Understanding the Interplay between Resilience Capacities and Internal Controls: A Literature Review Perspective

Comprendre l'interaction entre le système de contrôle interne et les capacités de résilience: une perspective de revue de littérature.

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Abstract

In an increasingly interconnected world (society, technology and environment), no organization can sustain a competitive position and survive disruption as an independent and successful entity if it doesn't adapt its organizational systems.

The goal of this review is to provide an overview of the literature in the area of resilience, with regard to the adaptation of the internal control principles and methods. The main question of this paper is: How can the adjustments of the internal control system of a company reinforce its resilience capacities? The relevance of the article is based on the need to gain more knowledge of the relationship between the components of the internal control system and elements of the organizational resilience. The literature review that was handled, showed that there is a lack of research exploring this subject. We examine the relevant literature on organizational resilience and internal control, identifying the main connections between resilience and the components of internal control (Control Environment; Risk Management; Control Activities; Information and communication Monitoring Activities). Our review showed that the adaptation of these components is the key to overcome crises and build on the experience in order to strengthen resilience capacities.

Keywords: Resilience capacities; internal control system; crises; adaptation; literature review.

Résumé

Dans un monde de plus en plus interconnecté (société, technologie et environnement), aucune organisation ne peut conserver une position concurrentielle et survivre à une disruption en tant qu'entité autonome et prospère sans adapter ses systèmes organisationnels.

Cette revue vise à offrir un panorama de la littérature relative à la résilience organisationnelle, en ce qui concerne l'adaptation des principes & des méthodes de contrôle interne. La question centrale de cet article est : Comment les modifications du système de contrôle interne d'une entreprise peuvent-elles renforcer ses capacités de résilience ? La pertinence de l'article réside dans la nécessité d'approfondir la compréhension de la relation entre les éléments du système de contrôle interne et ceux de la résilience organisationnelle. La revue de littérature effectuée a révélé une carence de recherches sur ce sujet. Nous analysons la littérature existante sur la résilience organisationnelle et le contrôle interne, en identifiant les principales relations entre la résilience et les éléments du contrôle interne : Environnement de contrôle; Gestion des risques; Activités de contrôle; Information et Communication; Activités de pilotage. Notre étude a révélé que l'ajustement de ces éléments est essentiel pour surmonter les crises et capitaliser sur l'expérience afin d'améliorer les capacités de résilience.

Mots-clés : Capacités de résilience ; système de contrôle interne ; crises ; adaptation ; revue de littérature.

Introduction

The internal control system is a set of policies, procedures and measures designed to provide the organization with reasonable assurance as of the achievement of its objectives.

When applied objectively, internal controls guarantee the reliability of financial information, improve the decision-making process and ensure compliance with applicable laws and regulations while minimizing risks.

This system is crucial in defining the strategic direction insofar as the policies and procedures put in place by the internal controls help the management to manage the risks which can hinder the performance of the company or even its whole existence.

As defined by (Linnenluecke et al., 2016), organizational resilience is the ability of an organization to anticipate, prepare for, react to, and adapt to increased change and abrupt disruptions in order to survive and prosper. Companies must be prepared for sudden shocks and must have a mitigation plan to deal with crises (Yang et al., 2021) while maintaining business continuity and protecting people and assets.

In the current VUCA1 era of the global economy, the ability of businesses to build resilience to adverse events that may occur becomes key to survival, transformation and even their growth in the future.

Most of the recent studies on internal control focuses on exploring its role in improving innovation performance; capital gains; the return on investment, and therefore the value of the business; and in improving business performance by reducing finance costs, audit costs, capital costs and operational risks. Though, relatively very few research has been done on the effective role of internal control throughout crises. Only (Zhu & Song, 2021) studied it in the response of enterprises to the impact of COVID-19 and concluded that internal control can minimize the negative impact of the epidemic on the performance of the organization. The higher the quality of the company's internal control system, the better the company's financial performance. As of (Rikhardsson et al., 2021), they used the 2008 financial crisis to study the banking sector and found that internal control systems are key to effective crisis response.

For months, the COVID-19 health crisis has forced all organizations, private and public alike, to learn to work differently. The goal is to ensure business continuity and maintain productivity while protecting employees. Hence it is essential, to guarantee their sustainability in environments that have become increasingly unstable, with anticipation skills and all together with coping and adaptation abilities (Duchek, 2020). In this context, and given the repercussions caused by the Covid-19 crisis on working conditions, it would not be surprising if internal control systems and their various components were affected and called to adapt.

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[1] **VUCA** is an acronym coined in 1987, based on the leadership theories of Warren Bennis and Burt Nanus, to describe or to reflect on the Volatility, Uncertainty, Complexity and Ambiguity of general conditions and situations.

Given the growing recognition of the critical role that both organizational resilience and internal control systems play in ensuring the sustainability and effectiveness of organizations, especially during crises such as the COVID-19 pandemic, it remains unclear how the specific components of internal control contribute to enhancing organizational resilience. While existing literature suggests that strong internal controls are essential for managing risks and maintaining operational stability, the direct impact of internal control elements—such as the control environment, risk management, control activities, information and communication, and monitoring activities—on an organization's resilience capacities is not fully understood. This research seeks to explore and establish the connection between internal control systems and organizational resilience, particularly by examining how these elements influence an organization's ability to respond, adapt, and thrive amidst disruptions. The study aims to answer the following key question: **How do the components of internal control systems affect the resilience capacities of organizations, and what specific impact do they have on an organization's ability to effectively manage and recover from crises?**

Based on the above facts, this paper is actually laying the groundwork to solve our research problem, which is the contribution of internal control to strengthening organizational resilience, by reviewing the existing literature and gathering data from various sources.

This study presents a threefold contribution. First, this work enriches the empirical data on organizational resilience, in the available research on "resilience", researchers have extensively explored macro-levels such as urban resilience and regional resilience, while research on the resilience at the organizational level develops less systematically (Kantur & Iseri-Say, 2012). Second, there is very contributions on the relationship between a company's management capacity and crisis response, particularly in terms of internal control measures. Previous studies mainly focus on the impact of internal control on the quality of accounting information and communication, on company performance, on company investment behavior or on risk management. There is very little literature focusing on the relationship between one of the components of internal control and the capacity for organizational resilience, hence the existence of a knowledge gap that we have chosen to explore. And third, despite the growing interest in the concept of resilience, there is still little evidence on understanding what makes organizations resilient in the real world.

At the early stages of my thesis work, this paper, presented as a review of the empirical literature, we aim to present the theoretical framework for our research problem on one side and on the other side we intend to compile and scrutinize the existing empirical research to understand how internal controls can strengthen or not organizational resilience capacities. Conducting a literature review helps define the conceptual content of the field (McCutcheon and Meredith 1993) and provides direction for theoretical development in future studies.

This paper is structured as follows. In the following section, we present the conceptual background of the article that describes what we know about the main concepts of our research which are internal control and organisational resilience, it summarizes the emergence of the two concepts and their evolution in a crisis context. We then describe our research problem. And, in the third part, we present an overview of the literature that has treated the subject of the relationship between internal control and business resilience.

1. Theoretical framework

1.1 Internal control systems as a stimulus of the organizations

Since 1948, many authors, practionnars and organizations proposed various definitions of Internal Control (Faure & Fain, 1948 ; The French order of chartered accountants,1977 ; The Consultative Commitee of Accountacy,1978 ; The Committee of Sponsoring Organizations of the Treadway Commission (COSO [2]) 1992 ; Autorité des Marchés Financiers, 2006 ; The Turnbull, 1999 ; Bertin,2007 ; Pigier, 2017).

Despite the multiplicity of definitions that exist, there are no essential differences, they all admit that internal control constitutes a process allowing the organization to have a reasonable assurance as of the achievement of previously defined objectives. They also agree that internal control is everyone's responsibility within the organizations (Management, Board of Directors, Employees, etc.).

Internal control is the control of risks by the organization. It is a response to all the risks inherent to the mission, to the organization, to the context of execution and to the "environment" of the entity. Once these risks have been identified and assessed, internal control will endeavor to take effective measures to reduce them and thus put management under "control", by ensuring compliance to rules and regulations, by safeguarding assets, by promoting operational efficiency and also by assuring accurate and reliable records. This is how the objectives can be achieved. It is, in fact, a daily, regular and evolving system (Holcman & Collectif, 2014).

However, the commitment of everyone in the process of implementing the internal control system does not absolutely guarantee the achievement of the objectives of the organization (operations, reporting and compliance). The very definition of internal control, as proposed by the COSO referential, only refers to reasonable assurance to the extent that several factors may intervene and alter the performance and effectiveness of internal control. Among these factors, (Reding et al., 2015) cite: the very relevance of the objectives, human error, poor decision-making based on erroneous or biased judgment, the occurrence of external events beyond the control of the organization as well as collusion between two or more persons resulting from bad faith.

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[2] **COSO**: The Committee of Sponsoring Organizations of the Treadway Commission (COSO) is an organization that develops guidelines for businesses to evaluate internal controls, risk management, and fraud deterrence.

Thus, especially in the case of the occurrence of external events / crisis an update and adaptation of internal control is highly recommended.

Actually, the changes and disruptions that come from the environment have pushed organizations to adapt their internal controls. As a result of this, in 2013 COSO released an updated version of its internal controls in response to changes to business models to address risk management and disruption prevention. A study by (Sathyamoorthi, 2001) revealed that it is important to have an internal control system over all activities of the organization and that a well-designed and properly implemented control system ensures the protection of resources of the organization against risks and possible disruptions.

Regarding the composition of the internal control system, the Committee of Sponsoring Organizations (COSO) published, in 1992, the internal control system components which are: *Control Environment; Risk Management; Control Activities; Information and communication* and *Monitoring Activities* as shown in the figure 1 below:

Figure 1. The COSO Framework

Source : *Adapted framework from the "Integrated Internal Control Framework" of COSO*

The COSO Framework cube is a visual representation of how all the components of internal control work together and relate to each other within the organization in order to achieve its objectives in terms of operations, reporting and compliance.

1.2 Organizational resilience as a crisis exit factor

Resilience is a concept that has been used and developed in many scientific disciplines since the 1990s (physics, psychology and management). This concept aims to specify the mechanisms that allow a system (individual, sociotechnical system, organization, territory, etc.) to resist and remain sustainable during the occurrence of events that could negatively impact the system and its environment. Although there is no consensus on the definition of the resilience of a system, different approaches have been developed by the natural sciences, the human and social sciences, and the engineering sciences and are gradually proposing a "recovery mindset" which addresses the complexities of the dynamics of disaster response (Geoffroy, 2019).

In management science, the concept of organizational resilience first appeared in studies related to crisis management and high-reliability organizations. The analysis then moves from the individual level to the organizational and collective level, thus resilience is perceived as the sum of "mechanisms that make groups less vulnerable to turbulences and disturbances", or in terms of the capacity that the company should develop to absorb, react and take advantage of disturbances caused by environmental changes (Bégin & Chabaud, 2010).

Therefore, Weick K.E. defined organizational resilience as the ability of a group to avoid organizational shocks by building systems of continuous actions and interactions intended to preserve the expectations of different individuals in relation to each other (Weick K.E., 2003).

As of (Weick and Sutcliffe, 2007), resilience comes in three intimately embedded dimensions which are: 1) an absorptive capacity, leading to the organization to avoid collapse in the face of a sudden or unforeseen situation assimilated to a shock; 2) a renewal capacity through which the organization can innovate or create new horizons; 3) an appropriation capacity leading the organization to become more strong because of their experiences.

Many definitions of organizational resilience refer, before its activation, to the recognition of a state of crisis.

In fact, the word crisis in Mandarin Chinese "Weiji" includes two characters the Wei which means danger and the Ji which means opportunity, for a Chinese the crisis is the combination of danger and opportunity, the one that only focuses on the danger would miss an opportunity.

Thus, according to (Teneau, 2017) to face a crisis, we have either one of two alternatives:

- Retreat to yourself and so let the danger invade all of our space.

- Use your resilience to overcome it and then seize the opportunity

Several authors working on the formalization of crisis periods, such as Shrivastava, Roux-Dufort, Pearson and Mitroff, Lagadec or Mayer, have identified four crisis times referring to specific moments of the crisis with slightly different designations.

(Trousselle, 2014) considers that the crisis process approach defines it as a succession of stages where the organization has less and less control of future events because it is not used to or prepared for such situations.

As of (Shrivastava P., 1995), we can distinguish four times for a crisis going from Time 1 where the crisis is triggered by a first event, external or internal, that creates a first imbalance in the functioning of the organization. Followed by Time 2, the most critical, with the accumulation of unusual events and situations, some of which potentially become destructive for the organization. Then Time 3, characterized by a high level of stress, anxiety and confusion, where the usual organizational routines of decision-making bodies no longer function as before. Finally, at the end of the process, three scenarios are presented, either a total disintegration of the system, an absorption of the crisis and a return, the

closest possible, to the previous organizational balances , or this will lead to important transformations of the organization in its structures, its strategies, its skills but also its culture.

On the other side, and referring to the three dimensions of resilience cited and explained above (Absorption, Renewal and Appropriation), the National Academy of Sciences of the United States[3] proposes a schematic representation of resilience with four stages by describing resilience as the way a system anticipates and prepares for various disturbances and threats, overcomes and absorbs them, and then recovers and adapts (Figure 2). In this approach, system resilience is an ever-evolving characteristic that allows basic system functions to continuously evolve in response to threats (OECD, 2021).

Figure 2. Stages of resilience as proposed by National Academy of Sciences of the United States
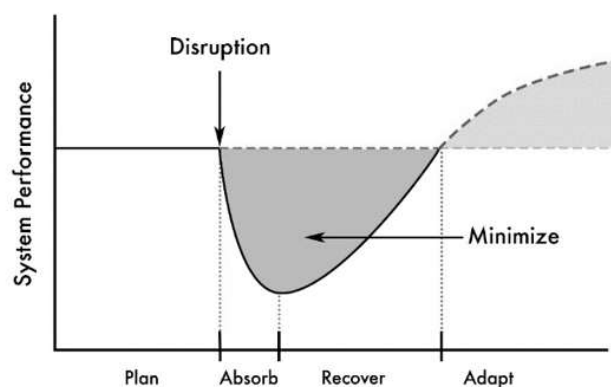
Source : *D'après (Linkov et al.,2019)*

The first step is planning; this includes preparing for disruptions by applying strategies to maintain the core system and to detect threats that the organization may face. The second stage is absorption; it consists, once the disturbance has occurred, in taking measures to limit the extent and duration of its effects. The third stage is the recovery phase; it consists in putting the system back in the best conditions in terms of speed, economy and efficiency. The fourth step is adaptation; it is about learning from the absorption and recovery phases and evolving the system to make it better able to deal with future threats (Linkov et al., 2019).

2. Context and Problem Statement

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[3] National Academy of Sciences of the United States: It is a private, non-profit society of distinguished scholars. Established by an Act of Congress, signed by President Abraham Lincoln in 1863, the NAS is charged with providing independent, objective advice to the nation on matters related to science and technology.

Organizational resilience and internal control are related in the sense that both contribute to the overall effectiveness and efficiency of an organization.

As explained above, organizational resilience refers to the ability of an organization to effectively respond to, recover from, and adapt to changes and disruptions. This can include things like natural disasters, cyber-attacks, market changes, and other events that challenge the organization's ability to continue operations.

Internal control, on the other hand, refers to the processes and systems that an organization put in place to manage risk and ensure that its operations are in line with its goals and objectives. This can include things like financial controls, operational controls, and compliance controls.

We can assume that having strong internal controls in place can help organizations build resilience by providing a foundation of trust and confidence in their operations. This, in turn, can make it easier for organizations to respond to and recover from disruptions and turbulences. At the same time, organizational resilience can help organizations maintain internal control by providing a framework for adapting to changes in the environment and ensuring that controls remain relevant and effective.

Actually, (Zhu & Song, 2021) announced that internal control plays an important role in preventing risks for companies in the face of serious emergencies, which ensures their sustainable development in times of crisis. They added that a good internal control system is the decisive factor for the sustainability of a company, especially in times of crisis. Thus, business sustainability failure usually occurs when companies fall into a high-risk crisis.

To face crisis, all organizations need to identify new risks, prepare a response plan, implement new controls or increase existing controls, and in consequence monitor the effectiveness of the internal control system.

Actually, in early 2020, a catastrophic outbreak (COVID-19) gained worldwide public attention. The outbreak of COVID-19 has severely affected people's health, society and the entire economy. At the micro level, due to the extremely contagious nature, high risk and wide coverage, businesses were forced to close or delay reopening. As a major public health event, the pandemic has not only tested the endurance and sustainability of the economy, but also the speed of business response to the crisis and the efficiency of operating systems and control systems (Zhu & Song, 2021).

In the same wake, KPMG, the world leader in auditing, consulting and accounting, listed in a report, published on their website on April 07, 2020, the main impacts of the COVID-19 crisis on the components of the COSO framework as well as the elements to be monitored by the entities and the auditors.

Therefore, our research tries to establish, confirm or invalidate the connection and the impact exerted by elements such as: the control environment, risk management, control activities, information and communication as well as monitoring activities on organizational resilience.

3. An Overview of Empirical Studies on the relationship between internal control and organizational resilience

Over the last few years, and especially after the COVID 19 crisis, an emerging wave of empirical research around the world has sought to explore how organizations work on and develop their resilience capacities. Research was explicit on the complexity and multidimensional nature of organizational resilience.

However, although the growing interest showed for this subject, we have found very few scientific contributions linking directly the two concepts "Internal control" and "Organizational resilience" in an explicit way. We have gathered in the table below, the publications that we've been able to identify.

Further research on organizational resilience connected to internal control system is needed to understand "the factors leading to strengthen resilience capacities and what specific component of internal control contribute to this".

Table 1. Empirical studies discussing the relationship between resilience capacities and internal controls

Title of the publication	Author	Year of the study	Methodology
Role of internal controls in business resilience and growth of small businesses in Gaborone	Onthatile M. Kelebetse, Suryakanthi Tangirala, Tiroyamodimo Sethate and Gangappa Kuruba	2019	Qualitative approach with a longitudinal study
Resilience capacities and management control systems in public sector organisations	Enrico Bracci and Mouhcine Tallaki	2021	Qualitative approach with a longitudinal case study
The relationship between resilience and organisational control systems in the South African aviation industry	Estie Serfontein and Krishna K. Govender	2021	Exploratory with a quantitative survey
The Value of Internal Control during a Crisis: Evidence from Enterprise Resilience	Nannan Wang, Dengfeng Cui and Chengguo Jin	2022	Exploratory with modeling

Source : *Author*

(Kelebetse et al., 2019) in their article entitled: "Role of internal controls in business resilience and growth of small businesses in Gaborone" carried out a quantitative study on around fifty SMEs established in Gaborone, capital of Botswana, in order to test among other things, a hypothesis that questions the impact of internal controls on the resilience and growth of the companies being researched. (Kelebetse et al., 2019) had concluded, at the end of their research, that an effective and scalable implementation of internal control will have a significant impact on the resilience of organizations insofar as internal controls help prevent fraud, waste and abuse of organizational resources. According to the study, respondents confirmed that controls improve the efficiency of day-to-day business operations and ensure that management objectives and decisions are followed, which strengthens their sustainability and the continuity of their activities and by therefore their resilience.

(Bracci & Tallaki, 2021), through the case study they carried out, tried to explain the link that exists between the concept of organizational resilience and control, sometimes facilitating and sometimes constraining. The study focuses on a deeper analysis of how control practices affect resilience capacity during financial shocks. The strategy adopted by companies was based on various elements, identified as capacities for anticipation and adaptation, two facets of resilience. Continuous business planning, flexible budgets, monitoring, control operations and the control environment are elements that contribute to the development of anticipatory capabilities, while training, cost control, relationship building with stakeholders and internal communication are elements that contribute to reaction or adaptation capacities (Bracci & Tallaki, 2021).

Thus, we retain elements such as monitoring, the control environment, internal and external communication and control operations which are components of internal control in order to underline and demonstrate the imminent link that exists between internal control and resilience.

As for (Serfontein & Govender, 2021) having carried out an in-depth analysis to explore the interface between organizational control systems and organizational resilience properties in the South African aviation industry. Their research found that a centralized approach to internal management control increases an organization's ability to autonomously reconfigure intellectual, financial, technological, human, and other resources to survive and thrive in the face of uncertainty. Thus, the effective application of organizational control systems autonomously promotes organizational resilience.

(Serfontein & Govender, 2020), in previous research, identified a number of indicators capable of supporting organizational resilience through its five drivers, namely: Strategic management and corporate culture, monitoring and awareness, risk management as well as reactive adaptation.

(Wang, N., & al ,2023) used data from China-listed companies for the period 2019-2021 to study the impact of internal control on corporate resilience and its operating mechanisms. Their findings can be summarized in two main ideas: First, internal control plays an active and effective role in promoting corporate resilience. When the uncertainty of the external environment increases, internal control can

form a good balance and a good coordination mechanism within the company, helping to enhance the ability of the company to face the crisis. Second, internal controls further enhance business resilience by improving resource allocation efficiency, reducing operational risk, and increasing innovation output. Since the scientific works that studied the relationship between internal control and organizational resilience are very few, and to push the analysis a bit further, we decided to focus on publications that tried to establish possible relationship between organizational resilience and each one of the components of internal control mentioned above.

Based on our study of the various scientific publications and research in the field of resilience and its presumed relationships with internal control and its components, we have been able to gather in the following table some scientific publications that have appeared in this direction. These research tried to establish, confirm or invalidate the connection and the impact exerted by elements such as: the control environment, risk management, control activities, information and communication as well as as monitoring activities on organizational resilience.

3.1 « Control Environment » and Organizational Resilience

Control environment refers to the overall culture, structure, and systems within an organization that help to promote ethics, accountability, and compliance with laws, regulations, and internal policies.

The control environment determines the level of employee awareness of the various controls in place, whether they are intolerant or not. It symbolizes the culture and history of the organization and its quality determines the entire quality of internal control (Renard, 2012).

(Arfiansyah, 2021) demonstrated that organizational culture is among the factors that have an immediate effect on organizational resilience, he added control environment plays a role in determining organizational resilience because it is capable of preventing the destruction created by a disaster.

(Teixeira & Werther, 2013) announces that the organizational culture is the fiber and the nerve of all so-called resilient companies.

(Madni & Jackson, 2009) conceive organizational resilience as the capacity of the organizational culture to adapt to a change in the environment. Whereas (Hiles, 2010) sees that an organization's ability to survive is a combination of culture, behaviors, core values and processes contained within the organization.

(Sawalha, 2015), through the study he conducted, concluded that culture conveyed along the control environment can influence organizational resilience within Jordanian insurance companies.

In summary, we can presume that control environment and resilience are interrelated concepts that work together to help organizations build the necessary foundation for effective risk management and to enhance their ability to respond to unexpected events. A strong control environment is essential for

building organizational resilience, as it provides a foundation of integrity, transparency, and governance that can help organizations respond effectively to unexpected events or challenges.

3.2 « Risk Management » and Organizational Resilience

(Reding et al., 2015) admit that risks are inherent in all aspects of life: wherever there is uncertainty, there is one or more risks.

The COSO referential defines risk as an event that can occur from internal or external, which the consequences will negatively affect the achievement of objectives, hence the need to manage them. A good risk management begins first with their identification through an iterative and continuous process dealing with the different possible scenarios and then a rigorous analysis of the causes and consequences so that we can arrive at a more or less precise assessment.

In recent years, researchers have begun to focus on how risk management might affect organizational resilience. Several studies have examined the effect of risk management on organizational resilience, notably those of Gibson and Tarrant (2010), Mishra et al. (2019), Bogodistov and Wohlgemuth (2017), Arfiansyah (2021) as well as Mitchell & Harris (2012).

(Gibson & Tarrant, 2010) argued that the approach to building resilience is based on robust risk assessment, treatment, monitoring and communication. (Mishra et al., 2019), meanwhile, attempted to identify the role of risk management on the firm's ability to manage its resources. Based on their research, (Mishra et al. , 2019) concluded that the resources owned by the firm not only help the firm achieve its goals, but also create risks that need to be managed. Thus, the company can modify the configuration of its assets in order to adapt them to changes in the environment (Mishra et al., 2019). Bogodistov and Wohlgemuth (2017) also confirmed the concluding hypothesis that the implementation of risk management helps companies to better manage their resilience in a turbulent environment.

The results of the work carried out by (Arfiansyah, 2021) support this same opinion which states that risk management plays an important role in determining the sustainability of an organization in the face of an environment full of turmoil and uncertainty.

In summary, risk management and resilience are complementary concepts that work together to help organizations prepare for and respond to unpredictable events, and to enhance their ability to recover from setbacks.

3.3 « Control Activities » and Organizational Resilience

Control activities are all the measures (preventive or detective) envisaged by the general management, the Board of Directors and other stakeholders in the process of implementing internal control, in order to control the risk and increase the likelihood that previously set goals will be achieved (Reding et al., 2015). The purpose of control activities is to minimize the risk of error, fraud, or loss, and to ensure that the organization's operations are conducted in a consistent and effective manner.

Actually, the determination of control activities is a personalized process that takes into consideration the specificities of the organization.

(Zelie, 2021) concluded that the implementation of control activities such as clear segregation of duties, appropriate authorization procedures, physical protection of assets, reliable financial reporting and internal audit activities can reduce the negative effect of COVID-19 related risks and thus reinforce organizational resilience.

As mentioned above, a resilient organization is one that has the capacity to bounce back from setbacks and continue to function effectively, even in the face of adversity. Control activities can play an important role in building organizational resilience by reducing the risk of disruptions and minimizing the impact of adverse events when they do occur. A strong system of control activities helps to ensure that an organization's operations are conducted in a consistent and effective manner, while organizational resilience provides the capacity to adapt and recover from unexpected events or challenges.

3.4 « Information and communication » and Organizational Resilience

Information systems cannot be considered as static. On the contrary, internal control procedures must provide a strategic plan for updating, maintaining or replacing the various elements of the information system in relation to the company's overall strategy (Pigé, 2017).

A high-performance information system is an essential tool for effective management and control of a company's activities, because good decisions can only be made when people are well informed. On the other hand, when the company does not set up an effective information system, this can lead to costly malfunctions or even promote the bankruptcy of the company.

In response to his research question on how do organizations use ICTs to embrace post-disaster resilience, (Chewning et al., 2013) concluded that the flexibility offered by ICTs has enabled organizations rebuild and expand communication networks, gather resources and adopt remote working routines. Reconnecting and sharing information, assistance and other resources was essential to organizational recovery after a disaster.

In the same vein, (Firdhous & Karuratane, 2018) claimed that the level of implementation of key technologies related to information and communication has a positive impact on the resilience capacities of companies.

(Vos, 2017), meanwhile, offered a strategy map to clarify how communication contributes to a company's resilience. He explained that the communication aims to support the continuity of the management of the organization by improving the societal acceptance of the risks related to the company and the way in which these are managed. This is awareness raising which consists of clarifying the risks and explaining what is being done to reduce vulnerabilities, and thus reinforce corporate resilience.

Communication also improves the perception of organizational viability and stability, it also aims to support the commitment of employees and business partners for continuity management, involving them and supporting the exchange of information within organization and between the organization and all its stakeholders (Vos, 2017).

3.5 « Monitoring Activities » and Organizational Resilience

Once designed and implemented, and to continue to be reliable and effective, an internal control system needs to be piloted and monitored.

The COSO framework recommend that the monitoring activities take place in each of the components of internal control and not as a separate element.

Tracking resilience indicators allows managers to have an overview of how activities have gone throughout the working day and a dynamic perception of issues that may arise. Monitoring of indicators should be continuous so managers will always monitor active and latent threats. This will help management make decisions supported by broader and more realistic knowledge before failures actually occur (de Carvalho et al., 2012).

To measure improvements in resilience, monitoring empirical data on what factors contribute to it, in what contexts and for what types of shocks is much needed. This is to highlight the specific indicators and data that need to be collected so that information related to resilience dynamics can be measured. The evaluation and monitoring system should focus on how to measure the occurrence of shocks or stressors, resilience capacities (intermediate outcome) and resilience responses adopted (Béné et al., 2015).

Effective monitoring activities can help organizations to identify potential risks, detect emerging threats, and assess the effectiveness of their risk management strategies. It can play an important role in building organizational resilience by enabling organizations to identify potential threats or hazards and to respond effectively when they occur.

Conclusion

This review emphasizes on reviewing the resilience literature with a focus on its relationship with internal control device and therefore intends to provide a basis for further empirical development. The results of this review show that in a context of crisis, having a resilient internal control system is important for organizations to maintain the trust and confidence of stakeholders, such as investors, customers, and regulators, and to ensure that the organization can continue to operate effectively over time.

Actually, by adapting the components of internal control to the new environmental circumstances generated by a crisis, organizations will have a better chance of surviving. (Zhu & Song, 2021) adds that

internal control ensures that business performance will be less affected by the crisis in two ways. On the one hand, effective internal control promotes transparency of accounting information and mitigates the asymmetry of information between management and stakeholders. Companies with high internal control quality will experience relatively less crisis-related losses. On the other hand, a high quality of internal control guarantees the efficiency of a company's operation and the ability to recover quickly. When the business situation changes, it can timely adjust and improve the business strategy. For example, for the temporary traffic control and restrictions on imports caused by the pandemic, companies with better internal controls, especially through good external communication, have adopted a series of strategic adjustments (such as research local partners) to meet market demand, in order to have better performance (Zhu & Song, 2021).

Thus, internal control can reinforce organizational resilience by helping to ensure that an organization is able to identify, prevent, and respond to potential threats and disruptions to its operations.

To our knowledge, this is the first review of empirical studies that focuses on the relationship between organizational resilience and internal control systems. The overall construct of this presumed relationship should be discussed and analyzed further by gathering more empirical evidence that sheds more light on the real impact of internal control on resilience capacities.

Moreover, we need to mention that the predominance of qualitative studies can be interpreted as a sign that this is a relatively young area of research.

On a theoretical or scientific level, the research aims to shed light on the role of internal control in times of crisis, as well as better understanding of the impact of the adaptation of its components on the resilience of organizations.

On a practical or managerial level, the study will enable managers understand the importance of adaptive internal control practices to improve the resilience of their organizations.

Further studies in the field is not limited and still almost all paths might be possible that include more empirical evidence on measuring the impact of the internal control device on resilience capacities, as well as identifying other factors that may have an impact too.

 To offer insights that are useful to our research problem. Future research should discuss more how the concepts and principles that dominate most of resilience literature will need to be tested in the real world, and particularly in the Moroccan context, where such studies are still inexistent. In such work, frameworks need to be developed in a way that resilience capacities not only emphasizes on unexpected shocks, but also everyday business challenges.

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