organization to absorb, refuse, mitigate or transfer the risk.
- Risk treatment: identify the priorities for action.

2.3.3 TECHNIQUES OF RISK ASSESSMENT

I dedicate this section to a brief description of risk assessment techniques. The standard 31010:2010 lists 31 methods to identify the risk and it precise in which phase of risk assessment each of them are usable.

Here are reported only the most relevant techniques:

- Brainstorming: it is common during risk identification phase given that this technique stimulates and encourages a free flow of ideas from a competent group of people who have the necessary knowledge to identify possible threats and risks. The brainstorming can be formal or informal.
- Delphi: this technique aims to achieve a reliable consensus from a group of experts. Differently from brainstorming technique, Delphi requires an individual and anonymous written opinion by each of the experts involved. The information gathered in this first step are analyzed and communicate to the

group. After that, each expert has the possibility to make changes to its opinion according to the opinions of other experts. The process continues until a unanimous consensus is reached.

- **Structured what if?** : this technique is recommended by the standard for each of the risk assessment phases. Once the critical process or system has been identified, the organizer assembles a team of experts asking them for possible threats, previous experiences, incidents, existing countermeasures or presence of any technical, regulatory or legal constraints.
- **Fault tree analysis:** as the previous technique, also this one is suitable for all the risk assessment phases. Fault tree technique works towards the recognition of factors that might contribute to a negative event. The causes are identified, logically organized and figuratively represented in a tree diagram that illustrates the causal factors and logical relations with the event in analysis. It is characterized by a top-down approach and it is especially useful for the analysis of system that have many interfaces and interrelations.
- **Consequence/probability matrix:** this technique is intended to facilitate the classification of risks based on their seriousness and likelihood of occurrence. The most difficult part is to estimate losses and probability. For each important process the consequences of an interruption are reported and an assessment of severity is done (consequences may be: low-level (LL); medium-level (ML); serious (S); extremely serious (ES)). After that a table reported the likelihood of occurrence is decided:

Table 2.1 – probability/description analysis.

Probability	Description
Highly probable (HP)	The event has already occurred and it can occur more than once a year
Probable (P)	The event has already occurred and it may occur in the course of the year
Hardly probable (HP)	The event occurred but it should never happen again. Once every twenty years
Improbable (I)	The event occurred but after appropriate intervention it should never happen again. Once every fifty years.
Highly improbable (HI)	The event has never occurred in the past. Once every one hundred years ¹²

[source: Author]

Once the seriousness and the probability of an event is established, this method provides that, by combining the two information, the priority of intervention can be assigned. If a negative event had an extreme impact and it was highly probable, a top priority of action should be set.

¹² Example of table reporting the likelihood of a negative event

2.3.4 BUSINESS IMPACT ANALYSIS

Business Impact Analysis (BIA) allows to collect information that are necessary to identify critical processes and Core Business process. They those processes where an interruption may cause higher damage as the time of non-use increases.

In the context of business continuity this technique is strongly recommended to estimate consequences of a business process or service interruption. A holistic understanding of the organization and its key products and critical functions ensures BCM's program to be established according to the organization's objectives and strategies and increases the success chance of Business continuity plans in the response phase. The estimation of severity resulting from discontinuation of production or service is crucial to identify business processes that are critical.

2.3.5 THREE IMPORTANT INDICATORS IN BIA

- RTO (Recovery Time Objective): is the duration of time and a service level within which a business process must be restored after a disaster in order to avoid unacceptable consequences associated with a break in continuity. In other words, the RTO is the answer to the question: "How much time did it take to recover after notification of business process disruption?"
- MAO (Maximum Acceptable Outage): is the maximum amount of time a system can be unavailable before its loss will compromise the organization's objectives or survival.
- MBCO (Minimum Business Continuity Objective): is the minimum level of service and/or products that is acceptable to the organization to achieve its business objectives during a disruption¹³

2.3.6 HOW TO CONDUCT A BUSINESS IMPACT ANALYSIS

First of all, people who work in a given business process are more likely to give us precisely information about existing difficulties, agreement with shareholders, contracts or past interruptions that provoked economic losses. When the estimation of losses is not easy other functions should be call into question, such as internal auditing, accounting, management control and risk management. A Business Impact Analysis might be run through questionnaires or interview sessions involving people with knowledge of the process.

When the critical process has been identified it is time to calculate the damage of the interruption of that process respect to the length of interruption¹⁴.

¹³ ISO 22301:2012

¹⁴ Tjoa, S., Jakoubi, S., & Quirchmayr, G. (2008, March). Enhancing business impact analysis and risk assessment applying a risk-aware business process modeling and simulation methodology. In *2008 Third International Conference on Availability, Reliability and Security* (pp. 179-186). IEEE.

Example of a BIA scheme:

Table 2.2: Breakage of a certain machinery; economic damage respect to hours spent

1- 4 hours	4-8 hours	8-24 hours	2 day	1 week	3 weeks	1 month
L	M	M	H	H	N. A	N. A

(Economic damage: Low =L; Medium =M; High =H; Not acceptable = N.A)

[Source: Wright, A. C. (2020). *Manuale di business continuity e crisis management: La gestione dei rischi informatici e la continuità operativa*. FrancoAngeli.]

It is suggested to insert the amount of the economic damage, even if it is an approximation, instead of a simple low, medium or high level.

Another thing I would like to underline is that even if a BIA and Risk Assessment are highly suggested to identify risks, it is up to the company to decide whether to take precautions from that risk or whether to accept it and run the risk.

2.3.7 RECOVERY STRATEGY

Business Recovery Strategy is a critical phase within the Business Continuity Management process. It is the way strategy and concept for vulnerability and hazard mitigation, recovery scenario, or even how to communicate and respond are written down, vetted, and layered into a strategic roadmap.

Recovery Strategy phase is added to enable users to “think through” the concept of recovery without the need to write the detailed procedures. Most methodologies reviewed had included steps similar such as “Interim support resource needs determination” and “interim support strategy identification and evaluation” in the plan development phase. It was found that the work completed in this phase is very useful as users can visualize the recovery approach and hold preliminary discussions with the relevant authorities and affected parties before the detail procedures are written.

The recovery strategy includes:

- development of business recovery strategies;
- back-up and recovery of vital records;
- determine minimum processing requirements;
- select recovery processing alternatives¹⁵.

¹⁵ Heng, G. M. (1996). Developing a suitable business continuity planning methodology. *Information Management & Computer Security*.

2.3.8 PLAN DEVELOPMENT

By this point, you have gone through the BIA to identify and determine the Core Business Processes and their respective Supporting Business Processes, Vendors and Service Providers. In large, complex organizations, each Core Business Process develops its own Business Continuity Plan. This plan will include internal and external dependencies. Also, you have performed a Risk Assessment to identify and vet the riskiest potential disruptive events, vulnerabilities and hazards. Once an organization identified critical processes and risks, and after that it decided to take precautions from them, a comprehensive plan shall be designed in order to include:

- roles and responsibilities of all those who have authority during and after an accident
- a process to activate the response
- details to manage the immediate consequences of a negative event giving due attention to the health of individuals and to strategic, tactical and operative options with the aim of improving consistency and effectiveness.
- preventive measures to avoid further losses or unavailability of priority activities
- leading lines regarding how and when to communicate with employees, interested parties and the emergency contacts
- how the organization will keep on working and restoring priority activities within predefined time
- a communication plan with the media and people in charge of interact with them
- the process to be followed once the incident has ended

2.3.9 TESTING

Having developed the plan, it is sensible to test it and then to perform an audit at regular intervals. Keeping a business continuity plan up to date is not easy. Often, plans are built with enthusiasm and care but then left on the shelf. A testing and audit process help ensure that the plan remains current, and that it stands up to rigorous examination. Testing is difficult since it is impossible to test under the highly- stressed conditions of a real emergency. However, a simulation or even a simple walk- through of the plan, can reveal inconsistencies or omissions¹⁶.

When drafting a continuity plan it is usual to think that the negative event occurs during work and so the plan generally starts with the staff coming out in an orderly manner from the headquarters. We must instead think that the negative event occurs suddenly and people are unprepared for it. Simulation are essential and they have to be repeated more than once a year. First of all, because employees get used to how to behave and the stress of a real emergency will be reduced through the repetition of simulation. Secondly, is important that

¹⁶ Savage, M. (2002). Business continuity planning. *Work study*.

everyone participates at these simulations, so if anyone was missing during the first test, he has the opportunity to participate in those after.

Testing may include smaller samples or groups if the organization is so complex that resources and timing make getting everyone together unfeasible. Testing exercises ensure that Business Continuity procedures actually support and fulfill Business Continuity objectives. Thorough testing exercises involve multiple Core Business Processes, and their respective Supporting Business Processes, and should validate some or all the Business Continuity and Recovery procedures.

2.3.10 EVALUATE PERFORMANCE

The primary goal of the Business Continuity Testing initiative is to develop a process to validate the effectiveness of the Business Continuity Plans, identify any deficiencies, and create a plan for rectifying the issues. Through the tests done you should be able to detect:

- the timing of the plan
- the skill of the participants
- feasibility of the plan
- quantity and quality of resource
- strengths and weaknesses
- lack of information
- improvements

2.3.11 GOVERNANCE OF BUSINESS CONTINUITY PLANS

This paragraph focuses on the members of the team that deals with crises, from preparation to aftermath. The issue we address is not just the individual continuity manager's own department: it is more than this. An organization should ensure at the highest level of control that business continuity is rooted in the heart of the business of the organization. In an environment getting faster where technology is becoming more critical, competition is intensifying, business dependencies and interconnectivities are more complex as well as pressure on growth and profitability, the magnitude and extent of the risks has increased, therefore organizations have to implement structures and tools suitable for such a complex environment.

2.4 BUSINESS CONTINUITY MANAGEMENT

According to the standard ISO22301, Disaster Recovery Institute (DRI) defines Business Continuity Management (BCM) as a: “ *Holistic management process that identifies potential threats to an organization and the impacts to business operations those threats, if realized, might cause, and which provides a framework for building organizational resilience with the capability of an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities*¹⁷”. From this statement is possible to understand that:

- BCM is not just about response; it is also about building resilience to strengthen an organization
- BCM is not just about fighting fires, earthquakes or pandemic; it is about understanding what might be at risk and developing strategies if things do go wrong
- BCM is not just about having plans to recover a business that are over- elaborate; it is about having plans that suit the nature of your business
- BCM is not an appendage to the business, and for it to be effective; it must be an embedded management process – as part of risk management, and in turn, as part of good business management.

The role of management is to create an environment that facilitates the identification and tight control of the negative risks, while supporting an environment that allows for the identification and conversion of opportunities, and their challenge to determine how much uncertainty an organization is prepared to accept¹⁸.

¹⁷ Disaster Recovery Institute

¹⁸ Graham, J., & Kaye, D. (2015). *A Risk Management Approach to Business Continuity: Aligning Business Continuity and Corporate Governance*. Rothstein Publishing.

2.5 CRISIS MANAGEMENT TEAM

Every crisis management program begins with a competent crisis management team. This group serves as the organizational backbone for crisis planning and response. The Crisis Management Team (CMT) included all the functions of an organization: financial director, legal representative, security director, risk manager, communication specialist (outwards and inwards), human resource representative, HSE and IT representatives, CEO and plant managers. CMT, also known as Core Team, is therefore composed by people who are part of the highest levels of the organization. This team has to take part in coaching and training program as well as various update each year. The Crisis Management Team may face any type of crisis, from an environmental crisis to a reputational crisis. This Team is delegated to a prompt intervention and must always give availability at any time. In order to ensure the participation of all functions, each figure has an emergency replacement if he cannot guarantee the presence. The team should be headed by the organization's chairman or another senior executive authorized to make binding decisions on behalf of the organization. This individual must have the confidence of the board of directors and the majority of the shareholders. He or she is the central figure of the contingency management plan and will make the critical choices during execution.

2.5.1 SPECIFIC DUTIES OF EACH KEY FIGURE OF CMT

Team Leader	
Pre- Crisis	As the team's central figure, the leader exercises final decision-making authority. He or she determines and plans the policy and assembles the rest of the team.
During	The leader makes critical decisions relevant to executing the program. The team leader should be one of few team members, if not the only member, with discretionary authority. In a crisis, too many decision makers could be a disadvantage.
Post- Crisis	Again, the team leader is responsible for decision and policy making. In post crisis situations, he or she works closely with the board to direct the organization.

Financial Director:	
Usually the CFO, the team's financial representative is responsible for handling all financial affairs related to crisis management.	
Pre- Crisis	The finance director assesses financial implications of each aspect of the program, arranging for rapid disbursement of emergency funds from trusted creditors.
During	The finance director handles all financial transfers related to the crisis.
Post- Crisis	The finance director maintains detailed records of costs related to crisis management and continues to advise the team leader on the financial impact of the crisis.

Legal Representative	
Pre- Crisis; During; Post-Crisis	The legal representative examines the legal implications of any action taken by the crisis management team.

Security Director	
Pre- Crisis	The security director is in charge of developing the contingency management program. He or she is responsible for establishing a crisis center and training employees in proper crisis response.
During	The security officer serves as the primary information officer. He or she notifies other members of the team about the nature of the crisis and continues to supplement reports as events unfold. This director is the primary liaison with police and other safety officers.
Post- Crisis	The security director's primary post-crisis assignment involves coordinating the evaluation and modification of the program.

Communications Specialist ¹⁹	
Pre- Crisis	The communications specialist prepares best- and worst-case press releases for various scenarios.
During	The communications specialist controls the release of information within and outside of the organization, disseminating critical information without doing any further harm to the organization.
Post- Crisis	The communications specialist continues to work with the press and investigative authorities to disseminate critical information.

¹⁹ Also classified as a media or public relations specialist, this confident individual can assess a crisis situation quickly and convey important details without compromising the privacy of the organization or any individuals being investigated in connection with the crisis.

Human Resources Representative ²⁰	
Pre- Crisis; During; Post-Crisis	The team's human resources representative informs the crisis management team about issues affecting employees.

Risk Manager:	
The risk manager assesses the potential impact of a crisis, secures adequate financial protection against that impact and helps with information management.	
Pre- Crisis	The risk manager acquires adequate insurance for continuing critical operations and determines how various contingencies affect coverage. He or she advises the team leader on the potential financial impact of these effects.
During	The risk manager assists the security director as a secondary intelligence and information officer.
Post- Crisis	The risk manager prepares insurance claims and modifies organizational policies as needed ²¹ .

[Source: Podolak, A. (2002). *Crisis management teams. (Creating). Risk management, 49(9), 54-58.*]

²⁰ The HR representative must be alert, sensitive and have an intimate understanding of the organization's employees. He or she must remain aware of what is going on inside the organization and be able to discern and evaluate problems before they escalate into dangerous situations.

²¹ Podolak, A. (2002). *Crisis management teams. (Creating). Risk management, 49(9), 54-58.*

2.6 DISASTER RECOVERY TEAM

A disaster recovery team is a group of individuals focused on planning, implementing, maintaining, auditing and testing an organization's procedures for business continuity and recovery.

Disaster Recovery involves a set of policies, tools and procedures to enable the recovery or continuation of vital technology infrastructure and systems following a natural or human-induced disaster. Disaster recovery focuses on the IT or technology systems supporting critical business functions, as opposed to business continuity, which involves keeping all essential aspects of a business functioning despite significant disruptive events. Disaster recovery can therefore be considered a subset of business continuity²².

A Disaster Recovery Plan (DRP) is an IT-focused plan that is aimed to restore operability of the data processing center, applications, or computer facility at an alternate site after an emergency. A DRP addresses major site disruptions that require site relocation. The DRP applies to major, usually catastrophic, events that deny access to the normal facility for an extended period. Typically, Disaster Recovery Planning involves an analysis of business processes and continuity needs; it may also include a significant focus on disaster prevention.

- Disaster Recovery hot-site: a DR hot-site is a data center facility with enough hardware, communications interfaces and environmentally controlled space capable of providing relatively immediate backup data processing support.

2.6.1 THE DESIGN OF POSSIBLE SOLUTIONS FOR DISASTER RECOVERY

Since nowadays most of the activities of an organization are carried out through computers, a disaster such as a fire for example, might involve a loss of all information memorized on IT systems. For this reason, the organizations should have an alternative computer site where transfer backup data, or otherwise they can apply to companies specialized in the outsourcing of electronic centers. For example, big banks and big organizations have an electronic center for DR of analogous or identical dimensions to the primary one, set at a considerable distance from the primary center. The primary and the alternative site are connected with optical fibers and/or a satellite connection, with two different routes, in order to avoid interruptions with backup center due to a negative event.

As well as for BC plans, also for DR plan organizations should carry out a Risk assessment and a Business impact analysis. Previously we already went through the RTO indicator, here a cross reference:

²² System and Operations Continuity: Disaster Recovery. Georgetown University.

- The Recovery Time Objective (RTO) is the time needed to recover from a disaster or, saying it another way, how long you can afford to be without your systems.

Now, analyzing the Disaster Recovery Plan another indicator is needed, RPO (Recovery Point Objective):

- Recovery Point Objective (RPO) describes the age of the data you want the ability to restore in the event of a disaster. For example, if your RPO is six hours, you want to be able to restore systems back to the state they were in, as of no longer than six hours ago. To achieve this, you need to be making backups or other data copies at least every six hours. Any data created or modified inside your recovery point objective will be either lost or must be recreated during a recovery. If your RPO is that no data is lost, synchronous remote copy solutions are your only choice²³.

Once the company has listed what resources are needed for the operation of the IT systems and once defined RPO and RTO requisites, the solution must be chosen.

As the reader understand, high expenses are required, but they are justified by the fact that without a recovery system, a prolonged lack of service will provoke substantial losses for an organization, or even a declaration of bankruptcy.

2.7 OBJECTIVES OF A BUSINESS CONTINUITY PLAN: STRATEGIC, TACTICAL AND OPERATIONAL LEVELS

As the Business Continuity Institute and experts in the field suggest that it would be useful for there to be three levels of command:

1. strategic level
2. tactical level
3. operational level

These levels are called also “Gold, Silver and Bronze” respectively. They are a three-tier structure of command, each level of which performs mutually exclusive roles at separate locations.

²³ Brooks, C., Bedernjak, M., Juran, I., & Merryman, J. (2002). Disaster Recovery Strategies. *IBM Redbook*.

The division is made in order to have a plan easier to read and manage. All with the same style and format. In practice each plan (crisis management, continuity management, incident management, disaster recovery plan, etc.) is a “section” of the BCP of an organization, whose responsible is well-defined: BC manager.

Clearly, this structure of command relies heavily on the strength of the relationships between the levels, which in large part will be determined by the effectiveness of the communication links among and within levels and between the structure as a whole and its environment

2.7.1 STRATEGICAL LEVEL

The strategical level defines how a disaster should be managed from the top management. The plan vets’ roles and the precautions to be taken, especially regarding communication to stakeholders. The members of this team are in charge of ensuring continuity and reputation of the organization. Gold is responsible for setting the strategic parameters for the management of event or incident and will often work with a cabinet of officers, who provide support and advice in area such as logistics, intelligence and administration.

Among the responsibility of this team we can mention:

- Ensure that the reaction and recovery of activities fulfill legal and regulatory requirements
- Identify and maximize opportunities or advantages which could show up from the accident
- Manage communication with all interest parties and media
- Approve public announcements that have to be provided to employees and outside the organization
- Resolve possible conflicts during incident management
- Assess any high costs required to overcome the negative moment and/or support staff
- Keep shareholders informed (or similar figures if the organization is a non-profit institution)

2.7.2 TACTICAL LEVEL

The second tier of structure operates at the tactical level. The Silver Commander, aided by appropriate staff, has responsibility for the development of tactics that will be meet the strategic objectives set by Gold.

Tactical plans represent the entire organization’s emergency response putting in practice the strategical plans²⁴. The members of tactical level team provide information to the upper level, and they belong to the main corporate functions. Generally, is a small team, whose members are managers of some structures whose involvement is more relevant.

Example of composition: Chief Operations Officer, Personnel, BC manager. To which they can be added:

²⁴ Pearce, T., & Fortune, J. (1995). Command and control in policing: A systems assessment of the gold, silver and bronze structure. *Journal of Contingencies and Crisis Management*, 3(3), 181-187.

Some responsibilities of this group are:

- Organize and monitor the response and recovery of operational teams
- Allocate any other requests for resources
- Take action, if necessary, on the priorities set
- Monitor the support provided by technical business functions
- Act on specialized service providers to reduce process recovery times

2.7.3 OPERATIONAL LEVEL

The operational level is the third tier where, depending upon the nature and physical extent of the incident or event, one or more Bronze Commander has geographical or functional responsibility for the implementation of Silver's tactics. Therefore, this level contains the operating instructions for each critical process and for the expected consequences. The operational plan should be concise and easy to understand, also by personnel who may be in a state of distress as a result of the accident.

Some information that belong to this level are:

- The summoning to another site of the personnel involved in a process and related telephone contacts
- Any other contacts to be notified as involved in the critical process
- What to do to resume the activity in another site
- Priorities for action
- Alternative instrumentation and equipment to use
- The controls to be carry out on data²⁵

²⁵ Wright, A. C. Manuale di business continuity e crisis management.

METHODOLOGY AND CONTEXT OF THE ANALYSIS

I used qualitative research methods because the criteria and questions were quite open, and my aim was to understand the field. I wanted to be open to new cognitions, which could appear during the research process. The aim was to enable a triangulation that would enlarge the validity and reliability of the study. The sample is composed by large multinational companies that are part of the pharmaceutical and healthcare sector. The companies that have been analyzed are:

- Bristol Myers Squibb
- Novartis Group
- 3M Company
- Johnson & Johnson.

Further information about these companies are given in the introduction to the next chapter.

Firstly, in order to collect as much information as possible I started with unstructured interviews that gave me the possibility to gather generic information on the BCP topic.

Secondly, as soon as the interviewees did a generic excursus on Business Continuity Plans and the key points of the process were comprehended, I moved on semi-structured interviews. This type of interview has been very helpful not only to deeply analyze certain themes but also to give the interviewees the opportunity to develop some topics that arise spontaneously during the interview, if the topics were useful for the understanding of the subject. Moreover, with semi-structured interviews the people being interviewed were invited to give their personal opinions on the topics covered.

Interviews technique has been combined with data triangulation technique. Different source of information has been used in order to increase the validity of the study. By data triangulation I carry on a qualitative research strategy to test validity of the study through the convergence of information from different sources. Furthermore, two types of interviews were conducted, individual and group interviews. The individual interview allowed for spontaneity, flexibility, and responsiveness to individuals. On the other hand, group interview with two or three members of the company participated, allowed people to listen to their colleagues' opinions and provide additional comments²⁶. Up to six people were interviewed for each multinational company, each of which is part of a different working area. Additionally, I tried to compared information and comments reported from similar professional figures working in a different companies, in order to have similar or different perspectives on the same topic.

²⁶ Triangulation, D. S. (2014, September). The use of triangulation in qualitative research. In *Oncology nursing forum* (Vol. 41, No. 5, p. 545).

Clearly, I focused on people who were working on business continuity plans and especially I received information from the managers and directors of these plans but, on the other hand external personnel were also asked to give their opinion on the modalities and efficiency of the business continuity process put in place by the company. Through methodology triangulation technique the interviews results have been compared to see if similar outcome is being found among companies. Additionally, it has led to an increasing confidence in the research data, provided a clearer understanding of the process and an innovative way of comprehension of the phenomenon. Some differences in the ways of implementation and activation of the BCPs are been discovered and discussed in the fourth chapter. Having completed an internship at Bristol-Myers Squibb Company I was supported mostly by this company. I collected more information about BMS Company that have been compared to the information collected about the other companies analyzed.

Concerning the context of analysis, it has various facets and implications. Starting from how a business continuity plan has been structured in different pharmaceutical and healthcare multinational companies, I moved on the current emergency situation of Covid-19. The world seems to have stopped for a while; lockdown forced us to remain at home as well as for the thousands of employees of these organizations. Nevertheless, companies could not remain still. Especially as far as pharmaceutical and healthcare companies are concerned, the duty to take care of the patient is now more than ever necessary and essential. For this purpose, they had to activate plans in order to ensure that their business activity will continue. These plans are called “Business Continuity Plans” and in the following chapter the reader will be able to deeper understand the pillars of the BCP according to Bristol Myers Squibb, Novartis, 3M and Johnson and Johnson. How they have activated it and which are the main differences in process and structure of these plans that stand out from the qualitative analysis carried out.

**CASE-STUDY: HOW COMPANIES HAVE IMPLEMENTED AND
SUBSEQUENTLY ACTIVATED THE BUSINESS CONTINUITY PLAN
FOLLOWING THE COVID-19 EMERGENCY.**

4.1 INTRODUCTION

This chapter is intended to report and analyze the interviews' results, pointing the main features out and making comparison among companies on the use, structure and modalities of business continuity plans.

As briefly mentioned in the previous chapter the multinational companies studied are Bristol Myers Squibb, Novartis Group, 3M Company and Johnson and Johnson.

Here is a summary of the companies that we will analyze regarding business continuity plans implemented and recently activated. Below are also the people interviewed for each individual company.

Bristol Myers Squibb:

- Bristol Myers Squibb (BMS) is an American global biopharmaceutical company, one of the world's leading companies in this field. Bristol Myers Squibb is a public company headquartered in the United States and it manufactures pharmaceutical and biologics prescription in several therapeutic areas, the most important includes cancer, HIV/AIDS, hepatitis, diabetes, cardiovascular disease and rheumatoid arthritis. Moreover, Bristol-Myers Squibb focuses on areas where there is the highest level of unmet medical need and where the available treatments still do not guarantee a satisfactory therapeutic outcome: oncology, cardiology, immune science and fibrosis²⁷.

The relationship between Bristol-Myers Squibb and Italy dates back to 1946, when the American company first brought penicillin. Today Bristol-Myers Squibb is among the top 10 companies in the Italian pharmaceutical market, with commercial and legal headquarters in Rome. Evidence of this extraordinary commitment in Italy are the 85 active clinical trials (of which 45 % in Phase I and II), with about 360 clinical centres and 3000 patients involved. The company's mission is to discover, develop and make available innovative drugs dedicated to patients fighting serious diseases. The company is carrying out its mission of providing life-saving medicines to its patients while actively

²⁷ Bristol-Myers Squibb Company Italy (2020). <https://www.bms.com/it>

contributing to the fight against the COVID-19 pandemic, including supporting communities, promoting public health and contributing to collaborative COVID-19 research efforts²⁸.

Total Revenues 2019 (dollars in millions); \$ 26,145²⁹

Individual people interviewed in BMS:

- A.B - Primary role: Country CFO and Board Member. Secondary role: Business Continuity Core Team Manager
- P.G - Primary role: IT Director. Secondary role: Business Continuity Core Team Manager
- A.P - Primary role: IT Business Partner. Secondary role: PMO-BC Project Management Office Business Continuity
- M.A- Primary role: PM Lung & pantumor. Secondary role: PMO-BC Project Management Office Business Continuity
- G.A - Senior Regulatory Affair Manager
- A.P - Senior HR Business Partner

Group Interviews

- P.G - Primary role: IT Director. Secondary role: Business Continuity Core Team Manager & A.P - Senior HR Business Partner
- A.B - PMO-BC Project Management Office Business Continuity & G.A - Senior Regulatory Affair Manager

²⁸ Bristol Myers Squibb Reports Strong First Quarter 2020 Financial Results (NEW YORK, May 7, 2020). https://s21.q4cdn.com/104148044/files/doc_financials/quarterly_reports/2020/BMY-Q12020-Earnings-Press-Release.pdf.

²⁹ Bristol-Myers Squibb (2019) annual-report https://s21.q4cdn.com/104148044/files/doc_financials/annual_reports/2019/2019-BMS-Annual-Report.pdf

Novartis Group:

- Novartis International AG is a Swiss multinational pharmaceutical company based in Switzerland. It is majority owned by American shareholders and it is one of the largest pharmaceutical companies by both market capitalization and sales. Second largest pharmaceutical multinational in the world in terms of turnover and 20th largest multinational in the world.

Novartis is a global leader in generic and biosimilar medicines, committed to playing a leading role in driving access to medicine worldwide³⁰. Novartis AG is a publicly traded Swiss holding company that operates through the Novartis Group. Novartis AG owns, directly or indirectly, all companies worldwide that operate as subsidiaries of the Novartis Group.

Novartis' activities are divided into three operating divisions: Innovative Medicine, Sandoz (generics) and Alcon (eyecare). On 12 April 2019 Novartis established Alcon in a separate company. The Innovative Medicines division comprises two business units: Novartis Pharmaceuticals and Novartis Oncology.

The Italian headquarters of Novartis is in Origgio. The production centres are in Torre Annunziata. There are also branch offices in Piemonte, Emilia-Romagna and Rome.

Net Income 2019 (USD millions): \$ 11,737³¹

Individual people interviewed in Novartis Group:

- M.B - Primary role: Country Quality Head. Secondary role: Task Force Corona Virus Leader and Business Continuity Plan Leader.
- A.B - Head of Country Communications & Patient Advocacy
- C.A - P&O Manager & Head of Industrial Relations

Group Interview

- A.B - Head of Country Communications & Patient Advocacy & C.A - P&O Manager & Head of Industrial Relations

³⁰ Novartis (2020). <https://www.novartis.com/>

³¹ Novartis (2019) – Annual Report. <https://www.novartis.com/sites/www.novartis.com/files/novartis-annual-report-2019.pdf>

3M Company

- The 3M Company is an American multinational conglomerate corporation operating in the fields of industry, worker safety, US health care, and consumer goods.

Scientific, technical and marketing innovations produced success upon success over the years, eventually making 3M a constant name on the Fortune 500 list³². Today, more than 60,000 3M products are used in homes, businesses, schools, hospitals and other industries. One third of our sales come from products invented within the past five years, thanks to innovations from the thousands of researchers and scientists we employ around the world. With corporate operations in 70 countries, sales in 200 and 96,000 employees around the world, 3M Company is committed to creating the technology and products that advance every company, enhance every home and improve every life³³.

"At 3M, we use science to improve lives and help solve the world's toughest challenges. We remain focused on executing our plans and continuing to deliver exceptional value for our customers and premium returns for our shareholders." Mike Roman - Chairman and Chief Executive Officer

Financial results 2019: Net Sales - \$32.1B³⁴

People interviewed in 3M Company:

- P.M - Primary role: Head of government and public affair. Secondary role: Crisis Management Team member.
- F.P - Senior HR Business Partner

Johnson & Johnson:

- Johnson & Johnson is a U.S. multinational pharmaceutical company that manufactures drugs, medical equipment and products for personal care and self-medication. Its common stock is a component of the Dow Jones Industrial Average and the company is ranked No. 37 on the 2018 Fortune 500 list of the largest United States corporations by total revenue. J&J is one of the world's most valuable companies.

³² The Fortune Global 500 is a list of the world's top 500 economic groups, drawn up on the basis of sales. The list is compiled and published annually by Fortune magazine.

³³ 3M (2020) - History. https://www.3m.com/3M/en_US/company-us/about-3m/history/

³⁴ 3M (2019) - Annual Report 2019. https://s24.q4cdn.com/834031268/files/doc_financials/2019/ar/2019-3m-annual-report.pdf

“At Johnson & Johnson, we believe good health is the foundation of vibrant lives, thriving communities and forward progress. That is why for more than 130 years, we have aimed to keep people well at every age and every stage of life. Today, as the world’s largest and most broadly based healthcare company, we are committed to using our reach and size for good. We strive to improve access and affordability, create healthier communities, and put a healthy mind, body and environment within reach of everyone, everywhere. Every day, our more than 130,000 employees across the world are blending heart, science and ingenuity to profoundly change the trajectory of health for humanity.”³⁵

The Johnson & Johnson brand includes several brands, among them: Band-Aid (bandage line), Tylenol (dressings), Johnson's Baby (baby products and shampoos), Neutrogena (beauty products), Clean & Clear (facial care), Acuvue (contact lenses), Carefree and O.B. (absorbents), Piz Buin (protective creams) and Ethicon Inc.

The company's major franchises in the Pharmaceutical segment include Immunology, Neuroscience, Infectious Disease, and Oncology.

J&J's products are sold in 175 different countries. The Italian headquarters and the main production plant are located in Pomezia (Rome).

For the fiscal year 2018, Johnson & Johnson reported earnings of US \$ 15.1 billion, with full-year sales of US \$ 82.1 billion³⁶.

Individual people interviewed in Johnson & Johnson:

- E.T - Primary Role: Country Finance Lead Medical Devices Italy. Secondary role: Deputy Managing Director.
- C.P - Primary role: Procurement/Finance - Site Coordinator & User Manager. Secondary role: BCP coordinator.
- L.I - Healthcare Business Manager; Finance & Company Training Lead.

Group Interview

- E.T - Primary Role: Country Finance Lead Medical Devices Italy. Secondary role: Deputy Managing Director. & C.P - Primary role: Procurement/Finance - Site Coordinator & User Manager. Secondary role: BCP coordinator.

³⁵ Johnson & Johnson (2020) -About Johnson & Johnson. <https://www.jnj.com/about-jnj>

³⁶ Johnson & Johnson (2019) Johnson & Johnson Reports 2019 Fourth-Quarter and Full Year Results. <https://johnsonandjohnson.gcs-web.com/static-files/16e62ab3-3f23-4e7a-9b9c-83a2ec08bdf8>

4.2 BIRTH OF BCP IN THE ANALYZED COMPANIES

The largest multinational companies in the world must be prepared to continue their business in any situation and face any difficulty, now more than ever. Evidently, geodetic, climatic and generic worldwide events have not changed much in the last millennium, but it is not the same for their socio-economic consequences. Today, an earthquake or hurricane produces much more serious economic effects than in the past. It is due to the interdependent relationships between different economic entities and the intensification of "network effects". Phenomena that in the past produced limited effects have a huge impact today. The earthquake in Tokyo in 1923 caused Japan's gross national product to fall by about one third. Extrapolated from the 1994 Kobe tragedy, it is easy to assume that the consequences of an earthquake in Tokyo today would be much more costly than they were then.

Therefore, companies should put in place plans that aim to protect and preserve their business activity.

For this reason, during my interviews one of the first questions I asked was:

- When a business continuity plan has been implemented in the organization and if it comes from a locale or a corporate initiative?

In my opinion this is a good starting question not only because it allows to get information about when a BCM has been implemented but also on the culture behind the BC plans. If they came from locale initiative or corporate guidelines.

Bristol Myers Squibb (Italian head office in Rome):

Starting with a background of the Business Continuity Management, it was initially more of a technical part and it has changed from a point of view in which I have to restore the systems in order that people can work on them, to a speech about how some fundamental processes for the company must be maintained. Even 25 years ago the BC existed but it was called Disaster Recovery.

Companies with a large mainframe that broke down had to ensure the recovery of the system. At that time they made contracts with external companies (outsourcing) for repair and maintenance, or they made leasing contracts.

Over time, server systems became more and more centralized and they ended up in global locations. In the BMS case one is located in Chester (England) and other two in the United States. Therefore, BMS is now connected not to the Rome local systems but to systems that are provided by American and English sites. Nowadays the Disaster Recovery branch is managed by people who work on IT systems. Disaster Recovery is a part of the Business Continuity Plan, but it does not encompass the whole plan.

However, it would be more accurate to talk about Business Continuity Management (BCM) instead of Business Continuity Plan (BCP). Indeed, the BCM includes BC Plans.

As reported by the PMO of BMS: *“A BCP has been implemented in BMS 8 years ago from a locale initiative. In fact, since in 2012 we had no longer local servers but only business activities, so that the General Manager of the company asked some people to establish a BCM in Bristol. We have started to build business continuity plans taking into consideration which were the critical process and creating a plan for each of them. The aim was to embrace every process so as to create a company-wide plan that was possible to consulted when needed. Only in 2017 the Corporate contacted us saying that they have a dedicated group for business continuity. Moreover, the Corporate took us as best-practice since we were one of the offices better prepared in this field. So, only from 2017 we started to use corporate template for BCP and BCM.*

Novartis Group (Italian head office in Origgio, Lombardia)

“Italy’s business continuity plans are set up for Italian requirement but they are based on templates and corporate structures of the global Novartis Group. Therefore, each local entity has its own continuity systems, which are in place and independent of the Corona Virus or any other catastrophic event. They are plans that every department and every function not only must have but must also have them tested and improved over time. So the BC plans are local but based on global templates. For example, the corporate could requires to have continuity plans for the delivery of drugs, then it is up to the local company to implement and structure a plan that meet the request”.

These plans are part of the Novartis Group for more than 30 years. They were already operational at the time of the avian influenza and at the time of the data change in the year 2000 (companies computers were at risk of crashing due to the data save digit change that could have caused problems).

Overall, Novartis BC plans exist for decades and over time have been adapted and designed for any event.

3M Company (Italian head office in Milan)

“The Crisis Management Team³⁷ (CMT) has been implemented in the company long time ago, 15-20 years ago approximately. In each large country where 3M is established the company has a CMT. This team has to go through coaching and training programs in addition to various updates year by year”. Hence, the Crisis Management Team is a 3M institution worldwide. Each big branch has an own CMT that provide and submit a BCP and after that the BCP have to be approved by the parent company. Additionally, the Headquarter of

³⁷ The Crisis Management Team (CMT) is the equivalent of the Business Continuity Management (BCM). Companies may call that team in different ways.

3m requires at least one business representative inside each CMT. The business representative is a person that represents every fields in which the company operates.

Johnson & Johnson (Italian head office in Rome)

“BCP comes from a corporate initiative. The parent company requires it, so that each location must have such a plan. These plans have been inherent in the company for a long time. Unlike Disaster Recovery, which is something that IT provides for the continuation of systems, a BCP is a program that allows you to reactivate the operational activity of the company as soon as possible”. Since J&J is a large multinational company, the parent company gives them the guidance to implement this type of plan. After that a plan has been created it is revised periodically. Every two years for a generic review and each year was updated. It is also necessary to update the contacts and the representative, while every two years the simulation must be done.

4.2.1 Considerations

The Business Continuity Plan is something always intrinsically existed in companies. The needed to protect the activity and to ensure the business continuity has led to the creation of increasingly specific plans for each situation. Over the time these plans have become more and more important until the birth of a particular company branch that focus on the BCP. As pointed out by BMS and J&J, it's wasn't long before the division between IT processes and business processes. Companies wanted to split problems that come from IT system and the one coming from business operations, in order to have much control on the individual business processes. This change led to the birth of two different fields: Disaster Recovery and Business Continuity. Business Continuity Plans have always been included in the analyzed companies and they often comes from a Corporate initiative. The headquarter gives the structure of these plans that companies must follow and adapt them to the local situation. Novartis and Johnson & Johnson have experienced this step, indeed the request to implement a BCP came from the headquarter. A unique case is that one of BMS Company based in Rome, in which the plan has been previously structured by themselves and only after a while the Corporate gave them global templates.

It is interesting to note that generic guidelines are given by the parent company, but it's up to the branch to complete and adapt them to the local situation. For example, if the area in which the company operates has a dangerous earthquake situation it must structure specific evacuation plans. The templates given by the Corporate should be integrated in order to be suitable for the local situation. It is not enough a plan for people evacuation (it is not important if due to floods, earthquake or fires), but also a plan for business continuity is required. An alternative plan may be included also when business activities are made with external companies.

I would like to report a curious event that has as main character the American multinational corporation General Motors Company. General Motors designs, manufactures, markets, and distributes vehicles all over the world. Following the Fukushima earthquake in Japan in 2011, General Motors Company did not succeed in delivering vehicles for 15 days cause a component of airbags was made at Fukushima. The Japanese company stopped temporarily its production after the earthquake and the General Motors was forced to stop its vehicle delivery too. Fifteen days of non-delivery because a plan b for that component was missing. From this example it is easily understandable how a little lack can create a great loss for the company and how local situations should be carefully analyzed. Hence, it is comprehensible why the parent company gives only generic guideline of the BCP that have to be completed and adapted to the branch local situation.

Business continuity plans have always been part of large multinationals, but recently they have gained a very valuable place in the company's business strategy. It is also due to the globalization which makes every activity more susceptible to global issues. Large multinationals want to have a better control on each company and so they not only have divided IT setbacks from operational business problems but they also required that each branch has its own BCP.

4.3 PANDEMIC KNOWLEDGE

In addition to the search for the birth of the BCP in each of the previous companies I was curious to know if their plans predicted and were ready for an event like the Covid-19 pandemic.

The answers to my question have shown that a BC plan does not strictly require the forecast of every possible event. It is enough that each of the different business functions know how to react to an unexpected interruption.

Obviously the Covid-19 pandemic has been a strong and worldwide event that suddenly hit companies. Even if the companies analyzed have implemented a BCP before the advent of the Covid-19, they could not have forecasted a particular situation like the one that the world has experienced.

As reported by the “Head of government and public affair” of 3M Company *“the Covid-19 pandemic has been a surprise. Although 3M produces and sells surgical masks and so it has experienced situation like the SARS epidemic, the Covid-19 has been an unusual event that have also had an impact on the workplaces. We have never experienced such a situation. We have always taken into consideration an explosion or a fire at the plant as well as reputational problems, a scandal in the United States or a factory closing a production line. I have never experienced a global and worldwide pandemic of this importance, it caught us by surprise, but not unawares since we already had a structured BCP ready to be activated. However, we had to use utmost watchfulness to deal with this event”*

In the BMS case it has an ordinary emergency plan for earthquake, flood or pandemic situations. The reason is not important since the valuation is based on the fact to not being able to go to the office. Pandemic was included in the BC Roman Plans, but a specific plan was not structured. It was considered a really low probability event and so a great work has been done by the BCP core team to align the business activity with the difficulties created by the pandemic. As well as BMS Company, also Johnson & Johnson, Novartis and 3M BCPs included different reasons for business interruptions. Pandemic was mentioned in the BCP but, in any case supplement actions have been added to the plan. Indeed, Johnson & Johnson as well as other companies, created a precise Crisis Management Team that uninterrupted reviewed the situation and that was continuously in contact with the parent company for updates. In order to have a quick response to difficulties these companies had already a structured BCP. In this case the governance and coordination of the plan can make the difference. In the next paragraph we are going to view from which people the BCP is managed in each of the companies studied.

4.4 BCP GOVERNANCE STRUCTURE AND ROLES

A BCP is managed by the Business Continuity Management (BCM). As the reader already know, the BCM can be also called Core Team or Crisis Management Team (CMT), it depends on case to case.

However, the governance of a BCP is of primary importance, especially when a crisis occurs. A fast response needs a well-organized governance plan structure, so during interviews I inquired into the governance of these plans and the role of each member inside a BCP.

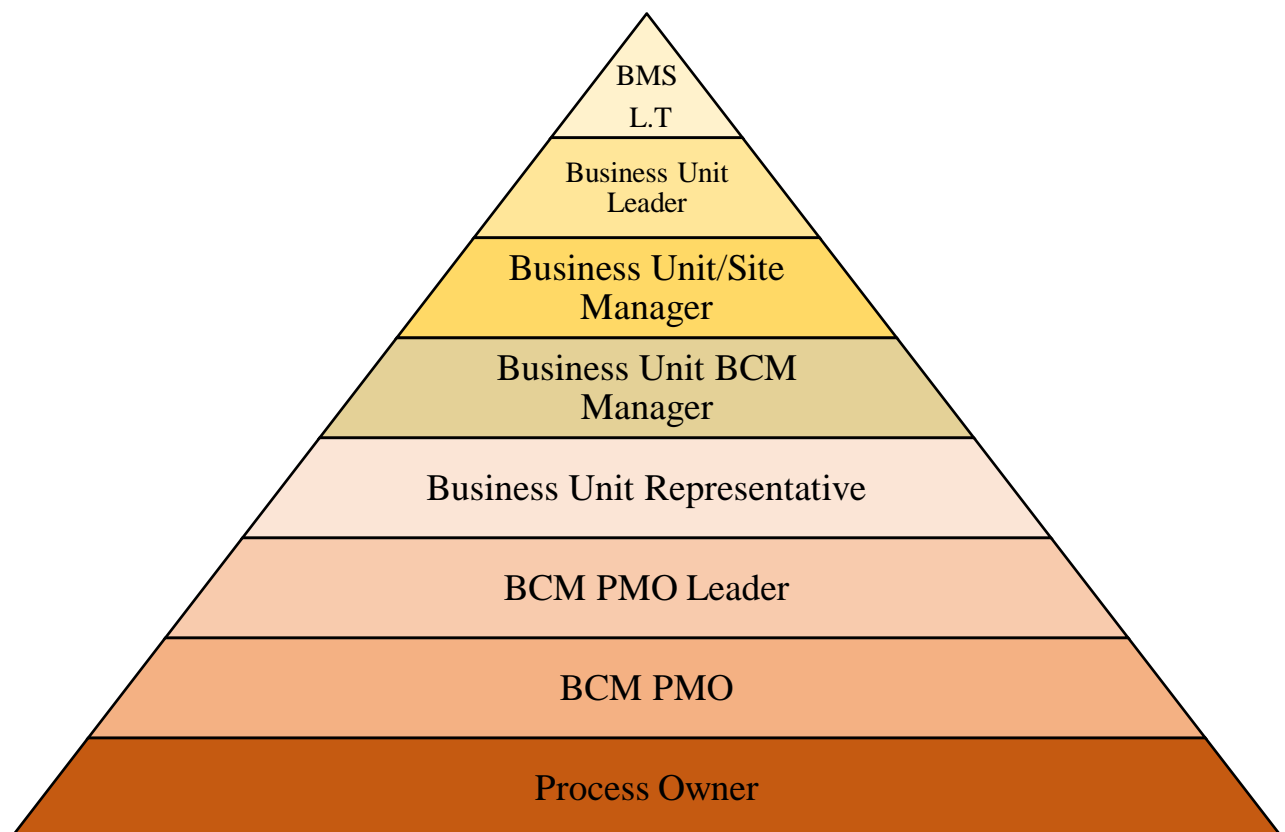
- What is the governance of a BCP and which are the roles inside the BCM?

Bristol Myers Squibb:

The parent company asked BMS Rome to create 8 levels in the BCM governmental structure.

The Global governmental structure of BMS Business Continuity Management is the following:

Figure 4.1: Business Continuity Management Global Organization:



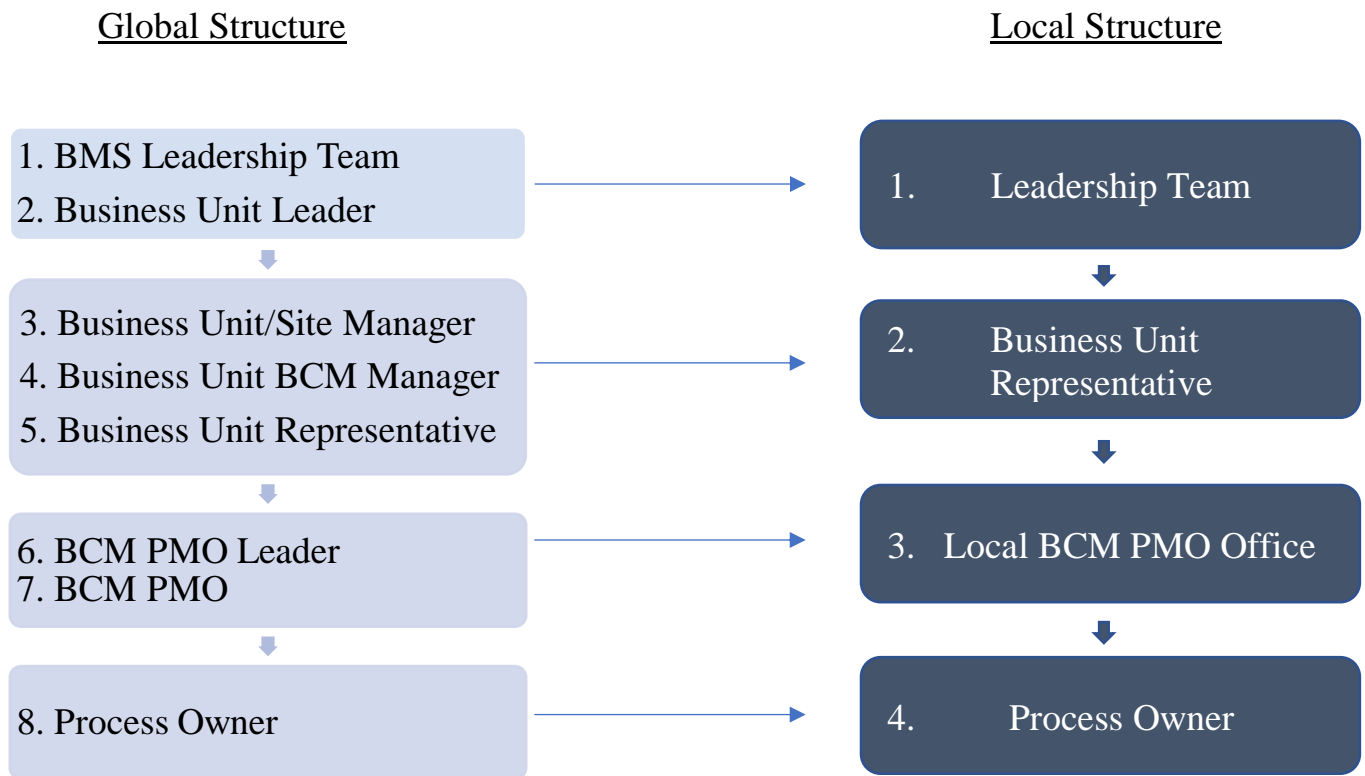
[Source: BMS interviews]

The above is the BCM structure of BMS especially for big and complex entity, such as manufacturing sites. The acronym BMS L.T stands for Bristol Myers Squibb Leadership Team, that is the team at the top of the pyramid.

Due to the fact that Bristol Myers Squibb Rome is a commercial branch, they decided to adapt the global structure to the local context.

Below I have given a summary table of the action taken by BMS Rome, later we will analyze the reasons for these changes.

Figure 4.2: BCP Global/Local Structure BMS



[Source: BMS interviews]

Although the eight governmental levels have been simplified to four, the BCM structure has not been changed. The first local level is represented by the leadership team that gathers both the leadership team (Financial Director, General Manager, CEO, Directors.) and the business unit leaders. The Leadership Team occupies the apical position in the hierarchical pyramid and it is the first to be activated in emergency situations.

The third, the fourth and the fifth global levels have been gathered to “Business Unit Representative” level in the local branch. Site Managers, BCM Managers and Units Representative have been simplified to a single person represented each Business Unit (HR, clinical trials, HSE.). In addition to it, the “BCM PMO³⁸ Leader” and “BCM PMO” are represented by two people in the local BMS entity and, unlike the global structure, there is no need for one to be the leader of the other. The PMOs are activated by the Core Team (Leadership Team) if the situation requires it. Once the PMOs are activated, they have approximately 40 people ready to fill the gap of the operating part. These people are trained for carrying out the process affected and each of them has a replacement in case of impossibility of operating. Indeed, as the BMS PMO reported: “These *people are*

³⁸ Project Management Office.

usually divided into primary and backup (alternatives) role. If the primary people have some difficulty, the secondary or backup people are called upon. The activated processes identify those that are the fundamental functions that must work to run the company. Therefore, analyzing the core processes you can build your business process and understand how many people it needs” Furthermore “Initially the PMO role was a management role. We were in charge of compiling all the documentation and follow the developing situation. Nowadays the situation has changed because the responsibility is of the company and it is the General Manager the person who decides when and why to activate the BCP. So, we facilitate the whole network of people working on the BC, but each group of people for each process has the responsibility to keep its continuity plan updated.”

Indeed, the Global BCM governmental structure seems to be overly complex for the local situation. Too many levels, hierarchy and too many people did not fit well to the local commercial branch. For this reason the Leadership Team of Bristol Myers Squibb of Rome proposed the structure analyzed and the Global accepted the changes.

A fast and effective response needs a structured and quick governance. Too many roles and hierarchy levels might make the reaction slower.

According to the Country CFO of BMS: *“A BCP works if their leaders are in the organization top positions. It means that the responsibility must be taken by the General Manger and the Leadership Team (or Board of Directors). In some companies the BCP was underestimated by the General Managers and other leadership members. It was thought that Business Continuity Plan is something that the CFO should do, but it’s not. Indeed, a BCP works if there is total responsibility of the GM as well as other leadership members. It is too easy to get leadership members involved when the crisis has already happened. The General Manager has to be involved from the first steps of a BCP (testing, analysis, evaluation..) and not only when the emergency situation occurred. I think, in order to build an effective BCP, it is essential to have a strong sponsorship and endorsement of the leadership team.”*

Novartis Italian Affiliate:

Novartis core team is called NEM and, as the “P&O Manager & Head of Industrial Relations” explained, it is the first to be activated during an emergency. People that are necessarily included in the NEM are the Chief Executive Officer (or the person who replaces him that, in the current situation, is the “Business Continuity Plans Leader”), people from HSE, the doctor in charge of facilities and people who are responsible for ensuring the safety of both workers and facilities. This is the BCP core team of Novartis Group that is represented by 15 people of different roles.

After which, the team expands according to the needs. The company involves all the people who could be key points, both in terms of skills, role, communication and perception of what is happening.

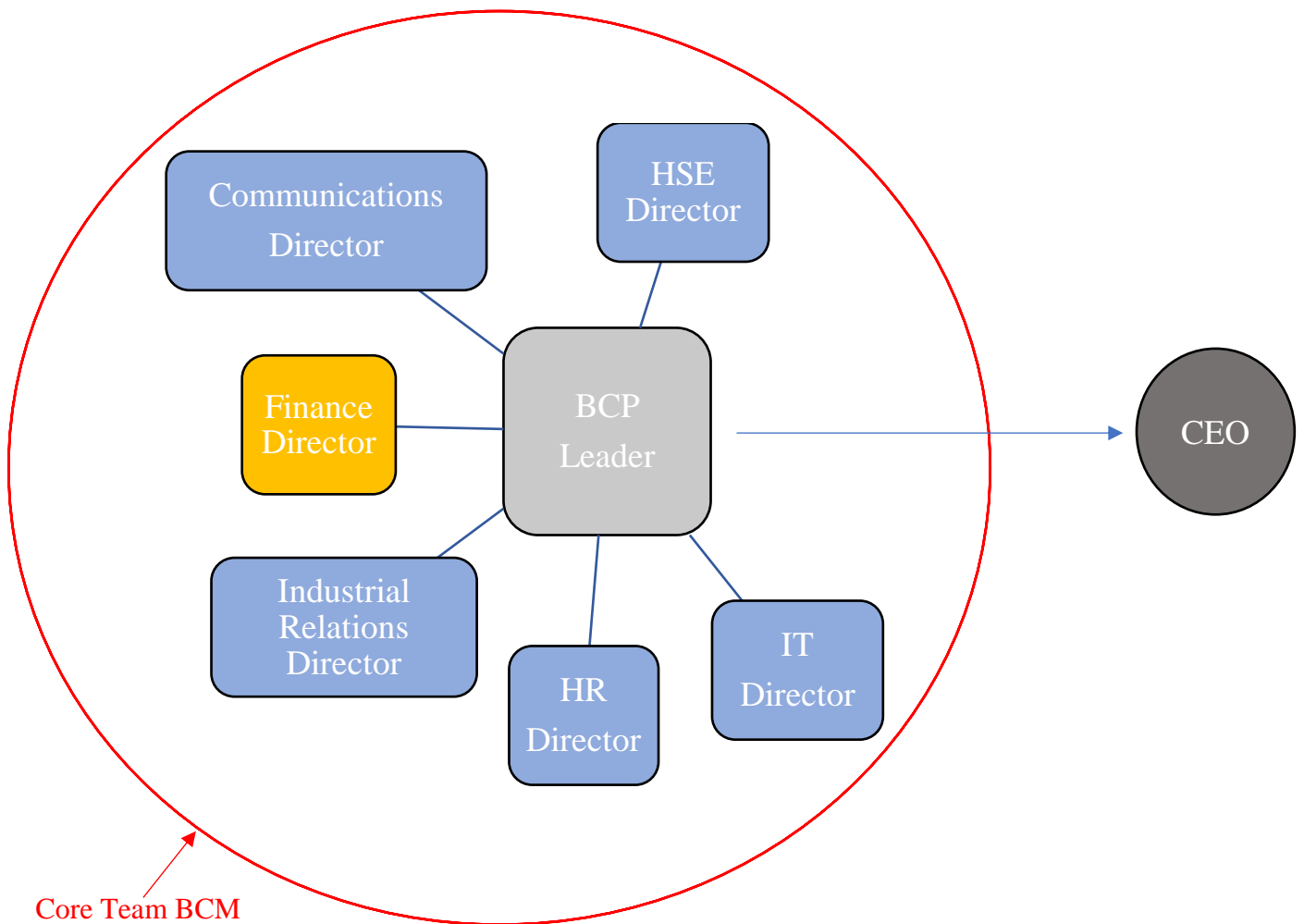
The “Business Continuity Plan Leader” is the head of the task force and he must ensure compliance with technical protocols. It is a pre-assigned role, as everything must be ready in preparation for the emergency. An emergency plan is already predefined, then it is adapted to the current situation. Some roles, such as communication or human resources, are permanent members of the BCP.

On the other hand, the Finance roles were not part of the Core Team initially. Afterwards, all the positions reported to the CEO have been included in a wider context, and so also the responsible of the financial area.

The “Head of Industrial Relations” underlined that *“Novartis Group tried to keep a common line at group level. The pharmaceutical companies have an important peculiarity also from a trade union point of view. Therefore, a continuous and constant communication is required to the people who deal with union relations in the company. I have experienced the trade and engineering sector and it was absolutely not like that. There are job roles in the pharmaceutical companies that are not usual, such as the medical department or the medical representatives³⁹, and that in this situation were exposed to a really high risk. Indeed, we tried to be coordinated and to have a fast response to each problem”*

³⁹ The Medical Representatives (in Italian “Informatori medico-scientifici) are sellers who support the doctors both when purchasing the drug (giving them information, pros and cons and side effects) and in the action phase (often staying with the doctor in hospitals, for this reason they were exposed to great danger of contagion).

Figure 4.3: NEM Structure Novartis Italian headquarters



[Source: Novartis Interviews]

Furthermore, during my interview with the “BCP Leader” of the Italian Novartis Group he was happy to pointed out how: *“during emergency situation, as the Covid-19 has been, professional talent within the organization are discovered and rediscovered. Managerial and operational skills that were hidden stand out. In this emergency situation these personalities emerge with strength, and we need them. The advantage is to have a sense of group, a feeling of belonging and teamwork which goes hand in hand with skills and capabilities that are required in emergency situations. I am actually managing approximately 60 people in my team, and even if some of them had a totally different position, they have been included because I knew they owned certain abilities and competences. As a matter of fact, their skills are helping us to manage the situation”*

Johnson & Johnson Rome Affiliate:

The Leadership Team is at the top of the plan and it is the first to be informed of the emergency in progress by the emergency department. The leadership team is represented by the General Manager and, the latter, together with the President and the Communications Director, are the people in charge of public communications. However, the General Manager bears the ultimate responsibility for the plan.

In addition to them, there are other two essential roles that are performed by the HSE Head, who must take care of both plan's policies and the people safety, and the Human Resources Director, who must ensure, even in these emergency situations, the care of people.

Hence, the HSE Director and the HR Director are the first people to be involved from the General Manager. These positions are therefore the ones that have a greater importance in an emergency situation.

The CMT is composed by the Leadership Team, therefore by the directors and the General Managers. After which, the BCP Coordinators are all the managers who work actively through the resolution of the problem and inform their team of the current situation.

According to the “Deputy Managing Director” of J&J: *“The set-up of this team depends also by the case. When it is a service, you cannot interrupt it, even if the customer is insolvent. Clearly, our public service cannot be interrupted for any case. Even during exceptional circumstance, such as an earthquake or a pandemic, the company must guarantee the continuity of services and the delivery of products. I think that in our industry the BCP cover an even more important role than in other sectors, since we perform a life-saving service.”*

The Crisis Management Team is responsible for providing overall guidance during response and recovery activities.

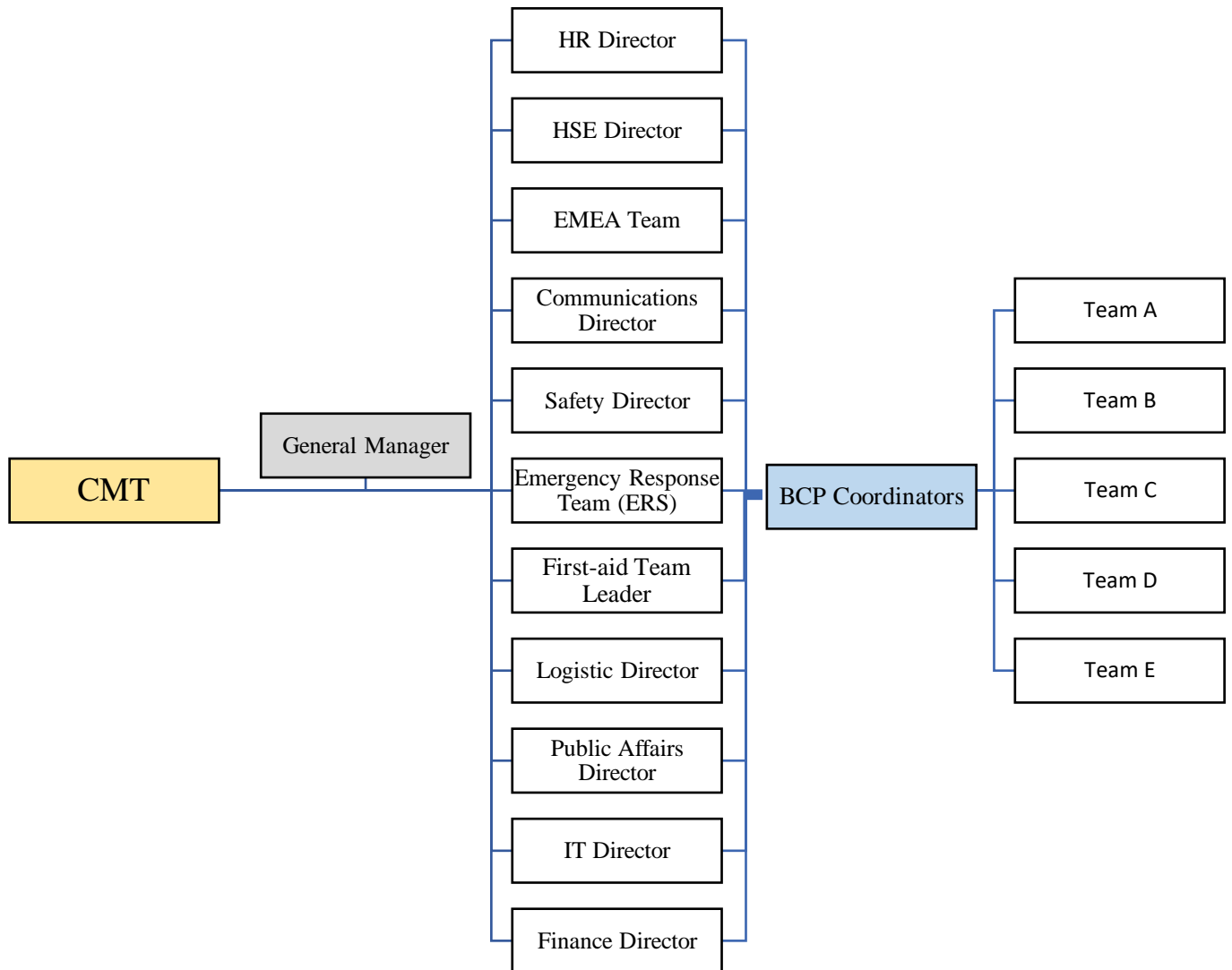
First notification from the ERT (Emergency Response Team) should go to one of the CMT Leaders.

The Crisis Management Team, at its discretion, will select and convene a Site Support Team (Action Team).

The Company Crisis Management Team will own the overall plan. However, each segment of the plan will be the responsibility of an individual department and its key managers

Each person designated for being a member of the CMT has a replacement, indeed, if the primary person is not available, the person designated as alternative takes its place and the plan keeps on going.

Figure 4.4: Johnson & Johnson Medical Italy CMT Structure



[Source: Johnson & Johnson interviews]

4.4.1 Considerations

The BCP is a highly structured process and it needs a precise and accurate governance. The Core Team is composed by qualified and specific people who not only structure a plan to be ready for a possible crisis but also take the responsibility for the project. The Core Team included advisors that support the General Manager in the choices to be made.

The structure of a BCP also depends on the location where it is implemented. From the BMS experience we understood that a production site need more levels of governance respect to a commercial site.

During an emergency, the flexibility and nimbleness of a plan makes the difference. All the roles should be previously determined and be ready to face the difficult situation.

Obviously, a BC plan is something the companies hopes to never have to activate but, its occupy a primary importance role in business continuity.

General Managers, Financial Directors, CEOs and all the Directors should be involved from the first steps and should supervise the plan in all its actions.

The governance structure of Bristol Myers Squibb reflects all these values. The Leadership team of BMS, composed by the General Manager and all the Directors involved, is at the head of the Business Continuity Management. They delegate the Business Unit Representatives and the PMOs to activate the people designated to carry on, at an operative level, the business continuity. All the actions taken by the operative people are reported to the Core Team, that as we will see in the next pages, it meets daily to take stock of the situation.

Differently from the CMT governance structure of BMS and Johnson & Johnson, Novartis Italy did not include the Financial Director in the first steps of the BCP birth. At the beginning the Financial roles did not participated in the Core Team. Then, all the positions that report to the CEO have been included in the plan, and thus the head of the finance area as well.

In my opinion, all the company key roles have to be included in business continuity plan all along, from its birth to its activation.

Although the main company roles are involved during the activation of a BCP, their presence should also be necessary during the construction of the plan, and so from its first steps.

As previously underlined, the endorsement and support of all company roles it is essential in order to build a more effective BCP.

Additionally, as we have seen in the government structure of all the three companies analyzed, the roles that revolve around the CMT report to the CMT Leader or Core Team Leader. The latter has the total responsibility for the project.

Most of the times the Core Team Leader is represented by the General Manager or the CEO.

With the objective of having a quicker and simple flows of information the person at the head of the company is also the person at the head of the BCP. In this way, more communication steps are skipped and a fast response can be reached. An exception is represented by Novartis Italy in which the CEO is outside the BCP

Team. The head of the project is taken by the “Task Force Corona Virus Leader”, that is represented by the Deputy Managing Director, who is in charge of supervising and managing the plan and reporting all the action taken to the Italian CEO of Novartis.

However, every companies analyzed included in its BCP all the most important organizational functions. HR, HSE, IT, Public Affairs, Communications, Industrial Relations and Finance Directors and so on, are all part of the Crisis Management Team. The more roles are included in the BCP Board the more point of views is possible to obtain, and this is an important consideration not only when structuring a BCP but also when activating it.

4.5 IMPLEMENTATION AND SIMULATION OF BUSINESS CONTINUITY PLANS

In this paragraph I focus on how companies implemented and tested the plan before the beginning of an emergency. I want to give general knowledge on the building and action stages of a BCP before going straight to analyze the Covid-19 emergency.

The essential phases of a BCP, described in the second chapter, are the pillars for the construction of business continuity plans. Companies should pass through the analysis of critical processes and activities before launching a BCP.

The plan should be tested earlier not only to evaluate whether it works or not, but also to have the possibility to correct and enhance it before the emergency occurred. What are the stages of action and how the effectiveness of a plan is tested before an emergency are critical points.

Once established the governance of a BCP, the actions chosen by the head of the plan, with the support of Directors and Advisors, start different stages that lead to the resolution of the problem.

I wondered how companies would activate this plan in case of emergency, what are the building stages of a BCP and what are the procedures that are carried out as soon as the emergency happened.

I have deepened these aspects especially with the help of Bristol Myers Squibb and Johnson & Johnson company, from which I have received thorough information that will help us to understand the pillars and the procedures to build and activate an effective Business Continuity Plan.

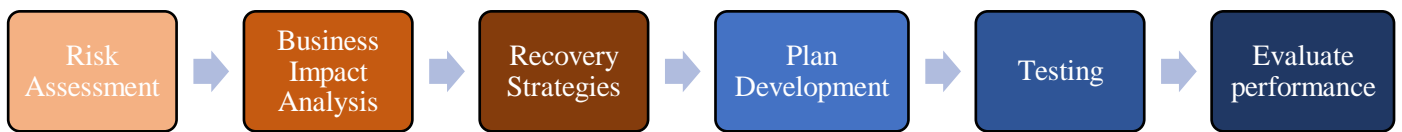
Bristol-Myers Squibb Rome Affiliate

We already know that BMS has made a simplification of the structure given to it by the Global. After the comprehension of this passage it is possible to analyze what phases have been conducted to arrive at the culmination of a BCP.

The company carried out the assessment of critical processes through the well-known Risk Assessment and Business Impact Analysis. After that, a RACI⁴⁰ that identifies the responsibility for each procedure has been done. In the underlying graph are reported the phases from the Risk Assessment to the Performance Evaluation that have been carried out by BMS.

⁴⁰ The “Responsible, Accountable, Consulted and Informed Matrix” describes the participation by various roles in completing tasks for a project or business process. It is used for clarifying and defining roles and responsibilities in cross-functional or departmental projects and processes.

Figure 4.5: BMS process for the implementation of a Business Continuity Plan



[Source: BMS Interviews]

As the reader already know, through the risk assessment the company aims to identify the critical processes inside the organization. Those processes that could implicate serious consequences if interrupted.

As reported by the PMO of BMS: *“First of all, we have defined the critical activities function for the Italian branch business and for the Italian context. An important aspect is that often our definition of critical activity does not match with that of the Global, which also takes into account regulatory references. Giving you an example, the pharmacovigilance activities for a plan are not crucial, while it is for our commercial affiliate. That because it is a legal requirement as well as the management of complaints or quality claims on a product. There are law regulations that state the company must maintain certain standards, even during an emergency situation. We have also included all the activities that allow patients to receive the drug daily. Therefore, we have marked as a critical activity, for example, logistics, or clinical trials, since we also have to give them the drugs required. Then, there are activities such as the admissions and participation in tenders, which is also a Global issue, and therefore entered in our plan automatically.”*

Therefore, the critical activities have to be inspected year by year. Identification of critical activities is asked to all the personnel of the company. At the time that a critical activity is reported by a team, or a member of a team, it has to fill out some documents, such as the risk assessment and the BIA. The person who is part of a certain activity, will surely know better it than an external. On the documents is reported the impact of that activity and levels of risk and time. How long can you work without doing that activity? In case you have to carry on that activity within “x” time, how many people do you need? The assessment also includes the implications, such as interruption of activities, inaccessibility of the structure, people in danger or loss of electronic systems.

If unluckily an earthquake occurs, and part of the building is destroyed, all the people would have no access to offices. Everyone will work at home, with all the necessary tools made available. Thereafter the destroyed area of the building will be rebuilt and secured. At this point the General Manager can decides for the reintegration of specific departments firstly. Those one, according to the BCP, have a more important role in that moment for the recovery of the activity. Hence, the crisis plan is structured to ensure flexibility and therefore applicable to all the emergencies that may occur.

Some critical activities definition for BMS Rome Affiliate are:

- Need to reach consumers/patients in order to ensure the service (i.e. distribution, clinical trials..)
- Meet legal requirements (i.e. pharmacovigilance, medical sensitivity, complaints..)
- Manage activities that could impact heavily on financial or the image of the BMS Affiliate

Afterwards, the Business Impact Analysis (BIA) is performed in order to find the right *modus operandi* for each of the critical aspects pointed out by the risk assessment. Through the BIA, Bristol Myers Squibb Company decided how many people are needed in order to maintain the continuity of a certain process and which tools are required to make this people work (laptop, wi-fi..).

The Business Impact Analysis is particular and different for each process and are the people who are part of a certain process that fill in the BIA. It means that they give indications and information on how that process can be made continuous in every situation. A BIA should be made for each critical process. Since the regulatory process does not rely on internal servers but on AIFA sites, in this case there is no link with disaster recovery.

The time of reasoning is based for 6 months, therefore the job from house could be made for 6 months as well as the job in an alternative site. As it is possible to understand, there is a certain complexity behind this line of thinking.

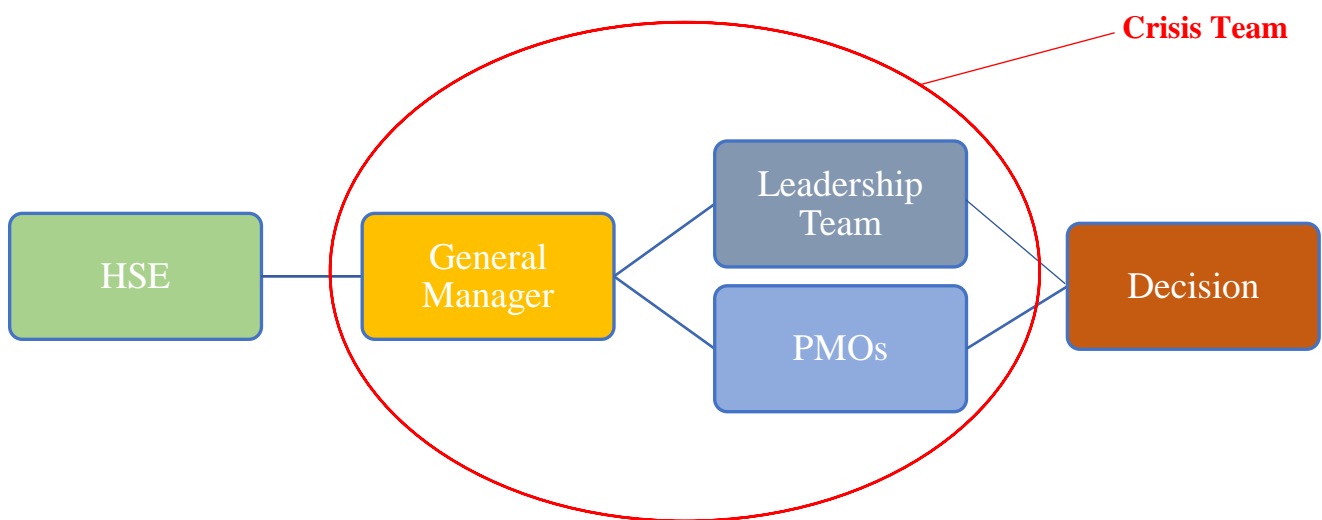
The Recovery Strategy follows the BIA in the development of a master plan. The key role of a company recovery strategy is to quickly identify and address the sources of its problems that may lead to its collapse⁴¹. Thereafter, passing through the Plan Development, the conclusive plan is established and written.

At this point, Bristol-Myers Squibb tests the plan to increase its effectiveness. As reported by the people interviewed: *“BMS carries out two types of simulations. On one hand, the company performs home simulations, it means that on a certain day we warned the people included in the BC team about the simulation. Assuming that the offices were not available for some days, people are asked to work from home. At the end of the test we verify that the work has been carried out without problems or complications. If not, we work towards the resolution of complications, after that we repeat the test. On the other hand, we carry out the test not at home but in an alternative site. In our case, the company had an alternative site at Anagni. It was a production site that had the possibility to become an alternative workspace. Therefore, the business continuity is also tested in the alternative site. Another model of simulation is the virtual one. For example, it is assumed*

⁴¹ Corporate Finance Institute (2015 to 2020 CFI Education Inc.) Company Recovery Strategies. <https://corporatefinanceinstitute.com/resources/knowledge/strategy/company-recovery-strategies/>

that you smell something burning from an office area and, indeed, the dining hall is igniting. What would you do? At this point the HSE people intervene, as well as the General Manager, and evaluating the situation, decide whether or not to activate the BCP. Therefore, we carried out a RACI indicating which people are responsible for managing it, which people have to be informed and which people have to be consulted”.

Figure 4.6: Information chain of BMS: inaccessibility of the building



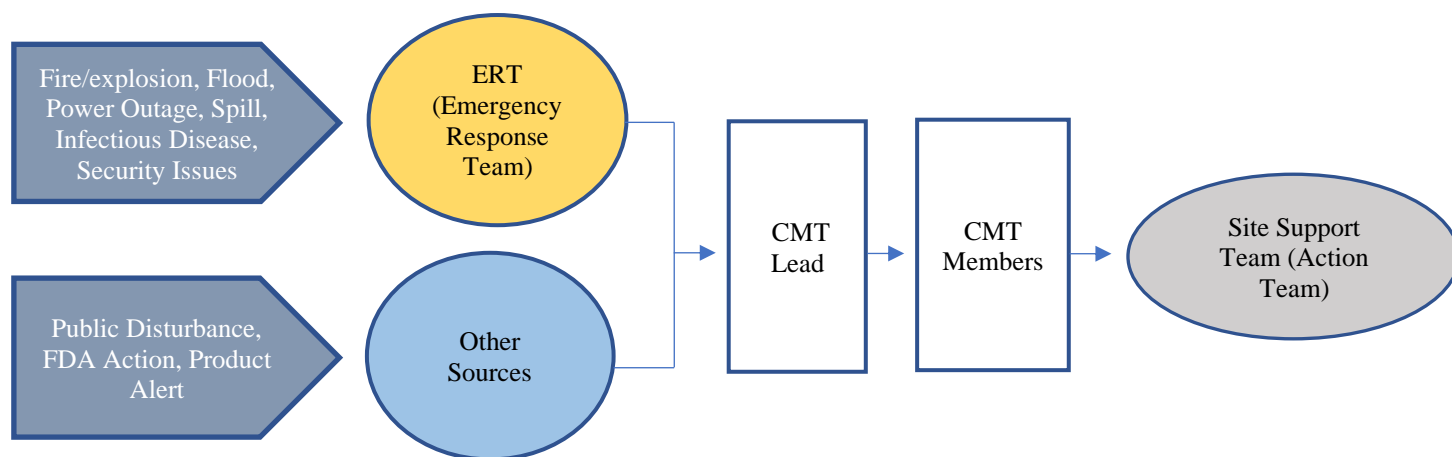
[Source: Author]

The HSE Team ("Health & Safety Executive") is likely to be the first one to have noticed of a facility problem. The HSE Team quickly informs the General Manager who calls the Crisis Team to meet. So, the GM, the Leadership Team and the PMOs meet to analyze the information given by the HSE manager and, after having evaluated the circumstances, decides whether to activate the BCP or not. Once the plan is launched, all the people involved are activated. People included in the BCP are required to have their computer and business phone always with them. The Crisis Team also evaluates whether to make people work from home or at an alternative site. The people responsible for procedures are indicated in the list of critical activities and the contact numbers are reported for each of them. People can have a primary role or an alternative role, in the case in which the primary person is not available.

Johnson & Johnson Rome Affiliate

The Crisis Management Team is responsible for providing overall guidance during response and recovery activities.

Figure 4.7: Emergency Notification: Response Team J&J and Communication steps



[Source: Johnson & Johnson Interviews]

From the chart it is possible to understand the communication steps undertaken by Johnson & Johnson after an emergency notification. First notification from the Emergency Response Team or Other Sources should go to one of the CMT Leader and then, the remaining members of the Crisis Management Team as well as key managers from the impacted departments are also informed. The Crisis Management Team should meet at a strategically convenient location, either onsite or at a nearby J&J facility. At this point, a plan for managing the event is developed and a Site Support Team is selected and convened. This group will be responsible for providing support to, and coordinating requests for resources from, the CMT and business units.

In addition to it, each department and Team has a list of main actions that must be carried out to recover normal operations in certain time.

The phases of the Crisis Management Team are reported in the underlying workflow. The action to be taken by the CMT are periodically divided and each section includes specific processes and reviews.

[Figure 4.7: J&J CMT Actions]

CMT - WITHIN 12 HOURS	
Action Items	Review Situation
<ul style="list-style-type: none"> • Assemble Crisis Management Team members • Receive initial briefing from the CMT Leader/EMC, specifying the nature of the incident and all relevant details • Receive initial briefing about status and availability of the different Departments staff from HR • Receive initial assessment of status of facilities from Facility Management • Inform all departments about incident, give all relevant details for the good execution of their BCP and give first directives • Collaborate with Communication Dept. and HR to define a message to contact family members of those injured or deceased • Communicate with Corporate to define official positioning of Company about incident and inform Communication Dept. • Collaborate with Communication Dept. to define internal and external (including a Media brief) communication plan • Supervise the good execution of communication plans • Get advice from Legal on liability implications of incident • Get advice from Legal on liability implications of internal and external communications (specially statements made to Media) • Demand from departments regular and complete information about their activities, initiatives and results • Establish regular communication with Corporate • Define priorities and needs for operational recovery process in terms of equipment, locations • Instruct Facilities to make a graphical document of damaged areas for assessment and documentary reasons (to take photos/video of damaged areas) • Receive from IT information about application status 	<pre> graph TD A[Assemble ASAP] --> B[Receive briefings from CMT Leader, HR and Facilities Management] B --> C[Inform all departments about details of incident] C --> D[Collaborate with Legal/Communication department to establish company communications] D --> E[Begin reception of regular briefings from all departments] E --> F[Communicate with Corporate] F --> G[Assess operational needs] G --> H[Instruct Facilities to take photos/videos of damaged areas as part of assessments] H --> I[Receive briefings about application availability from IT department] </pre>

CMT - WITHIN 24 HOURS

Action Items	<i>Review Situation</i>
<ul style="list-style-type: none"> • Merge and refine damage reports from all departments, getting a global overview of the situation • Evaluate the different recovery options and decide on course of action depending of the global overview of the situation • Get advice from Legal for any liability implication from contracts with customers concerning deadlines, compromised services, deliveries 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Assess Operational Needs, Refining Initial Damage Reports</div> <p style="text-align: center;">↓</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Evaluate Recovery Options and Decide on Course of Action</div> <p style="text-align: center;">↓</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Get assessment from Legal on liability Implications from contracts</div>

CMT - WITHIN 2 DAYS

Action Items	<i>Confirm Process / Equipment Compatibility</i>
<ul style="list-style-type: none"> • Develop resources plan for onsite and offsite personnel, equipment, facilities and systems • Ensure and favor communication and collaboration between Department heads • Develop and refine recovery plan and validate it with the different functional areas affected by it • Embody the recovery plan in a "White Paper" available for referencing, documentation and communication purposes • Communicate with the different Departments to validate recuperation strategy 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Assemble Needed Resources</div> <p style="text-align: center;">↓</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Ensure Department Heads are Interacting</div> <p style="text-align: center;">↓</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Prepare "White Paper" on Current Status and Recovery Strategy</div> <p style="text-align: center;">↓</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: auto;">Seek Board Approval of Full Recovery Strategy</div>

CMT - WITHIN 5 DAYS

Action Items	<i>Start Process Transfer to Alternate Workspace Sites</i>
<ul style="list-style-type: none"> Update "White Paper" with all pertinent changes of strategy 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Update Paper as Appropriate</div>

CMT - WITHIN 10 DAYS

Action Items	<i>Confirm Recovery Strategy</i>
<ul style="list-style-type: none"> Review Recovery Strategy, and make any pertinent modifications and updates Receive from Finance department first estimation of financial impact Start collaboration with Facility Management for a permanent recovery solution: Get support from Facility Management for: <ul style="list-style-type: none"> ✓ Study and evaluation of the facility reconstruction needs and designs. ✓ Evaluation of different alternate locations leasing options Start to collaborate with other Dept. in the study and evaluation of the reconstruction needs and designs. 	<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Review and Approve Updates in Recovery Plan</div> <div style="margin-bottom: 10px;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Receive first estimation of financial impact from Finance</div> <div style="margin-bottom: 10px;">↓</div> <div style="border: 1px solid black; padding: 5px;">Kick off study on permanent recovery solution</div> </div>

CMT - WITHIN 15 DAYS

Action Items	<i>Support Alternate Sites During Process Transfer</i>
<ul style="list-style-type: none"> Update "White Paper" with all pertinent changes of strategy Evaluate evolution of situation and make estimation of progress. Update planning (times and resources) as needed Receive from Facility Management the different options to long term temporary site. Make a decision about the long term temporary site 	<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Update White Paper as Appropriate</div> <div style="margin-bottom: 10px;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Schedule and Conduct Critical Reviews of Progress to Date</div> <div style="margin-bottom: 10px;">↓</div> <div style="border: 1px solid black; padding: 5px;">Validate long term temporary site</div> </div>

CMT - WITHIN 30 DAYS

Action Items	<i>Complete Full Activation of Alternate Workspace</i>
<ul style="list-style-type: none"> • Receive final estimation of financial impact of the incident from Finance • Review and approve plan for Data Center reconstruction • Receive from Facility Management the different proposals and associated estimates to reconstruct the facility • Validate with Finance department and Facility Management funding strategy for facility design and construction • Consult with Corporate about facility reconstruction or alternative options • Make final decision about reconstruction of facility • If facility reconstruction has been decided: approve final designs for permanent facility and utilities. 	<pre> graph TD A[Advise Board of Status] --> B[Complete study on permanent recovery solution] B --> C[Validate funding strategy for facility reconstruction] C --> D[Make a decision about reconstruction of facility] D --> E[Approve detailed designs for permanent facility and utilities] </pre>

CMT - WITHIN 60 DAYS

Action Items	<i>Monitor Activities at Permanent Location</i>
<ul style="list-style-type: none"> • Concentrate activities in the implementation of the permanent recovery solution 	<pre> graph TD A[Shift attention to permanent recovery solution] --> B[Return to Business as Usual if appropriate] </pre>

CMT - WITHIN 90 DAYS

Action Items	<i>Return to Business as usual</i>
<ul style="list-style-type: none"> • Keep attention and monitoring of activities and processes until final recovery 	<pre> graph TD A[Monitor functional group activities, reconstruction and/or final recovery efforts] --> B[Business as Usual] </pre>

[Sources: J&J Interviews]

As it is possible to understand the Crisis Management Team phases are well established in order to solve the problem and restore the situation as quickly as possible. The workflow of the CMT involves other departments and functions such as, Communication and Public Affairs, HR, Customer Service, IT, Supply Chain, Warehouse, Legal and Finance. Each of them is required to have on own plan that describes the action to be taken following an emergency. The sum of individual plans gives the global plan.

Additionally, I reported a list of the recommended steps to be taken after an emergency notification:

Within 2 Hours:

- Establish contact with the site Crisis Management Team and verify the availability of the spokespersons for internal and external.
- Establish contact with Legal, HR and EMEA and Global Communication and Public Affairs teams
- Contact Crisis Communication External Agency and establish media approach
- Craft an initial statement for internal and/or external (*concern, safety, facts*)
- Notify security to put media calls through to Crisis Communication Agency

Within 4 Hours:

- Create Questions &Answers and provide to Crisis Management Team Lead
- Check with IT the availability of the internal communication channels
- Engage with Company Spokesperson or Train spokesperson for contact with the Media
- Contact Customers, Third-Party Stakeholders, Business Partners, etc.
- Contact employees to confirm status
- Follow decision pathway to decide who will make statements of the press

Within 6 Hours

- Draft initial investment community piece
- Contact customers services in order to validate specific external messages
- Communication validate HR messages before informing employees to confirm status

Within 24 Hours

- Support business unit customer contacts
- Issue written press statements with facts (*personnel, business, environmental, future...back next day*)
- Prepare and hold a press conference (if appropriate)

Within 48 Hours

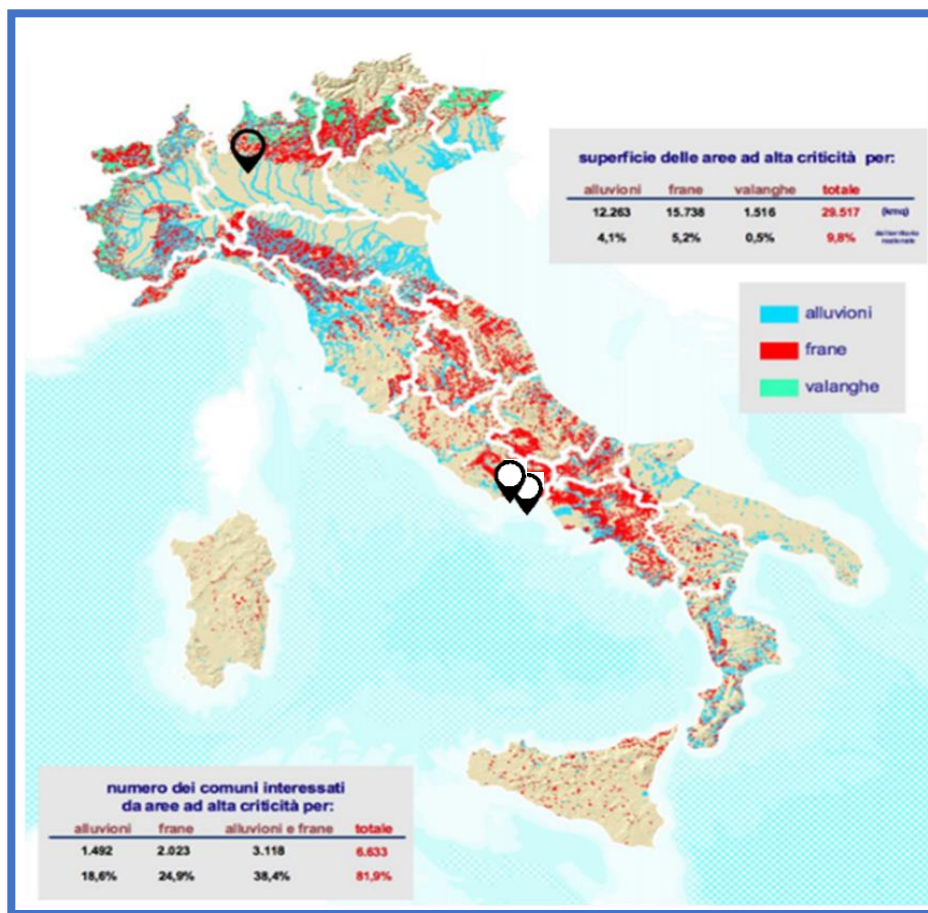
- Prepare updates for:
 - Crisis Management Team
 - EMEA and Global Communication and Public Affairs
 - Corporate team (for financial concern for example)
 - Managers & employees
 - Customers
 - Business Partners
 - Financial community (through financial department)
 - Third-Party Stakeholders (if appropriate)

These steps have to be reviewed each year and, moreover, it is necessary the annual updating of contacts and representatives, while every two years a simulation is tested. The test is based on an emergency situation, like could be a situation that expect the evacuation of the building. After the simulation, the performance is evaluated and, if necessary, the actions to improve the performance in that situation are took into consideration. Progressively, the BCP is enhanced according to the necessary requirements. According to “Deputy Managing Director” of J&J: *“Any simulation or crisis situation gives us the possibility to improve what we had not foreseen the previous time. Surely what happened during the pandemic will be reflected on the subsequent BCP and new steps will be added”*.

Anyway, the BCP follows some important phases and are carried out considerations of all the possible eventualities. Firstly, according to the “BCP Coordinator” of J&J, during the emergency response, the primary focus is on people and on the evacuation of offices. Secondly, the workflows by division have to be followed and the communications are activated. Then, each department knows how to recover the activity from 0 to 6 hours, 6 to 12 hours and so on. This is the Operation Recovery step.

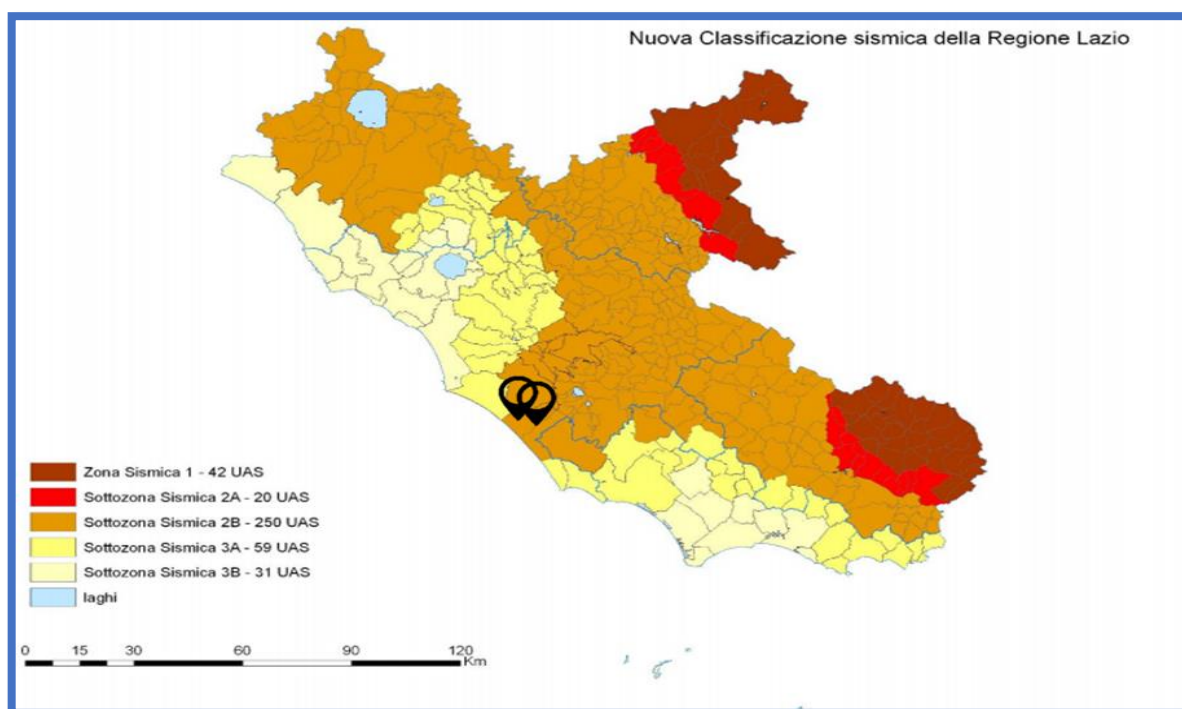
Furthermore, when a BCP is structured it is essential to have a Risk Analysis Report. Johnson & Johnson Medical Italy included in its Risk Analysis also the Milan, Aprilia and Pomezia offices. It is interesting to note that the company did a seismological analysis for each of its office areas. Additionally, there are other assessments on floods or fires impact as well as for legionnaires’ disease and other agents.

Figure 4.8: Seismic Risk Analysis



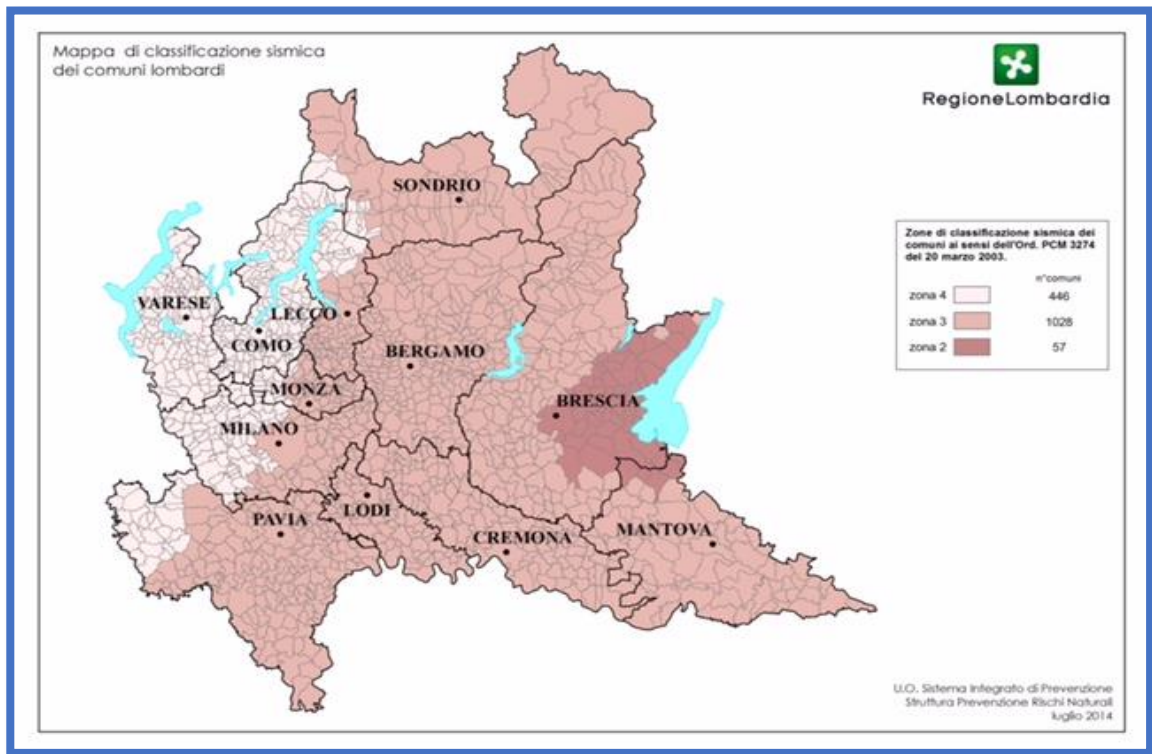
[Source: Johnson & Johnson]

Figure 4.9: Seismic Risk in Metropolitan Area of Lazio



[Source: Johnson & Johnson]

Figure 4.10: Seismic Risk in Metropolitan Area of Lombardia



[Source: Johnson & Johnson]

Seismic Area 2B: Zone with a medium seismicity risk, which could be subject to strong wobble.

Seismic Area 3: Zone with low seismic risk, which could be subject to moderate wobble.

Seismic classification and the risk is defined as the product of three factors: dangerousness, exposed value, vulnerability.

In seismology, the term "danger" is used to express the probability that a certain magnitude (or a land-based acceleration) occurs in a given geographic area within a defined time interval. Disease studies find a scientific synthesis that contributes to the whole scientific community, in the hazard maps, which express current knowledge in terms of long, medium- and short-term seismic hazard.⁴²

As the reader may have comprehended, there are several events that have to be taken into consideration. The alternative workspace is an essential consideration. It has to be something real and usable at any time. For example, for the Johnson & Johnson Rome Affiliate, a space that can be employed with the installation of printers, wi-fi, laptop and all the necessary tools, has been provided in a meeting room of a Hotel. It is not enough to identify the alternative workspace, but it is also necessary to plan the number of workstations you need. Some departments have to recover their activities as soon as possible and you have to provide them a workplace.

⁴² Bloggingterremoti. (2015) Centro Pericolosità Sismica. <https://ingvcps.wordpress.com/tag/centro-pericolosita-sismica>

Furthermore, Johnson & Johnson Medical Italy has identified a list of potential threats.

In the following table is reported a general list:

Table 4.1: Johnson & Johnson Potential Threats for the business

<i>Potential Threats</i>	Manufacturing/QA problems – product defects, recalls, tampering
	Service or marketing issues
	Regulatory problems – relabeling, warnings
	Liability issues related to adverse reactions, accidental misuse
	Cultural concerns or superstitions related to products
	Medical issues – adverse reactions, negative data
	Natural or unnatural disasters
	Environmental issues
	Safety or security issues
	Labor issues/disputes
	Personnel matters
	Community concerns
	Corporate issues
	Government initiatives
	Politics

[Source: Johnson & Johnson]

Another theme that I would like to underline is that, as reported by the “Procurement/Finance-Site Coordinator & User Manager and the BCP Coordinator”: *“the Johnson & Johnson business, the people safety and also the actions activated by the BCP are based on J&J Credo”*.

According to Johnson & Johnson *“The values that guide our decision-making are spelled out in Our Credo. Put simply, Our Credo challenges us to put the needs and well-being of the people we serve first. This was long before anyone ever heard the term corporate social responsibility. Our Credo is more than just a moral compass. We believe it is a recipe for business success. The fact that Johnson & Johnson is one of only a handful of companies that have flourished through more than a century of changes is proof of that.”*

Here is reported the Johnson & Johnson Credo:

“We believe our first responsibility is to the patients, doctors and nurses, to mothers and fathers and all others who use our products and services. In meeting their needs everything we do must be of high quality. We must constantly strive to provide value, reduce our costs and maintain reasonable prices. Customers' orders must be serviced promptly and accurately. Our business partners must have an opportunity to make a fair profit.

We are responsible to our employees who work with us throughout the world. We must provide an inclusive work environment where each person must be considered as an individual. We must respect their diversity and dignity and recognize their merit. They must have a sense of security, fulfillment and purpose in their jobs. Compensation must be fair and adequate and working conditions clean, orderly and safe. We must support the health and well-being of our employees and help them fulfill their family and other personal responsibilities. Employees must feel free to make suggestions and complaints. There must be equal opportunity for employment, development and advancement for those qualified. We must provide highly capable leaders and their actions must be just and ethical.

We are responsible to the communities in which we live and work and to the world community as well. We must help people be healthier by supporting better access and care in more places around the world. We must be good citizens — support good works and charities, better health and education, and bear our fair share of taxes. We must maintain in good order the property we are privileged to use, protecting the environment and natural resources.

Our final responsibility is to our stockholders. Business must make a sound profit. We must experiment with new ideas. Research must be carried on, innovative programs developed, investments made for the future and mistakes paid for. New equipment must be purchased, new facilities provided and new products launched. Reserves must be created to provide for adverse times. When we operate according to these principles, the stockholders should realize a fair return⁴³. ”

⁴³ Johnson & Johnson (2020) Our Credo. <https://www.jnj.com/credo/>

4.6 ACTIVATION OF THE BCP FOLLOWING THE COVID-19 EMERGENCY

In this section are analyzed the main procedures and actions taken by companies to face the current pandemic emergency. Four themes are analyzed and discussed in this section:

- ✓ Actions in response to the Covid-19 pandemic
- ✓ Critical activities that need to be protected during the emergency
- ✓ Key elements to evaluate the efficiency and effectiveness of a BCP
- ✓ Remote Working: how the company has dealt with remote working and how people are reacting to it

At the end of each subparagraph considerations are given and is carried out the analysis of the topics discussed.

First of all, I wanted to investigate if a Business Continuity Plan had already been activated by companies in other past situations.

- It is the first time that a BCP has been activated?

Bristol-Myers Squibb

The Country CFO of BMS reported: *“this is the first time that the BCP has been activated. Even though, when I was working for another company, we had to activate the plan partially. At a certain time, the company announced the closure of that factory and some employees, dissatisfied for the decision, caused a tense situation. So, there was a difficult situation in which we had to activate the BCP in order that the leadership team could easily leave the factory. A BCP, for whatever it is designed, is really important and you realize it only when extraordinary situation happen. You can set up a BCP but unfortunately you never know for which event it will be activated, they are all extraordinary events.”*

Novartis Group

According to the “Task Force Corona Virus Leader” of Novartis Italian Affiliate: *“It is not the first time that a BCP has been activated. Previously, a Business Continuity Plan has been launched, even if partially, but not as in this moment. Portion of activity are, for example, the computer science systems or when the company has to move a review order from a warehouse to the other, it because some warehouse had had problems managing temperatures. Furthermore, the BCP has been activated more than twenty years ago, during the Millennium Bug⁴⁴, and the ability of the business continuity has been tested.”*

⁴⁴ The *Millennium bug*, also known as *Y2K bug*, it is a computer’s fault showed during the change date in the night between the 31 December 1999 and the first of January 2000. It hit data processing systems (both in personal computer and embedded process computers)

3M Company

The “Head of government and public affair of 3M Italy” reported that: *“The Crisis Management Team has been previously activated, but in a precautionary way. For example, a plant closed some year ago and laborers demonstrated in front of the gates and so the police intervened. The General Manager called the CMT to meeting. However, it was a situation that was resolved in a week, journalists called for details and so the responsible of communications answered the questions and so on. In any case, before answering, even in this pandemic situation, the responsible of communications receives the talking points from United States and Europe headquarters. The talking points are all the points that can be said and all that cannot be said.”*

As reported by companies, the BCP has been activated only partially in past situations. It is the first time that Business Continuity Plans have been totally launched and the pandemic may have represented the real stress test for these plans.

Therefore:

- how companies have activated the BCP following the Covid-19 emergency?

Bristol-Myers Squibb Rome Affiliate

First of all, it is important to know the lapse of time that has passed before the BCP has been activated following the emergency. From the moment in which the company realizes that an emergency situation occurs, to the moment in which the Core Team meets, until the activation of PMOs and the operative people, how long has it been?

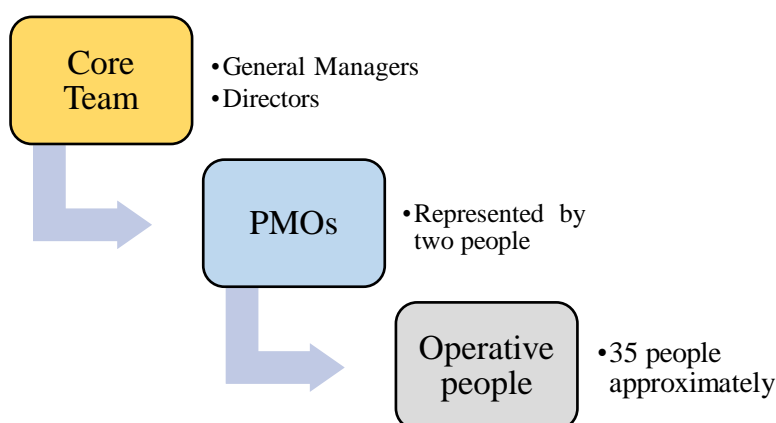
According to the “IT Director” and member of the CMT Core Team: *“this is a fundamental parameter for a Business Continuity Plan. You can implement a flawless plan but, if it starts 6 months after the crisis it is not a process that can help the company to satisfy the current need. In our case, we had firstly a consultation with the Corporate considering that we already had a pre-alert from the China situation. China had already activated the lockdown and a country that stops means non-mobility of people, and so we immediately blocked our scientific informants who went to the hospital to make medical- scientific information. Hospitals represented a critical area in this situation. Furthermore, if China has activated the lockdown and people*

cannot leave their home, it means that people have to work from home. So, we were prevented, it was not a bomb, an earthquake or something that took us by surprise. The pandemic has been pre-alerted in this case. We had the possibility to ponder about it, supported by a well-structured BCP and with the experience of who had been affected by pandemic before us. The pandemic hit Italy at a later time, our people have remained at home since the March 9. On the other hand, our sales force, so the people who go to make scientific medical information at hospitals, clinics and so on, has stopped their activity since mid-February. So, we succeeded in understanding what was going to hit us and we managed the situation upfront. Overall, if a BCP requires an activation time that is too long, it is not an efficient plan. It also depends on the emergency you are facing, there is not a standard answer. However, the shorter the response time, the more efficient the plan”.

We have previously analyzed the steps from the beginning of an emergency to the activation of the plan. The same “on paper” steps have been adopted to the activation of the BCP following the Covid-19 emergency.

To sum up:

Figure 4.11: mechanism of the activation of the BCP



[Source: Author]

The BCP Core Team met and, after having reviewed the situation, it decided for the activation of the BCP. The Core Team authorized PMOs to manage the situation and to activate people included in the Business Continuity Plan. As the reader know, the operative people, as well as all the other members of the plan, are predetermined and ready to work at any time.

Bristol-Myers Squibb included all the director in its BCP and a business unit representative was identified for each department, from Human Resources, Communications, Clinical Studies to HSE and so on.

The PMOs had two critical activity to manage during the Covid-19 emergency. The first one was to send, each Tuesday in this case, a report of the Italian situation to the United States headquarters. The report included general Italian situation, business critical point, potential problems in the distribution of drugs, client’s relationship and emergency response procedures.

The second activity performed by the PMOs was to superintend a meeting with all the operative people who manage several procedures. The PMOs reviewed the current situation, the potential set of problems and reported the activities to the Core Team.

The first report on the Covid-19 emergency was sent to the United State on May 6 and, from this date, every week a report was made.

The Corporate was always informed since in the U.S.A headquarters there is a group of people dedicated only to Business Continuity. On the other hand, in the Italian Affiliate the BC is a secondary activity respect to the primary role.

Moreover, it is interesting to note that during the emergency the Disaster Recovery Plan was not activated. It was activated because BMS Rome Affiliate has not server to be recover due to the fact all the BMS servers are centralized in England and United State. The Disaster recovery Plan would have intervened in case there was a problem on their servers, but they continued to guarantee the service through work shifts even during the emergency. Therefore, the Disaster Recovery is activated when people can no longer work in the usual way, so when they can no longer go to the offices and work normally. In this case, also in America it did not happen, they continued to go to work alternately, with all the necessary safety devices, to ensure the continuity of their servers and so keeping their systems active.

In the Business Continuity Plan there were two team that reviewed the internally and externally situation. A local team, represented by the PMOs and a Global team in the Unites States, the Center for Disease Control and Prevention (CDC).

Firstly, during the lockdown, all the offices have been closed and reported as red code. So, the offices were inaccessible to anyone. After the third of June, Italy became an orange code area and so it was possible to reopen the offices partially. Then, from June 9, Italy became yellow code. So, each week the company considered these parameters. The last step will be the green code that determines the return of normality.

From the June 3 people of BMS Rome are re-approaching to the office and they are divided into two big teams in order to decrease the risk of contagion. Moreover, the system of dividing the company into two teams is also precautionary, so that if a team member is infected, the members of the other team can keep on working.

As reported by the Country CFO of BMS: *“The Business Continuity Plan is working also because we have immediately taken note of the seriousness of the situation. The BCP subject is an exercise that multinational company do in a theoretical way since you have a bit of difficulty to test it because you don't have a pandemic every day or you don't have an office on fire every day. However, a BCP is the kind of activity that you have to set up because the likelihood that happens to you is very low, but in case it happens and you are not ready, the impact is very high. First of all, when there is a hostile event that may threaten the business, you have to secure you assets. The first asset are people and we secured our employees implementing procedures and*

guideline that keep people out of risk. It was easy to leave the office staff at home but it was different for the field staff (pharmaceutical representative). The field staff usually works in hospitals or medical clinics which are the most dangerous places in the actual pandemic emergency. Therefore, the most important thing is to give guidelines to people, providing a clear and transparent communication. On one hand, the office staff works in smart working, on the other hand, the field staff has two alternatives: improve their skills through training activities or start to have a contact with medical doctors through remote engagement. Since we did not Covid-19 cases in our company, the plan worked. The second import process is to guarantee the distribution of drugs. Our medicines are life-saving drugs that must be delivered in time to applicants, for this reason they are called “on time in full” medicines. We managed this aspect too, additionally, we succeeded in absorbing an unexpected peak of demand. Indeed, hospitals were afraid to not being able to order drugs during the emergency and so they have ordered an excessive drug amount in the first Quarter. We managed to distribute more products than we expected. During Q1 Italy provided more product for a value of 36 million dollars and of 500 million dollars globally. Overall, people are safe and the business continuity is guaranteed”.

In addition to it, Bristol Myers Squibb is committed to support the communities most affected by the virus. BMS has donated personal protective equipment (PPE) and others equipment to help the most disadvantaged communities in the U.S. by placing available funds, equipment and expertise to help local communities in Italy, Greece, Israel, Romania, Canada, Korea and China. Moreover, the Foundation Bristol Myers Squibb, an independent charitable organization, has provided more than \$6 million in aid to date, including \$2.5 million to the humanitarian organizations and patient support groups that provide aid food, correct information and support to the most vulnerable populations of the United States.

Novartis Group

During an interview with “Il Sole 24 ore” newspaper, the Managing Director of Novartis Pasquale Frega reported: *“From the beginnings of this sanitary emergency, Novartis committed towards two fundamental goals. The first was ensuring the safety of people, for this reason we decided to anticipate the lockdown of the company, with respect to public decisions, to February 27. The second factor was to cope with the request of the outside world, in the middle of a health crisis. Since we are a leading pharmaceutical company, we must ensure the delivery of our medicines. From the beginning it was clear to us that the problem was not to minimize people's activity, but to allow people to offer a contribution, working in a safe environment”*.

Given its financial situation, Novartis has decided not to resort to “shock absorbers”, in order to leave the funds available to those who mostly needed them. Novartis is committed to ensuring that there are no job cuts due to the actual crisis. Indeed: *“The first decision we took was to extend smart working to all people who could. Before the advent of the Coronavirus, 650 people enjoyed the smart working two times per week, out of a company population of 2200 people. Nowadays, we have 1800 people working at home every day”*.

On the other hand, safety measures have been implemented also for the 450 production workers of Torre Annunziata (Naples), field in which the smart working was not possible. Therefore, according to the Managing Director: *“In our plants there is a consolidated habit to work in safety, for reasons easily understandable and related to the pharmaceutical activity. However, we had to imagine emergency solutions for those who work in production as well. Stress tests were performed, with simulations that included the virus infection and the solutions to be adopted. If, on a production line, one of the workers was infected, it was necessary to replace the equipe that works there. Since we produce life-saving drugs, it is not possible to stop or delay production. Therefore, we have established three work shifts, instead of the usual two, thereby, attendance in factory are decreased. In addition, we have implemented multi-functional teams always ready to work in case of infection of one of the other team”*.

Therefore, Novartis decided to work in factory with an extra shift and a reserve team in order to guarantee business continuity.

At organization level, the “Task Force Corona Virus Leader” is the person who represent the Managing Director in the BCP. He is the person who coordinated the task force. Novartis did not activate the total emergency status because they did not have any infected inside the company. However, via Managing Director and his representative input, the BC plan was launched. Several directors, including HSE, HR, Communications, Industrial Relationship and so on, have been activated. Then, the task force has been enlarged with the insertion of other figures, such as the Procurement responsible, the Customer Service responsible, Logistic responsible as well as the strategic assistant of the Managing Director in order to support the internal communication.

Novartis Crisis Management Team started to meet frequently from February 23, where they dedicated half hour to align with the daily updates. Communications and updates were a daily occurrence and they had to be reported both to office workers and field workers. The Office was not declared closed, but the company strongly suggested smart working, which was already planned before the pandemic for a maximum of two days a week.

Novartis had to meet government decisions, d.P.C.m, regional ordinances and the dispositions of individual hospitals. It was an objectively very difficult period.

The medical-scientific informants activity was stopped in the red zones of Italy firstly and, after a while, it was stopped throughout the national territory. However, people of Novartis have always kept on working, no one has stopped, even the medical-scientific informants who have followed training courses.

The task force continued to meet twice a week, and from the leader task force are born other subordinated task forces that had more specific roles. The leader task force stopped to meet at the end of June, whereas the subordinates task forces are still meeting to verify some activities, such as the return to the office or government perspectives.

Novartis Group, as well as other pharmaceutical companies, had to implement protocols. In the government sphere, in order to restart the activity, it was requested that companies define a protocol to reactivate safely the activity in various fields, reducing the level of risk as much as possible. The protocol had to be defined by the people who had participated in the core activity of the task force, but also including the RSU (union representatives in the company). A team called “security committee” has been created and it is in charge of completing the protocol and verifying that the activities are carried out and respected. It is possible to understand how pharmaceutical companies have a strong bond with trade unions.

As reported by the “P&O Manager & Head of Industrial Relations” of Novartis: *“in multinational companies the communications and engagement with trade unions and RSU is fundamental. We have to meet with these authorities in order to manage the situation, always remembering that the first focus is on people. My role was, from one hand, informed the task force on what other pharmaceutical companies were doing to and, on the other hand, informed trade unions on what the task force was doing”*. Moreover: *“It is important to point out that, in these real emergency situations, the first focus of the company is to ensure the safety of people, both from a practical and operational as well as psychological and physical point of view. We tried to activate free psychological counseling services, especially for those who were in the most affected areas, such as Bergamo, Brescia etc.. Other activities launched were the virtual gym, or the delivery service of fruit and*

vegetables since in the first weeks it was also complicated to go shopping. It is important to impart the message that the company is taking care of people”.

Furthermore, Novartis have worked also on external communications to make its voices heard and help communities. According to the “Head of Country Communications & Patient Advocacy”: *“The external communications of Novartis has been really important during this period. In the middle of March, we announced a campaign “Novartis per un’Italia a prova di futuro” that demonstrated to key stakeholders what Novartis wanted to represent during the emergency. On the one hand, a response in the short term, the commitment in Campania, where we have allocated one million € to the Civil Protection, moreover, we have established a home delivery of medicines in the areas most affected by the pandemic. Additionally, each of our employees has offered a day working salary to be allocated for the emergency in Lombardia, collecting 720.000 €. On the other hand, Novartis is working on a long-term vision, medicine and science are values for the community and we have implemented due projects. The first one is a start-up accelerator platform and the second one is the “value to science” project that aim to spread the science values to the younger people and to everyday routine. At the same time, we did a lot of communications on social, tv, radio stations end so on. Our CEO Pasquale Frega is committing in several interviews and we have also tried to involve others Novartis directors to make the company's voice heard as much as possible”*

3M Company (Italian head office in Milan)

3M Italia activated the Crisis Management team at the end of February and, since this time, it started to meet every day for one hour. At the beginning the situation required to follow all the developments and legal requirements and so, as reported by the “Head of government and public affair of 3M Italy”: *“a great work has been done by the CMT to follow the development of the situation and take the necessary measures. Each member of the CMT had a task. My task was to have a stable connection with Institutions in order to understand whether to make a lockdown only of the office or if to do so also of the South-Eastern Europe plants and warehouses”*.

Smart working was allowed for all the 3M Italia employees from March 12. IT function provided the equipment to all the people who were not ready to work at home. An interesting thing to note is that 3M, as global corporation, has installed an alert function on workers’ company phones. It is used for emergency communication and it was usually tested monthly through a message which employees had to answer as soon as read it. This time the alert was real and it informed the employees of 3M of the emergency and the people to contact in order to have more information. The pyramidal chain of command gave instructions and the company managed to inform all employees to not to go to the office the day after.

Through the Public Affairs function, 3M checked the ATECO⁴⁵ codes that could still carry out activities. According to the ATECO codes, the plant production activities were strategical and could remain open. Therefore, the company was dividend in two macro areas: the “white collars” and the “blue collars”. The white collars were the office employees and they could work from home. The blue collars were people who worked in factories and, according to Ateco codes, they were allowed to remain active. The problem was that 3M Italian factory is in Lombardia, area in which the Covid-19 situation was complicated. The HSE function that provided the necessary individual protections and established security protocols. Since 3M company also produces chirurgical masks, it was not a problem to get individual protections. Every day the plan Manager reported the main figures to the Crisis Management Team.

As other pharmaceutical company, 3M had to deal with a third category: the travelling staff (i.e medical-scientific informants as well as company representatives). 3M Company involved fourth sectors: 1- Industry, 2- Health, 3- Consumer 4- Safety. The company had to understand how to deal with the “travelling staff” category. The majority of people were asked to work from home and try to contact customers only remotely. Some exception has been done, with all the necessary precautions, for the people who had to go urgently to the hospital to take note of hospital requests.

⁴⁵ Activity code: Codice Ateco is an alphanumeric combination that identifies an Economic Activity

As reported by the “Head of government and public affair of 3M Italy”: “This is the generic situation that we had to monitor every day. I was in charge of informing the company of all the new law regulations and, moreover, I had the responsibility to have contacts with Civil Protection (now called InvItalia) and with the Dr. Domenico Arcuri in order to establish the guidelines and also how to send surgical masks in Italy, since our main factories are abroad. Therefore, my role within the CMT was not only to bring the voice of the Institutions both at regional and national level but also to have direct relations with the Civil Protection.

The Crisis Management Team also created several subordinate teams in order to manage better the situation. Two different kinds of meeting usually took place. One meeting with the Crisis Management Team in which all the news were discussed and another meeting with your department, in which legal, security, finance (and so on) questions were discussed separately.

Based on customer inputs, the 3M Demand Planning Business Continuity Tool can simulate thousands of different possibilities in minutes, providing a prioritized view of the supply chain needed and the supporting logistics required. The planning software uses roles and responsibilities and workflows to create a customized logistics and supply chain profile. The end user breaks down an event into key inputs that are entered into a scenario building module. These inputs are then used in combination with the rate of consumption of products and services throughout the event.

Under pandemic conditions, first responders, law enforcement, health care systems and businesses all will be competing to have access to a limited supply of goods available in the marketplace. With today’s focus on just-in-time production and consumption and in the event of any global emergency, organizations may find little supply chain elasticity to meet their needs⁴⁶.

As reported by the 3M CEO Mike Roman during an interview on Fox Business News: “Starting in January, we saw this coming, and we have learned back in SARS and H1N1 that we had to keep idle capacity available because we are a leader in this area of respirators. We needed to be ready to step up, and so we have idle capacity in the United States that we brought online well before there was a call for Covid-19 fight here in the US, and we maximized production of that. That got us to the 35 million respirators. [...] Normally we produce 16 to 20 million respirators a month in the US, so we have doubled our production. We continue to focus on ramping up. We have produced millions and millions of respirators and now we have arranged to import more masks from China. [...] We have an agreement to allow us to export 10 million additional masks a month out of China. Moreover, we are working with the White House to help accelerate that and increase that and we are looking for that as the next step in increasing our capacity [...] We have demand that is more than we can

⁴⁶ 3M (2017) Business Continuity Demand Planning. <https://multimedia.3m.com/mws/media/4706800/sec-2c-business-continuity-demand-planning.pdf>

meet in our production today. We are adding capacity. We have gone up to 35 million near term and we will get to 50 million per month in June. We will get up to 90 million respirators per month at the end of July. [...] We have investments to go up from there as well as to meet what we see, an increased demand domestically. So we clearly did not have enough capacity to take it on at the levels that Covid-19 has demanded, and we are not alone, we are not the only company in this marketplace, but we are an important provider, and we are rethinking that . Right now, we are investing not only to expand, in the face of April and May, but to be ready as we go forward. We have responded to the RFP from the US government for 500 million respirators and we were awarded part of that. We have got to be ready to deliver on that and then we will be examining it from there. but we are definitely stepping up as we go near term and through the end of the year”.

Johnson & Johnson Rome Headquarters

When the Covid-19 emergency started, the entire sales force of Johnson & Johnson, like in many other companies, was completely paralyzed. As reported by the “Healthcare Business Manager, sales Mngt, Marketing, Finance & Company Training Lead” of J&J: *“Considering that, among the 900 people of J&J Italy, almost 400 people are part of the company’s sales force. Therefore, 400 people who can no longer represent the company and promote our products cause a stop for the business. The emergency not only hit the company’s sales force but also all the people who supported the business and who were no longer able to work as normally. Since we had no idea how long this period will last, whether one- two months or even a year, it led to company to organize several transversal working groups, in order to better manage the situation”*.

Basically, each working team consisted of varied people, also including people of a certain seniority and large experience, who therefore knew the company quite well. It is noted that, each team involved a sector/franchise representative. Hence, for example, Sales, Marketing, IT, Human Resources or Finance representatives, according to the purpose of the work, were included in teams. Moreover, Johnson & Johnson business is based on three different franchise: - Surgery – Orthopedics – Cardiology. Indeed, for each of these businesses, a franchise representative was included in teams.

The Training functions have been transversal to all teams, so the aim of the company was to adapted according to the needs the emerged during the Covid-19. A characteristics team is called “Ironman team”, which aimed to identify the new capabilities and skills that people, especially sales and marketing forces, should have in a new digital world. Assuming that this situation last for a long period, it is impossible to think that J&J wouldn’t do business for as long as the pandemic last, even if J&J is a such bug company that it wouldn’t collapse. But the company aimed at completely change the way of doing business, assuming that the emergency will not last for a short time.

On one hand, the Ironman team sought to identify what could be the needs from the external market point of view, what would have required the external costumers (such as surgeons) if the world had remained digital and how they would have wanted to continue their relationship with Johnson and Johnson. On the other hand, the team focused on internal people, asking what the new capabilities and skills are required if the world will remain digital. How the company would have trained its employees according to the new needs? According to the “Healthcare Business Manager, sales Mngt, Marketing, Finance & Company Training Lead”: *“The Ironman team is a project that is leading to the digitalization of the company, which is an essential step that the organization had to quickly carried out given the circumstances. We did a series of surveys internally in order to understand what our people would have wanted and what are the aspects to developed and improved. It has emerged the need to learn new tools such as Teams, Zoom and so on. Many new rules of behavior*

appeared, given the fact our 400 sales forces people had to learn how to digitally approach to clients. We have started to teach digital tools and we have arrived at a completely digitalization of the company. It is a project that has just been launched and will continue from now to the end of the year”.

According to Johnson & Johnson Company: “When the lockdown was announced, we were uncertain of how to continue our work by staying at home and without visiting our customers. However, we immediately realized that this could be an opportunity to show how much our Winning Spirit could make the difference.

We didn’t give up and we thought it might be an opportunity to develop all those skills that can make a difference on the market and towards the competition. In addition to the activity made available by EMEA, we thought we could also organize others Local Commercial Education activities that had been considered less priority or focus until this moment. For this reason, we have immediately worked with all OneMd and single Franchises departments (such as Marketing, CommEx, Business Compliance Team, HCC, Competitive Task Force Team, Strategic Solution Team and many others) to understand their needs, analyzing possible training gaps and opportunities. We have also immediately realized that it was necessary to develop our digital skills to maintain virtual relationships with our internal & external customers!

Therefore, we have just developed a specific training deck on the use of MS Teams and Zoom in order to get a self-confident Sales Force and Marketing people in the use of these digital tools. The next 2/3 weeks will be amazing and powerful in deploying these very practical digital trainings. In the lockdown period, from March to June, we have organized 229 training involving more than 9500 Trainees, increasing by 445% the # of trainings by 3540% the # of trainees, vs the same period of last year, but also with a huge increase (+60% #trainings and +900% #trainees) vs Full Year 2019 Local CommeEd activity”.

Table 4.2; table of # of people “Training – Trained” in J&J

Marzo-Giugno 2020		
Italy Departments	#Training	#Trained
Commed	36	624
CommEX	22	1323
Competitive Task Force	11	497
Customer Service	10	329
HCC/BCT	2	314
Marketing	115	4028
Pricing Team	3	37
S&S	14	939
Strategic Skills EMEA	3	600
Commed Italy/EMEA	5	380
Grand Total	229	9500

[Source: Johnson & Johnson]

4.5.1 Considerations

From the beginning of the emergency companies have focused both on people and business continuity. On one hand, they ensured the safety of their people leaving them at home and activating remote working systems. On the other hand, companies have implemented supporting teams to ensure business continuity. BMS has activated the Crisis Management Team and PMO that managed a team composed by 35 people to restore the emergency, as well as 3M. Offices were inaccessible and so the work has been carried out through remote systems. Novartis, through its “Task Force Corona Virus Leader”, has activated the business continuity plan and it succeeded in monitoring the situation and quickly responding to the emergency. Besides it, Johnson & Johnson have created a specific team, the “Ironman” team, that sought to identify what could be the needs from the external market point of view as well as a focus on internal people, asking what are the new capabilities and skills required if the world will remain digital. Pharmaceutical companies not only have reacted quickly to the emergency but they are also imagining what changes are necessary if this pandemic situation will last for a long time.

A critical point for pharmaceutical companies is represented by the management of scientific-medical informers (i.e pharmaceutical representatives). They had an essential role that, during the emergency, could no longer be performed as usual. Some companies have tried to substitute the face to face contact between pharmaceutical representatives and medical doctors with a remote contact through remote systems. Other companies have flanked this change with specific training courses in order to improve their performance. This is a big change that, if works, can be use also in the future.

The Covid-19 also has a financial impact, indeed, as reported by the Country CFO of BMS, the company closed its Quarter 1 with more revenues than expected but, on the other hand, a revenues decrease is forecasted for Q2, Q3 and Q4. It is due to the fact both that hospital stockpiled medicines and a smaller number of patients went to hospitals and received diagnosis. On the other hand, Johnson & Johnson tried to balance the lower revenues with the money saved from some activities, such as the budget line “travels” that have been stopped by the emergency.

Overall, companies have worked on their internal competences as well as external communications.

J&J trained more than 9000 people in this period as well as the other companies that enhanced people skills through training courses.

Regarding external communications companies have carried out several programs and activities. Novartis have launched two new programs, BMS is helping the community as well as Novartis and 3M. Furthermore, companies Directors have been involved in interviews in order to make the voice of the company heard.

To sum up, pharmaceutical companies are reacting to the Covid-19 emergency, they all had a BCP ready to be activated and competitive teams that aim to monitor and restore the situation.

4.6 CRITICAL BUSINESS PROCESSES THAT NEED TO BE PROTECTED DURING COVID-19 EMERGENCY

The first action to be taken by companies following an emergency is secured their assets. In this paragraph I reported and analyzed the critical activities that companies have carefully monitored during Covid-19 pandemic.

- What are the critical business processes that need to be protected during a crisis, and specifically, in this pandemic situation?

Bristol-Myers Squibb

- Need to reach our costumers/patients in order to assure the treatment (distribution). Therefore, it is necessary to preserve all the processes that have to guarantee the relationship with BMS costumers and patients. So, from medicines distribution and clinical trials in the testing of new drugs to the invitation to tenders, all the activities that interface with patients are critical activities.
- Meet legal requirements (for example, as pharmaceutical company, BMS must have a supervisory system always active, as well as a complainant and regulatory and medical sensitivity system)
- Need to manage activities that could impact heavily on financial or/and image of BMS and affiliates. Here an example reported by the BMS PMO: *“From 2012 to 2015, salaries were mapped as a critical process. Then we reviewed this activity and we wondered if the salary process was really critical. From the moment in which we have to activate the BCP because offices are inaccessible, it is the salary process a critical activity and it need to be as precise as usual? We reviewed this philosophy and we came to the conclusion that the company may provide a basis salary to employees according to their grade, and as soon as the emergency is ended, provide them with monthly potential bonus reached, overtimes and all the additional money required. The advantage is that the company can keep on its business and focus uniquely on the emergency resolution. On the other hand, employees will be able to keep their normal lifestyle with a basis salary and as soon as the emergency ended, they will be paid with the extra salary required”*.
- Ensure the safety of people.

Furthermore, as reported by the Country CFO of Bristol-Myers Squibb: *“there is an impact on revenues led by the Covid-19. I closed Quarter One with revenues much higher than expected, that because hospitals, being afraid that companies were not able to supply the medicine during pandemic, have stockpiled medicines. However, Covid-19 will also have an impact on pharmaceuticals. So, not only in Quarter 2, Quarter 3 and*

Quarter 4 I will have a decline and reabsorption of the stock that I sold in Q1, but I will also achieve lower revenues. We are noticing that many patients are not carrying out the planned medical examination, they are afraid to go to hospital because of the virus. It is enough to say that, during April, there has been a 30% reduction in breast cancer diagnosis. It means that people with disease tend to not go to hospitals because they are afraid. Regarding oncology sector we are registering 57% of reduction of medical examination. . So, if patients did not go to hospitals, there will be fewer diagnoses and therefore also fewer drugs required. Overall, from a pharmaceutical point of view, the Covid-19 implied higher revenues in Q1, but we expect a Q2, Q3 and Q4 lower than budget, due both to the fact that hospitals will reabsorb overstocks and also to the fact that people will require less medicines since they did not go to hospitals. If there is no diagnosis, there is no prescription, so there is no cure and there is no saleable medicine”.

Novartis

Each department categorizes and maps all the processes, defining what are the processes that are inalienable and critical. Moreover, departments define the maximum time for which the company can remain without that process.

- Production continuity and supply of drugs to patients. Novartis has a plan that, independently of pandemic, allows the stable distribution of medicines in Italy. In addition to have an excellent safety stock, the company has a secondary warehouse with an emergency stock.
- Clinical Trials. According to the “Task Force Corona Virus Leader”: *“In Italy, at the moment, we have between 200 and 300 clinical trials in hospitals, whose interruption could put patients' lives at risk. Novartis makes oncological and life-saving drugs, so we have many ongoing clinical trials where if our medicines are missing the patient may die. For these reasons, the first action we took in the night of February 24, which is the date we activated the plan, was to make sure that our warehouses have all these necessary drugs and that they were operational”.*
- The operational continuity of all Novartis IT systems working remotely. Clearly, in order to ensure business continuity during emergency situation that makes offices inaccessible, it is necessary to work remotely and so all the information technology systems must be available

These are the three main activities, then there are other themes:

- Salaries. According to Novartis: *“If you stop salaries in time of emergency there may be someone left without money to pay the mortgage and house or other things. It is important that our salary system remains operational for both ethical and union reasons”.*
- Ability to collect money from costumers.

- Health management plan for Novartis people. So, the company implements plans regarding the possibility that one employees is effected by the virus and how to react to this situation.

Another ancillary process, but still important is:

- Proxy and signatures system. According to the “Task Force Corona Virus Leader”: *“It is essential to maintain continuity our proxies and signatures system. For example, how can we sign a contract in a remotely way? We have a continuity plan that provides 3 levels of electronic signatures: a normal signature, a signature that is based on an external certification and a third signature that is the electronic signature deposited at the Chamber of Commerce. In this way we ensure that people can work from home”*.

3M Company

- Ensure the safety of people.
- Manage activities that could impact heavily on financial or/and image of BMS and affiliates. (As reported by the Head of government and public affair of 3M Italy: *“During the Covid-19 pandemic, there was a period in which the protective masks of 3M were sold on amazon/ebay for 25€ each, that is outrageous. Clearly, this price speculation was not related to the company but to some wholesaler who already had our products in stock and was selling them at an higher price. However, the 3M brand was placed on amazon or ebay and this was an image problem. Therefore, the communication department had to promptly replay on social media that the product was not sold by 3M, but by some supply chain of wholesalers and retailers who were speculating on the price, it was not 3M to speculate”*.)
- IT system continuity.
- Production continuity and distribution continuity.

Johnson & Johnson

- Ensure the safety and well-being of J&J people. Psychologists provided, virtual travel program, training and entertainment. 300 virtual training courses that trained more than 9000 people.
- Sales promoter. As other pharmaceutical companies, J&J sales force was paralyzed and the company had to implement methods of selling via remote systems. Today, after a great job, they would also be able to continue working in a virtual way
- Race Office. The company have to continue to participate in contracts for the supply of medicinal products. According to the “Country Finance Lead Medical Devices Italy” of J&J: *“Departments such as the tender office and customer service have always been departments that were thought impossible to eliminate paper system. Instead, within a few days, all the paper disappeared. Radical change. The situation made it necessary. In a company like this it was possible to do it.”*
- Meet legal requirements.

4.6.1 Considerations

The critical activities are those activities that need to be protect, especially during an emergency.

It is common that pharmaceutical companies identify some of the same activities as critical. The need to reach their customers in order to assure the treatment is a duty of pharmaceutical companies, as well as to ensure the safety of people.

Novartis underlined the need to have all the IT system working in order to guarantee business continuity. Additionally, companies have to meet the legal requirements and it is an important critical activity. The Race Office is an activity remarked by Johnson & Johnson. Obviously, in order to continue their business, companies have to participate in tenders for the provision of services. Bristol-Myers Squibb highlighted as critical activities also those activities linked to the image of the company as well as all the activities that could heavily impact the company from a financial point of view.

It is interesting to note the difference between BMS and Novartis regarding the salary process. On one hand, BMS did not identify salary process as critical because a basis salary can be provided to employees immediately and extra bonus achieved by employees can be provide at the end of the emergency. On the other hand, Novartis mapped this activity as critical, even if it is not included in the most important activities.

Moreover, by the example of 3M it is possible to understand how important it is to maintain the good image of the company in these emergency situations, especially if it is a company that also operates in the health and safety sector.

4.8 KEY ELEMENTS TO EVALUATE THE EFFICIENCY AND EFFECTIVENESS OF A BUSINESS CONTINUITY PLAN

Bristol-Myers Squibb

- What are the indicators and key elements used to evaluate the effectiveness of a BCP?

A Business Continuity Plan can be evaluated in advance, and so in the moment in which simulations are made, or after that the emergency situation occurred. Starting from the latter, no employee of Novartis has fallen ill by Covid-19 and this is a good element of valuation. Additionally, the company managed to guarantee business continuity and it appears not to be any delay in the distribution of medicines to hospitals. Clearly, if any employee had fallen ill and the company had not been able to distribute the product to hospitals, it means that the business continuity plan is not working. Regarding key elements before the outbreak of an emergency, they can be found in tests and simulations. According to BMS: *“We test periodically the ability of the company people to leave the offices in case of fire, setting off the alarm and following the procedure to leave the offices. Obviously, when the alarm goes off, most of the staff know that it is a test, and anyway they do not have the real stress of the fire, so people come out precise and orderly. I am sure that if this happened in reality, the behavior of people would be a little more panic but having done these kinds of tests so periodically it helps to maintain stress in real emergency situations”*.

- What are these indicators from a financial point of view?

According to the Country CFO of BMS: *“The first indicator is to guarantee revenues. Then, the CFO's job is to guarantee all those activities that are mandatory. In this moment I am asking my team to do the things that are mandatory, the things that have to be done, I am not asking anything that is not necessary”*. So, what is necessary from a finance point of view? *“First, distribute the product and collect money. It is necessary to verifies the order process, in which the client asks for the product, then my team takes the order, delivers it and collects money. For the finance theme, profit & loss is nice but actually, all multinationals, when they have declared bankruptcy, they have declared bankruptcy because of cash problems. It is the cash that matters. In 2001, when Enroll collapsed in the U.S. (because of Arthur Andersen, the auditing firm) it collapsed because the money ran out, not because Profit & Loss was bad. So, from a finance point of view the most important thing is to make sure that I sell and collect. The second most important thing is what I said before about the mandatory activities. The mandatory activities were not postponed during this emergency situation, such as VAT declaration, tax declaration, IRES and IRAP. There are a series of deadlines that are mandatory*

and that also during this period must be maintained. The third point is, even having a finance role, I have to protect my people”.

Novartis

As reported by the “Task Force Corona Virus Leader”: “During normal times we carried out several simulations in order to understand the efficiency of given process. For example, we periodically tested the remote working. Each department choose a day and, by rotation, people stay at home and they confirm if all the IT systems work. Additionally, we also tested the efficiency of our warehouses and the ability to manage orders. On the other hand, during Covid-19 emergency, the indicators are simpler. The company kept its business continuity. All the commissions are been respected and all the clinical trials are operative. So, the efficiency of the BCP is proved by the fact that orders and deliveries work and all our factory supplies in the world are active. Another indicator is that our IT systems have never been interrupted. In this moment, only in Italy, we have 2500 people who are working from home”.

Johnson & Johnson

According to the “Country Finance Lead Medical Devices Italy” of J&J: “the overall indicators is the time, that it is also the scope of a Business Continuity Plan. How long does it take to restore the emergency? Since the BCP aims to ensure business continuity, it is clear that it must be understand how much time is needed to the activation of the plan and how long does it take to restore the situation. Obviously, in the current situation, it is impossible to think that the emergency can be restored shortly. On the other hand, if the plan is activated following an IT system problem, it needs to be restored in the short term. So, the time is an essential element. Another key indicator are people. In Johnson & Johnson nobody has been infected, and considering that our organization involved 1000 people, among which 600 people, approximately, are on the field. This is a great achievement, it means that the organization has worked well, responding immediately and making people safe.

And from a Finance point of view:

“From the financial point of view the indicators are obviously the number of sales, the income, how they are impacted and the costs linked to the Covid-19 analysis. For example, in the current emergency we have monitored the level of sales and their return to a normality, and we are still monitoring it. Moreover, we have put in place a series of actions to reduce costs as much as possible in order to reduce the profit impact generated by the lower income. Therefore, the most important indicator is still revenues, we are still a business company. However, the economic goals are secondary to the focus on people”.

4.8.1 Considerations

Bristol-Myers Squibb Finance Director and Johnson & Johnson Country Finance Lead have highlighted the time as the most important key indicator for Business Continuity Plan. It is a good starting point given the fact that if a plan needs too much time to be activated, although being perfect, it is useless in order to recover the current emergency.

Furthermore, a business continuity plan works if it manages to secure the continuity of the processes previously identified as critical. The safety of people, the continuity of production and distribution processes and the operational continuity of all companies' systems working remotely are all processes met. The satisfaction of the critical activities is the key indicator in evaluating a BCP.

In addition, from a financial point of view, revenues are the key indicators as well as all the activities that hit the financial performance of the company.

On the other hand, when evaluating a plan before the real emergency, simulations and virtualization of that event are the best way to test it. Clearly, a simulation will never be like reality, stress and scare do not affect it. Real emergencies may hit suddenly and assume different shapes. However, the repetition of test improves the final performance and this can be a key element during an emergency.

4.9 THE REMOTE WORKING THEME

The current emergency has forced companies to find alternative working methods as well as alternative working spaces. Most of companies have adopted the remote working system and, due to the fact offices are inaccessible, people are working from their home.

How companies have dealt with the remote working and how people are reacting to it is discussed in the following subparagraph

Bristol-Myers Squibb

According to the PMO of BMS: *“The feeling of people who are working in smart working is quite positive. The company has already activated smart working for a long time, and people, especially the office people, were already working in smart working twice a week, and most of them have joined this venture. Therefore, from a business point of view, there is no problem in working from home for people. On the other hand, the main problem is that people cannot leave their home, which problem goes beyond the company actions. Bristol-Myers Squibb was ready for this step. Making an example, if my computer breaks down while working in smart working, how can I continue my work? BMS Global has created years ago a data virtualization system, called AVS. Through AVS you are able to virtualize any private pc providing all the data as if it had become a company computer. So, if my computer breaks down I can import all my data to another computer, saving time and returning to work in a short time. Moreover, BMS has a private cloud in which main information are sharing and, through the share point, you can find all documents needed.”*

Additionally, as reported by the Country CFO: *“The fact that BMS allowed to its employees to work from home two times per week helped us, since our IT systems were ready. When you work from home, especially in a long-term situation, you have to be sure that your systems work and, moreover, you should support people. Your leadership style should change given the fact that people working from home are not alone and they have also their family to manage. You need to give more flexibility to the people you work with. Definitely, the fact that we were already working partly remotely helped us from an operational point of view because we were ready with all the IT systems overnight. However, although people at BMS may be used to work remotely two days a week, being five days out of five in this situation is difficult psychologically and therefore you have to be flexible with your people”.*

The psychological and physical theme is essential in these emergency situations. People are forced to remain at home and work remotely but it can also have consequences on human well-being. I have interviewed the “Senior Human Resources Business Partner” on this theme to have a closer point of view: *“After the early days that we have activated remote working for office staff, we realized that people had difficulties in balancing*

their private-work life. We reminded them some rules and we carried out trainings in order to help them to better organize the day. We did the same thing for pharmaceutical representative people, who had to replace the face to face contact with medicals with remote calls, trying to maintain a stable relationship. But we realized that we had a group of colleagues and operators who was working in the “red area”, such as Piemonte, Lombardia e Veneto. They had to deal with an enormous stress and so we decided to organize, exclusively for them, webinars with a professional coach which purpose was, from one hand, trained the managers of these resources to understand how they could support and help people and, from the other hand, gave to these people all the tools to help them to move and go further this negative situation. Furthermore, we have organized Pilates and Yoga course to try to find moments of harmony and leisure, also pushing them to grow from a personal and cultural point of view. Our General Manager and HR Director had regularly calls with all group in the field to make them feel their closeness. These initiatives are working, in the last survey of March the engagement results are outstanding and people are happy with how the company is working”.

Novartis

As reported by Novartis the remote working was available even before the emergency. Moreover, the company carried out several simulations in order to ensure that all the systems supporting remote working worked.

In according to the “P&O Manager & Head of Industrial Relations” of Novartis: *“It is important to point out that in these real emergency situations, the first objective of the company is to ensure the safety of people, both from a practical - operational and from a psychological - physical point of view. We tried to implement free psychological counseling services, especially for those who were in the most affected areas. Other activities implemented were the virtual gym as well as the delivery service of fruit and vegetables.*

We wanted to impart the message that the company is closed to its people and I think this is the most important activity you can implement.”

For the 1800 people working remotely, Novartis has created a working system that could guarantee the well-being and efficiency of the worker.

According to Pasquale Frega, CEO of Novartis Pharma: *“We have set up a telemedicine consulting service for employees and family members, furthermore, we have activated insurance coverage in case of contagion. We have added 12 days of paid leave for those who have underage children and we have established a working system set on 4-4-2. In the first days of smart working we recorded that many people were busy for very long times, always on calls and videoconferences. So, we imagined a working method based on 4-4-2. It means 4 hours to calls and videoconferences and to 2 hours to the administrative part, writing documents and reading*

and answering e-mails. Then 2 hours remained. One is dedicated to in-depth analysis and training. In this phase we have foreseen one hour of training per day. Our employees normally carry out 100 hours of training per year, and at this specific time we have planned to speed up the process. The remaining hour is dedicated to reflection. In our sector we are facing an historic change. If we do not reflect on what is happening, we risk to return to a normality that does not benefit from a post-crisis rebirth”.

In addition: “The remote working is appreciated by people and we are not facing remarkable difficulties. All this has been achieved thanks to a work that has been going on for more than two years and that has enhanced the work of each person.

The remote working has also represented a kind of test for the transfer to the new Novartis headquarters in Italy, where the concept of “activity-based working” will be launched. Indeed, as reported by the CEO: “No one, including myself, will have his personal office anymore, but we will go to the office to share teamwork with colleagues and to work with clients. This crisis also has a positive side because we are accelerating the working system that we will have next year. The digital shock we are experiencing is changing many aspects of the work within companies and in relationships with people, both with colleagues and clients”.

3M

According to the “HR Manager South East Europe” of 3M: “Over the last few years we have already introduced smart working: employees were already prepared to manage activities from home, so it was very easy to move in that direction, extending the possibility of working from home almost indefinitely. Clearly, it was not all simple because working remotely also has its negative aspects, which are based on the lack of sociality and relationship, and the direct contact with employees that you have when you work in the same environment. This is what is most frequently reported to us by our colleagues and collaborators. There is also an aspect of managing everyday life: perhaps we are not so used to being so close to our loved ones when working, and in some cases, there is an aspect of managing loneliness. Some employees are single and have been at home alone for several weeks. We are trying to overcome all this through engagement policies that seems working. On a daily basis, for example, we have a dispatch issued by the company management that gives updates on the initiatives that are undertaken by the company and on the state of evolution of the Covid-19. Furthermore, we have activated a help line for all employees, who can have real-time answers to their questions; and a blog where they can post their questions, comments and considerations. Also in this case we are active to provide answers in real time. Last but not least, we have worked on the development of our employees, preparing a training plan for these weeks, also to be able to equip our colleagues in an effective way to be ready for the restart. Another initiative that is working is based on the logic of the “growth mindset”. It is a reflection to which I have invited all our collaborators on what they have learned from this experience. I think that reflecting on these situations, on moments of crisis and difficulty, makes us understand how

resilient we are. The company has reacted very well, I am very proud of how my colleagues and collaborators are facing this challenge”.

Johnson & Johnson

The company had commenced to provide company computers to all employees since 2017. This system allowed people to remain at home and working in case of emergencies, as happened.

As reported by the “Country Finance Lead Medical Devices Italy” of J&J: *“With the help of IT department we provided everyone (not only to the office staff but also to the field staff) a company computer, as well as the desktop computer in the company. This means that when there was an alarm to stay at home, each of us had no problems. Moreover, up to three days of smart working was already planned in the company culture.”*

Therefore, smart working was already permitted up to three days per week for particular business functions such as Marketing, HR and Managerial roles. On the other hand, some functions such as Customer Service or Race Office were allowed to work remotely only one day per week, due to their specific function.

The “Healthcare Business Manager, sales Mngt, Marketing, Finance & Company Training Lead” of J&J reported that: “Nowadays the company is still in smart working except for a maximum of 30% of the company's population that can return to the office due to necessity/work efficiency or physical need. The company prefers that we are still at home. Obviously, J&J, as pharmaceutical, is very careful both to the health of its employees and of people. Corporate initiatives are geared towards employees' attention and their well-being. The company provided psychologist available for all employees. We activated training courses as well as leisure activities. Our 300 virtual training courses had trained more than 9000 people”

4.9.1 Considerations

All the companies analyzed had already activated the remote working up to two times per week, before the beginning of the Covid-19 emergency. It means that they were already prepared to manage the big change from work in the office to work at home. Most of employees already had company computers and employees who had not, were provided with the necessary equipment by their companies within few days. It is not a process that you can activate overnight, without a previous organization. Not only these companies had already made available smart working but they had also tested it efficiency periodically.

On the other hand, employees were not used to working from home five days out of five. Additionally, the emergency forced people to remain at home and these actions could have several consequences not only from work efficiency point of view but also from physical and psychological point of view. Employees felt lonely, relationships and contact with people were not the same as before and the working system has changed suddenly.

Companies have realized and understood emotional state of people and difficulties of the situation and so they reacted. Training course as well as leisure activities have been made available, BMS has implemented Pilates and Yoga courses to try to find moments of harmony and entertainment, Johnson & Johnson has activated virtual gym courses as well as the other companies. Additionally, 3M has also created a course for art lovers, in which people are in virtual museums and pieces of art are explained by a teacher. Novartis has redefined its working method basing it on 4-4-2 scheme in order to reduce the workload and increase training and reflection hours. All the companies not only have activated several activities for employees but they have also improved skills and competencies of their people.

The current period is stressful and difficult but it can open the doors to a new work approach. Travel expenses will be cut as well as expenses on management and maintenance of offices, on the other hand, relationships are a key element for people well-being and a lack of relationships may affect the final work performance. Remote working was already available before the Covid-19 emergency, but after this period, it is still possible and profitable to allows employees to work at home five days out of five? If the choice feels back on employees' shoulders, what would they choose?

4.10 THE BCP CULTURE AMONG COMPANIES

As final part of my work I wondered why companies should implement a Business Continuity Plan since structuring an efficient BCP is priced: its organization, communication, people's time and any tool made available is not free of charge. I have submitted the question to people interviewed and I received several comprehensive answers.

CFO of Bristol-Myers Squibb Italy: *“A BCP is not a cost but an investment, and if you do not make that kind of investment and an emergency occurs, the economic impact would be extremely higher. Putting in place a Business Continuity Plan is an investment for the future. The difference between cost and investment is that the investments gives you future benefits. And a BCP gives you future benefits. In case of a pandemic emergency, as it occurred, the economic and reputational impact of not giving the products to hospitals and business partners would be really high. Therefore, a BCP is an investment that the company has to make because it guarantees the cornerstone of a company, that is its business continuity. It is essential that you can say to shareholders that the company guarantees its business continuity, even in time of pandemic. Bristol-Myers Squibb is a listed company, and if shareholders know that we have implemented plans in order to ensure the business, they will keep on investing on us. A company should structure a BCP because it is one of the few tools in the company that allow you to ensure business continuity and this is essential”.*

Head of government and public affair of 3M Italy: *“ I do not evaluate the BCP as a cost but as an investment, because from the moment in which the company stops the business, for whatever reason, this is a much higher expense rather than to implement a BCP. Whatever crisis occurs, the Crisis Management Team is a parachute that allows you to mitigate and amortize or even avoid any consequences. Therefore, a BCP is indispensable, especially in large corporations. It has a cost in term of hours, but usually people included in the CMT have a double role. The CMT role is a secondary role added to the primary role. However, these plans need time, such as the daily meeting we have done. In a large corporate, everyone has a specific function, but there are times when these functions have to be all together and in a collegial way, without taking into account that one has a higher grade than the other”.*

Country Finance Lead Medical Devices Italy of Johnson & Johnson: *“A business continuity plan is an insurance for your business. It requires expenses but it is an investment rather than a cost. The fact that J&J was ready to let all of its employees work from home is proof of that, and if we had not been able to do so, the economic impacts would have been very serious. Clearly, a Business Continuity Plan does not concern only the remote working theme, but it includes several emergencies. Therefore, BCPs are investments that company should make in order to guarantee their business continuity system.”*

CONCLUSION

The aim of this paper is to analyze and understand what a Business Continuity Plan is, as well as its functions, purposes and main processes. The reading of the first two chapters has allowed us to outline a theoretical framework of these plans, identifying their origins, distinctive features, components, causes and effects. Therefore, those chapters proved to be preparatory for a correct interpretation of the results of the empirical research work, conducted in the fourth chapter. The convergence of information from different sources showed that a BCP is a highly structured process that can work only if the company as a whole, supports the project and a precise and accurate governance is established. The individual interviews allowed to have more direct information from the interviewees on the structure of these plans or the processes activated by each specific department following the emergency. This type of interview highlighted the need to have a strong endorsement from the company in order to build an effective business continuity plan, indeed, all the Directors have to be included from the first steps of the implementation of a BCP. Furthermore, the interviews with people in the same position, but in different companies, showed how the processes activated were directed both towards the maintenance of the business continuity and the implementation of teams aimed at identify what could be the needs from the external market point of view as well as a focus on internal people, asking what are the new capabilities and skills required if the world will remain digital. On the other hand, group interviews have raised comments on the key element to evaluate the efficiency and effectiveness of a BCP as well as the critical processes to be protected during a crisis. It is interesting to note the difference between BMS and Novartis regarding the salary process. On one hand, BMS did not identify salary process as critical because a basis salary can be provided to employees immediately and the extra bonus achieved by employees can be provide at the end of the emergency. On the other hand, Novartis mapped this activity as critical, even if it is not included in the most important processes. Moreover, the information received from the companies interviewed met with common points about the critical activities to protect, such the need to reach costumers and patients in order to assure the treatment and distribution of products, the production continuity, legal requirements, the tender office, sales promoters as well as the safety of people.

As the reader already know, business continuity plans allow companies to continue the delivery of products or services at acceptable predefined levels, following a disruptive event. The Business Continuity Plan is something always intrinsically existed in companies, but recently it has gained a valuable place in companies' business strategies. It is also due to the globalization which makes every activity more susceptible to global issues. Large multinationals want to have a better control on each company and so they not only have divided IT setbacks from operational business problems but they also required that each branch has its own BCP. Therefore, the needed to protect the activity and to ensure the business continuity has led to the creation of increasingly specific plans for each situation. Over the time these plans have become more and more important until the birth of a particular company branch that focus on BCPs. It is interesting to note that, most of the time, generic guidelines are given by the parent company, but it's up to the branch to complete and adapt them

to the local situation. In a dynamic economic environment several types of emergencies occur and they may catch companies off guard. The Covid-19 pandemic has been an example but, as the companies analyzed have showed, it is possible to mitigate, reduce or even avoid negative effects of an emergency situation implementing an efficient and effective BCP.

From the beginning of the emergency companies have focused both on people and business continuity. The Humane Resources figures interviewed among companies have underline people as the main asset in the company. On one hand, they ensured the safety of their people leaving them at home and activating remote working systems. On the other hand, companies have implemented supporting teams to ensure business continuity. A critical point for pharmaceutical companies is represented by the management of scientific-medical informers (i.e pharmaceutical representatives). They had an essential role that, during the emergency, could no longer be performed as usual. Some companies have tried to substitute the face to face contact between pharmaceutical representatives and medical doctors with a remote contact through remote systems. Other companies have flanked this change with specific training courses in order to improve their performance. This is a big change that, according to companies, can be also use in future. The current period is stressful and difficult but it can open the doors to a new work approach. Companies' business continuity plans included methods and systems to make the remote working immediately possible. However, employees were not used to working from home five days out of five. Additionally, the emergency forced people to remain at home and these actions could have several consequences not only from work efficiency point of view but also from physical and psychological point of view. Employees felt lonely, relationships and contact with people were not the same as before and the working system has changed suddenly. Companies have realized and understood emotional state of people and difficulties of the situation and so they reacted with the implementation of training course as well as leisure activities.

In order to reach the purpose of business continuity companies have passed through several steps that involved Risk Assessments, Business Impact Analysis, Recovery Strategies, Plans Development, Testing and Valuation of Performances for each process identified as critical. Indeed, a BCP should be structured before the advent of the emergency in order to have the plan ready to recover the situation. Clearly, the path to reach business continuity it is neither short nor easy, indeed, in order to build an effective BCP it is necessary the endorsement of all company functions and directors. This is a point raised by all the Directors interviewed, in order to reach business continuity the company as a whole has to work toward this purpose and the main figures have to be included in each step of the business continuity project. A BCP is not only a plan but also an attitude that companies have to show in order to safeguard their business. The finance people of the companies analyzed have highlighted how a Business Continuity Plan should not be assessed as a cost but as an investment, and if you do not make that kind of investment and an emergency occurs, the economic impact would be extremely higher. A company should structure a BCP because it is one of the few tools that allow you to ensure business continuity, and this is essential for the resilience of your organization.

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EXECUTIVE SUMMARY

Introduction

Nowadays, companies are working in an increasingly dynamic environment that makes any activity more susceptible to global issues. The repercussions of a business interruption are now much more serious rather than in the past, and so the purpose of companies is to preserve their business whatever the situation. Business continuity is that system that allows companies to maintain its business continuous, even after an unexpected emergency. The recovery plan of activities is something always intrinsically existed, but recently it has gained a valuable place in companies' business strategies. This paper intends to bring the reader closer to the theme of business continuity, not only through the illustration and explanation of what a Business Continuity Plan is and how to build it effectively, but also through the analysis of cases study of companies that have, firstly structured and then currently activated these plans.

The Business Continuity Plan

According to ISO 22301 Business Continuity is “ *the capability of an organization to continue delivery of products or services at acceptable predefined levels following a disruptive incident*” (GPG, Business Continuity Institute; ISO 22301). As we read from the definition of business continuity, it is expressed as a continuous process, as it actually is. Furthermore, the goal is not about going on as if nothing happened, but going on “ at acceptable predefines level”, therefore a level of production and service that allowed the organization to continue its existence until the disruptive event is resolved. Events that may require the activation of the BCP are: natural events; human mistakes that could occur in various area, activities or locations; breakdown of processing systems or data communication; political events; sabotages or terrorist acts. Most of the times these circumstances are unexpected and needed a fast response from the organization. The reaction will be quick only if the companies have assimilated the culture of business continuity and if they have already implemented plans that make companies able to carry on with their business.

Preliminary phases of a business continuity plan are: identify processes; identify the risks; design preventive and continuity solutions to ensure that the organization can continue the activity even at a limited level.

Going more into detail, the main phases for the construction of an efficient and effective system of business continuity can be summarized in:

- Planning: definition of the area of action; preparatory activities (background, analysis of the production chain and organization, document management and so on)
- Execution: identification of critical processes; identification of possible threats; analysis of the identified risks and their possible treatment; design and implementation of preventive measures of emergency and recovery
- Check: test, drills and internal audit

- Plan correction⁴⁷

Each plan should include: purpose and scope of action; objectives; activation criteria and procedures; implementation procedures; roles, responsibility and authority; requirements and procedures for communication; interdependencies and internal and external interactions; resources; information flow and documentation processes.

Risk Assessment

Through the phase of risk assessment, we aim to identify the critical processes inside the company. To do this, the estimations of economic losses related to the increase of the inactivity time of the process are useful. Therefore, should be considered not only economic losses but also the impact of inactivity on the reputation and brand of the company. Once these consequences are estimated they should be compared with the organization's ability to absorb them or not. The phases of risk assessment are: risk identification; risk analysis; risk evaluation; risk treatment.

The techniques of risk assessment are: Brainstorming; Delphi; Structured what if?; Fault tree analysis; Consequence/probability matrix.

Business Impact Analysis

Business Impact Analysis (BIA) allows to collect information that are necessary to identify critical processes and Core Business process. They are those processes where an interruption may cause higher damage as the time of non-use increases. In the context of business continuity this technique is strongly recommended to estimate consequences of a business process or service interruption. Three important indicators in BIA: RTO (Recovery Time Objective); MAO (Maximum Acceptable Outage); MBCO (Minimum Business Continuity Objective). When the critical process has been identified it is time to calculate the damage of the interruption of that process respect to the length of interruption⁴⁸.

Example of a BIA scheme:

Table 2.2: Breakage of a certain machinery; economic damage respect to hours spent

1- 4 hours	4-8 hours	8-24 hours	2 day	1 week	3 weeks	1 month
L	M	M	H	H	N. A	N. A

(Economic damage: Low =L; Medium =M; High =H; Not acceptable = N.A)

[Source: Wright, A. C. (2020). Manuale di business continuity e crisis management: La gestione dei rischi informatici e la continuità operativa. FrancoAngeli.]

⁴⁷ Wright, A. C. (2014-2020) Manuale di business continuity e crisis management.

⁴⁸ Tjoa, S., Jakoubi, S., & Quirchmayr, G. (2008, March). Enhancing business impact analysis and risk assessment applying a risk-aware business process modeling and simulation methodology. In *2008 Third International Conference on Availability, Reliability and Security* (pp. 179-186). IEEE.

Recovery strategy, Plan development, Testing and Evaluate performance

Progressively, the recovery strategy includes: development of business recovery strategies; back-up and recovery of vital records; determine minimum processing requirements; select recovery processing alternatives⁴⁹. By this point, you have gone through the BIA to identify and determine the Core Business Processes and their respective Supporting Business Processes, Vendors and Service Providers. In large, complex organizations, each Core Business Process develops its own Business Continuity Plan. This plan will include internal and external dependencies. Also, you have performed a Risk Assessment to identify and vet the riskiest potential disruptive events, vulnerabilities and hazards. Once an organization identified critical processes and risks, and after that it decided to take precautions from them, a comprehensive plan shall be designed. Having developed the plan, it is sensible to test it and then to perform an audit at regular intervals. A testing and audit process help ensure that the plan remains current, and that it stands up to rigorous examination. Testing is difficult since it is impossible to test under the highly- stressed conditions of a real emergency. However, a simulation or even a simple walk- through of the plan, can reveal inconsistencies or omissions⁵⁰. After that the performance can be evaluated.

Governance and Stages Control of Business Continuity Plans

The role of management is to create an environment that facilitates the identification and tight control of the negative risks, while supporting an environment that allows for the detection and conversion of opportunities, and their challenge to determine how much uncertainty an organization is prepared to accept. Every crisis management program begins with a competent crisis management team. This group serves as the organizational backbone for crisis planning and response. The Crisis Management Team (CMT), also known as Core Team, includes all the functions of an organization and it is composed by people who are part of the highest levels of the organization. This team has to take part in coaching and training program as well as various update each year. As the Business Continuity Institute and experts in the field suggest, it would be useful for there to be three levels of command: strategic level; tactical level; operational level. These levels are called also “Gold, Silver and Bronze” respectively. They are a three-tier structure of command, each level of which performs mutually exclusive roles at separate locations. The strategical level defines how a disaster should be managed from the top management. The plan vets’ roles and the precautions to be taken, especially regarding communication to stakeholders. The Silver Commander, aided by appropriate staff, has responsibility for the development of tactics that will be meet the strategic objectives set by Gold. Tactical

⁴⁹ Heng, G. M. (1996). Developing a suitable business continuity planning methodology. *Information Management & Computer Security*.

⁵⁰ Savage, M. (2002). Business continuity planning. *Work study*.

plans represent the entire organization's emergency response putting in practice the strategical plans⁵¹. The operational contains the operating instructions for each critical process and for the expected consequences.

Methodology and Context of the Analysis

I used qualitative research methods because the criteria and questions were quite open, and my aim was to understand the field. I wanted to be open to new cognitions, which could appear during the research process. The aim was to enable a triangulation analysis that would enlarge the validity and reliability of the study. The sample is composed by large multinational companies that are part of the pharmaceutical and healthcare sector. The companies that have been analyzed are: Bristol Myers Squibb; Novartis Group; 3M Company; Johnson & Johnson. I carried on the interviews technique combined with data triangulation technique. Different source of information has been used in order to increase the validity of the study. By data triangulation I carry on a qualitative research strategy to test validity of the study through the convergence of information from different sources. Furthermore, two types of interviews were conducted, individual and group interview. The individual interview allowed for spontaneity, flexibility, and responsiveness to individuals. On the other hand, group interview with two or three members of the company participated, allowed people to listen to their colleagues' opinions and provide additional comments⁵². Up to six people were interviewed for each multinational company, each of which is part of a different working area. Additionally, I tried to compared information and comments reported from similar professional figures working in different companies, in order to have similar or different perspectives on the same topic. Clearly, I focused on people who were working on business continuity plans and especially I received information from the managers and directors of these plans but, on the other hand external personnel were also asked to give their opinion on the modalities and efficiency of the business continuity process put in place by the company. I was especially supported by Bristol-Myers Squibb. as I did an internship at this company.

⁵¹ Pearce, T., & Fortune, J. (1995). Command and control in policing: A systems assessment of the gold, silver and bronze structure. *Journal of Contingencies and Crisis Management*, 3(3), 181-187.

⁵² Triangulation, D. S. (2014, September). The use of triangulation in qualitative research. In *Oncology nursing forum* (Vol. 41, No. 5, p. 545).

Professional Figures Interviewed in each Company

Individual Interviews

Bristol-Myers Squibb:

Primary role: Country CFO and Board Member. Secondary role: Business Continuity Core Team Manager

Primary role: IT Director. Secondary role: Business Continuity Core Team Manager

Primary role: IT Business Partner. Secondary role: PMO-BC Project Management Office Business Continuity

Primary role: PM Lung & pantumor. Secondary role: PMO-BC Project Management Office Business Continuity

Senior Regulatory Affair Manager

Senior HR Business Partner

Novartis Group

Primary role: Country Quality Head. Secondary role: Task Force Corona Virus Leader and Business Continuity Plan Leader.

Head of Country Communications & Patient Advocacy

P&O Manager & Head of Industrial Relations

3M Company

Primary role: Head of government and public affair. Secondary role: Crisis Management Team member

Senior HR Business Partner.

Johnson & Johnsons

Primary Role: Country Finance Lead Medical Devices Italy. Secondary role: Deputy Managing Director.

Primary role: Procurement/Finance - Site Coordinator & User Manager. Secondary role: BCP coordinator.

Healthcare Business Manager; Finance & Company Training Lead

Group Interviews

Bristol-Myers Squibb

Business Continuity Core Team Manager & Senior HR Business Partner

PMO-BC Project Management Office Business Continuity 1 & Senior Regulatory Affair Manager & PMO-BC Project Management Office Business Continuity 2

Novartis Group

Head of Country Communications & Patient Advocacy & P&O Manager & Head of Industrial Relations

Johnson & Johnson

Primary Role: Country Finance Lead Medical Devices Italy. Secondary role: Deputy Managing Director. & Primary role: Procurement/Finance - Site Coordinator & User Manager. Secondary role: BCP coordinator.

Case-Study: How the Companies Analyzed Have Implemented and Subsequently Activated the Business Continuity Plan following the Covid-19 Emergency.

Birth of the Bcp in the Analyzed Companies

As pointed out by BMS and J&J, it wasn't long before the division between IT processes and business processes. Companies wanted to split problems that come from IT system and the one coming from business operations, in order to have much control on the individual business processes. This change led to the birth of two different fields: Disaster Recovery and Business Continuity.

Business Continuity Plans have always been included in the analyzed companies and they often comes from a Corporate initiative. The headquarter gives the structure of these plans that companies must follow and adapt them to the local situation. Novartis and Johnson & Johnson have experienced this step, indeed the request to implement a BCP came from the headquarter. A unique case is that one of BMS Company based in Rome, in which the plan has been previously structured by themselves and only after a while the Corporate gave them global templates. It is interesting to note that generic guidelines are given by the parent company, but it is up to the branch to complete and adapt them to the local situation

Pandemic Knowledge

In addition to the search for the birth of the BCP in each of the previous companies I was curious to know if their plans predicted and were ready for an event like the Covid-19 pandemic. The answers to my question have shown that a BC plan does not strictly require the forecast of every possible event. It is enough that each of the different business functions know how to react to an unexpected interruption, regardless of the reason.

Bcp Governance Structure and Roles

The BCP is a highly structured process and it needs a precise and accurate governance. The Core Team is composed by qualified and specific people who not only structure a plan to be ready for a possible crisis but also take the responsibility for the project. The structure of a BCP also depends on the location where it is implemented. From the BMS experience we understood that a production sites need more levels of governance respect to a commercial site. During an emergency, the flexibility and nimbleness of a plan makes the difference. All the roles should be previously determined and be ready to face the difficult situation. General Managers, Financial Directors, CEOs and all the Directors should be involved from the first steps and should supervise the plan in all its actions. The governance structure of Bristol Myers Squibb reflects all these values. Differently from the CMT governance structure of BMS and Johnson & Johnson, Novartis Italy did not include the Financial Director in the first steps of the BCP birth. At the beginning the Financial roles did not participated in the Core Team. Then, all the positions that report to the CEO have been included in the plan, and thus the head of the finance area as well. Although the main company roles are involved during the

activation of a BCP, their presence should also be necessary during the construction of the plan, and so from its first steps. As previously underlined, the endorsement and support of all company roles it is essential in order to build a more effective BCP.

Implementation and Simulation of Business Continuity Plans

First of all, as reported by companies, the structure of a BCP depends also on the location where it is implemented, indeed, a production site needs more levels of governance and a different plan respect to a commercial site. Anyway, the implementation of a business continuity plan passes through several steps that are followed by all the companies analyzed:

1. Risk Assessment
2. Business Impact Analysis
3. Recovery Strategies
4. Plan Development
5. Testing
6. Evaluate Performance

The HSE Team ("Health & Safety Executive") for BMS Company and the ERT Team (Emergency Response Team) for J&J Company are likely to be the first one to notice a facility problem. The HSE/ERT Team quickly informs the General Manager who calls the Crisis Team to meet. So, the GM, the Leadership Team and the PMOs meet to analyze the information given by the HSE/ERT manager and, after having evaluated the circumstances, decides whether to activate the BCP or not.

Furthermore, companies have demonstrated that each department has its own procedure to recover the emergency. The company knows its critical activities and acts accordingly, so each department set up different procedures to perform in a given time. These processes are established and simulated in advance, so that when the emergency occurs the company is ready to reply. The companies explained that, in order to have the plan effective, different types of simulation are carried out periodically. In addition, a review of the plan is made each year as well as the search for possible new critical activities.

Activation of the BCP following the Covid-19 Emergency

From the beginning of the emergency companies have focused both on people and business continuity. On one hand, they ensured the safety of their people leaving them at home and activating remote working systems. On the other hand, companies have implemented supporting teams to ensure business continuity. BMS has activated the Crisis Management Team and PMO that managed a team composed by 35 people to restore the emergency, as well as 3M. Offices were inaccessible and so the work has been carried out through remote systems. Companies were ready to activate smart working as they had already implemented and simulated this system in the past years, with positive results. Novartis, through its "Task Force Corona Virus Leader", has activated the business continuity plan and it succeeded in monitoring the situation and quickly responding to

the emergency. Besides it, Johnson & Johnson have created a specific team, the “Ironman” team, that sought to identify what could be the needs from the external market point of view as well as a focus on internal people, asking what are the new capabilities and skills required if the world will remain digital. Pharmaceutical companies not only have reacted quickly to the emergency but they are also imagining what changes are necessary if this pandemic situation will last for a long time.

Critical Business Processes that Need to be Protected during Covid-19 Emergency

Bristol Myers Squibb:

- Need to reach our costumers/patients in order to assure the treatment (distribution).
- Meet legal requirements.
- Need to manage activities that could impact heavily on financial or/and image of BMS and affiliates.
- Ensure the safety of people.

Novartis Group

- Production continuity and supply of drugs to patients.
- Clinical Trials.
- The operational continuity of all Novartis IT systems working remotely.
- Salaries.
- Ability to collect money from costumers.
- Health management plan for Novartis people

3M

- Ensure the safety of people.
- Manage activities that could impact heavily on financial or/and image of BMS and affiliates.
- IT system continuity.
- Production continuity and distribution continuity

Johnson & Johnson

- Ensure the safety and well-being of J&J people.
- Sales promoter.
- Race Office.
- Meet legal requirements.

Key Elements to Evaluate the Efficiency and Effectiveness of a Business Continuity Plan

Bristol-Myers Squibb Finance Director and Johnson & Johnson Country Finance Lead have highlighted the time as the most important key indicator for Business Continuity Plan. Furthermore, a business continuity plan works if it manages to secure the continuity of the processes previously identified as critical. The satisfaction of the critical activities is the key indicator in evaluating a BCP. In addition, from a financial point of view, revenues are the key indicators as well as all the activities that hit financial performance of the company. On the other hand, when evaluating a plan before the real emergency, simulations and virtualization of that event are the best way to test it.

The Remote Working Theme

All the companies analyzed not only had already activated the remote working up to two times per week before the beginning of the Covid-19 emergency, but they had also tested its efficiency periodically. It is not a process that you can activate overnight, without a previous organization. However, the current emergency challenged

the remote working system put in place by the companies, indeed, employees were not used to working from home five days out of five as well as to face such a difficult and stressful situation. Companies have realized and understood emotional state of people and so they reacted with activation of flexible working modalities, training courses and leisure activities.

The BCP Culture among the Companies Analyzed

The CFO of BMS Italy, the Head of Government and Public Affair of 3M and the Country Finance Lead Medical Devices Italy of J&J agree in assessing the plan as an investment rather than a cost. A Business Continuity Plan is an investment for the future and it is an insurance for the business of the company. Furthermore, shareholders feel safer if they know that the company guarantees its business continuity, even in time of emergency and so they will keep on investing on it.

Conclusion

The paper embeds a descriptive section of business continuity plan as well as the empirical section in which close information, given by people working at business continuity plans in different companies, are collected and analyzed. Therefore, the first section proved to be preparatory for a correct interpretation of the results of the empirical research work. The convergence of information from different sources showed that a BCP is a highly structured process that can work only if the company as a whole supports the project and a precise and accurate governance is established. As a matter of fact, both individual and group interviews pointed out that the companies have been working on these plans for a long time. The key roles inside the companies have been involved from the first step of the birth of a BCP and a governance structure has been established immediately. Generic guidelines are given by the parent company, but it is up to the branch to complete and adapt them to the local situation. Only in the Bristol-Myers Squibb Rome Affiliate case the initiative to implement a BCP came directly from the local company, and not from the corporate. It is just another reminder to the culture of this branch company towards business continuity plans.

The analysis showed that a BCP does not need to predict every possible emergency to be effective. Especially from the discussion in the group interviews, it emerged that a plan must evaluate the consequences of a possible interruption of critical activities, regardless of the cause. Indeed, a pandemic emergency was included in the consequences for which company offices would be inaccessible and so the alternative site or the remote working would have been activated.

The structure of a BCP also depends on the location where it is implemented. From the BMS and J&J experience we understood that a production site needs more levels of governance respect to a commercial site. However, regardless the location, the business continuity plan is based on a structured and hierarchical system in which the key figures of the company have to manage and supervise the circumstances step by step.

In addition, the individual interviews with people who manage these plans highlighted how companies follow the same steps in order to structure an effective and efficient business continuity plan: Risk Assessment;

Business Impact; Analysis; Recovery Strategies; Plan Development; Testing; Evaluate Performance. These steps are carried out by each company interviewed and reviewed periodically.

From the beginning of the emergency the companies have focused both on people and business continuity. On one hand, they ensured the safety of their people leaving them at home and activating remote working systems. On the other hand, the companies have implemented supporting teams to ensure business continuity. BMS has activated the Crisis Management Team and PMO that managed a team composed by 35 people to restore the emergency, as well as 3M. Offices were inaccessible and so the work has been carried out through remote systems. Novartis, through its “Task Force Corona Virus Leader”, has activated the business continuity plan and it succeeded in monitoring the situation and quickly responding to the emergency. Besides it, Johnson & Johnson have created a specific team, the “Ironman” team, that sought to identify what could be the needs from the external market point of view as well as a focus on internal people, asking what are the new capabilities and skills required if the world will remain digital. Pharmaceutical companies not only have reacted quickly to the emergency but they are also imagining what changes are necessary if this pandemic situation will last for a long time.

The Critical Business Processes shared by the companies are: - Need to reach costumers/patients in order to assure the treatment (distribution). - Need to manage activities that could impact heavily on financial or/and image of the company and affiliates - Health management plan for company people - Production continuity - Meet legal requirements.

Bristol-Myers Squibb and Novartis have two different opinion on the salary process. On one hand, BMS did not identify salary process as a critical activities because a basis salary can be provided to employees immediately and extra bonus achieved by employees can be provide at the end of the emergency, so that the salary process is not overload during the negative event. On the other hand, Novartis mapped this activity as critical, even if it is not included in the most important activities.

Both during individual and group interviews are came out the key elements to evaluate a BCP. Bristol-Myers Squibb Finance Director and Johnson & Johnson Country Finance Lead have highlighted the time as the most important key indicator for Business Continuity Plan. Furthermore, a business continuity plan works if it manages to secure the continuity of the processes previously identified as critical. The satisfaction of the critical activities is the key indicator in evaluating a BCP. In addition, from a financial point of view, revenues are the key indicators as well as all the activities that hit the financial performance of the company. On the other hand, when evaluating a plan before the real emergency, simulations and virtualization of that event are the best way to test it. Clearly, a simulation will never be like reality, stress and scare do not affect it. Real emergencies may hit suddenly and assume different shapes. However, the repetition of test improves the final performance and this can be a key element during an emergency.

