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Operational Risk in centralized Risk Management processes in financial institutions: case study

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OPERATIONAL RISK IN CENTRALIZED RISK MANAGEGMENT PROCESSES IN FINANCIAL INSTITUTIONS: CASE STUDY

by

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Abstract

One of the main reasons for the 2008 financial crisis was the failure in operational risk management. Making this one of the reason why operation risk is having more and more a bigger importance. While considering whether or not to opt for a centralized risk management processes we should be aware of the inherent operational risk coming from it. A financial institution who choose this system must ensure that had analyse and review the potentially negative impact and risks that could came from the choice made, so it can protect the company's interests. This study aims to analyse the operational risk inherent to the centralized risk management processes in financial institutions through analysing the potential risks associated to the process. The study purpose also to find out the benefits and risks to centralization as well as how to mitigate them. The objective is to analyse whether a centralization of risk management processes brought benefits to a financial institution and what are the operational risks associated to that. This study will be relevant not only in the present by knowing if that was a good decision and add value to the company, but as well it will be helping in the identification, measuring and mitigation of operational risks in the centralization of risk management processes from now on.

Keywords

Operational Risk; Risk Management; Centralized processes; Financial Institutions

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1. Problem identification and research questions

Risk is an uncertainty possibility of loss that get instability to a financial institution. It measures what someone is willing to take to get something.

In 2017, Pedrógão Grande had the major fire in Portugal ever. More than 30 thousand hectares were destroyed. People lost their houses and even worse more than 60 lost their lives. What appears just an ordinary summer day turns out to be a nightmare for all the country, specifically those for that region. An incident like this had a lot of repercussions and all these failures' combinations result in the factors: processes (emergency plans and procedures), systems (emergency network), people (command and civil protection operations) and external event (fire, high temperature, constantly changing wind orientation). These are exactly the four classical causes of operational risk (Buchelt & Unteregger, 2004).

In the post-crisis era banks need more than ever to improve the level of detail as well as the accuracy of risk reporting. Investors and customers are interested in how enhanced risk assessment help drive controlled operations, which lows operational risk. To determine if the controls are adequate financial institutions implemented risk and control self-assessment (Watkins, Kim, Narveson, & Shan, 2015).

It is absolutely essential, in order to have an effective operational risk management, the training people to anticipate what could go wrong, especially when a business unit is about to do something new (Fritz-morgenthal, Huber, & Funaro, 2018).

While considering whether or not to opt for a centralized risk management processes we should be aware of the inherent operational risk coming from it. A financial institution who choose this system must ensure that had analyse and review the potentially negative impact and risks that could came from the choice made, so it can protect the company's interests.

This study aims to analyse the operational risk applied to the centralized risk management processes in financial institutions through analysing the potential risks associated to the process. The study purpose also to find out the benefits and risks to centralization as well as how to mitigate them. The objective is to analyse whether a centralization of risk management processes brought benefits to a financial institution and what are the operational risks associated to that. This study will be relevant not only in the present by knowing if that was a good decision and add value to the company, but as well it will be helping in the identification and measuring the operational risks from now on..

The intention with centralized operations is to have specialized persons dedicated to processing efficiently a determinate task at lower cost. For this there has to be benefits for both the company and the employees. A centralized risk management process should not only be cost saving, it should add value, contribute to evolution of the company, be able to standardize functions and

consequently be more efficient. But there are operational risks inherent to all this centralized risk management process which is important to identify and try to mitigate.

Operational risk includes various events and actions as per example inadvertent execution errors, system failures, acts of nature, conscious violations of policy, law and regulation, and direct and indirect acts of excessive risk taking (OpRisk-Advisory & Towers-Perrin, 2010).

Nowadays operational risk is one of the most important and relevant risk to financial institutions thus it is relevant to study the impacts that it can have to a centralized risk management process, for example to people, and how can we mitigate them.

Most important risks in financial institutions are: market risk, credit risk and operational risk. In this project proposal I am seeking for potential operational risks inherent in centralized risk management processes.

The importance of the present proposal financial institutions is due to this evolution of operational risk in this area. When we have a choice we have a risk therefore it should be identified, measured, controlled and mitigated.

Whether to centralize risk management processes in financial institutions or not has to be taken in consideration the operational risks inherent to that centralization.

As Sabato (2009) refers one of the reasons that lead to the failure of financial institutions in 2008 was the belief that banks were too vast to fail. Hess (2016) point as one of the major factors in this failure the lack of operational risk management strategy.

Operational risk is one of the most threatening risks for any financial institution, not only for occupying a significant part of the risk as observed in figure 1 below, but also because of the lack of knowledge to measure and manage it.

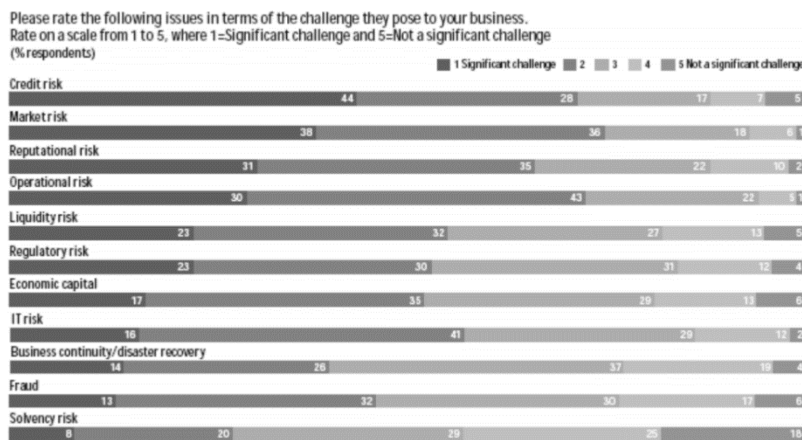


Figure 1 - Importance of the challenges pose to business

Source: Enterprise risk management in financial service organizations – Economist Intelligence Unit

Research questions

With this study I aim to find the reasons behind the choice whether to centralize risk management processes or not and to discover what could be the operational risks inherent to that.

Being more and more an option to companies it turns important to identify and evaluate the potential risks so a decision could be made related to centralization in each company. After knowing the risks, the next part should be mitigate them to achieve favorable results to the financial institution in case.

For that I divided my study objectives in one main objective and three specific objectives.

My main objective is to understand the role of operational risk management in centralized risk management processes in financial institutions.

The specific objectives are to answer three questions.

i. Which are the main sources of operational risk in centralized risk management processes in financial institutions;
ii. What are the advantages on centralizing the risk management processes in financial institutions;
iii. Which are the principal techniques to mitigate operational risks in centralized risk management processes in financial institutions.

2. Literature Review

2.1. Risk

Common sense allow us to always associate risk with reward so it becomes a major factor to consider the risks that might occur in every chose we have. Knowing the best decision is not only the one that minimizes the risk but also that offers a better result to a determined risk level (BdP, 2014).

There is not universal definition of risk. Reuer (1999) defines risk as a measure of the timing and magnitude of unanticipated changes, which is evaluated relative to expected changes in variables. These anticipated changes are measured by the expected change, which is normally a result of forecasting. For Tchankova (2002) risk is an inherent part of business and public life.

Risk in banks are defined as a potential loss that may occur due to some antagonistic events such as economic downturns, adverse changes in fiscal and trade policy, unfavourable movements in interest rates or foreign exchange rates, or declining equity prices Amalendu Ghosh (2012).

Risk in banking is defined as undesirable impacts on returns due to various distinct sources of uncertainties (Bessis, 2011) (Antia, 2003) but although risk and uncertainty are colligated there are differences between the two. In business, uncertainty happens when a decision-maker is aware and knows the outcomes expected from a specific action. Naturally, risks are the quantifiable uncertainties. (Aloqab, Alobaidi, & Raweh, 2018).

Despite all different definitions all of them have in common two aspects: loss and uncertainty.

Currently the financial institutions are separating two types of risks, the ones that can be controlled and the ones that cannot. The controlled risks are the risks that bank activities can intervene in the result and on the other hand the uncontrolled ones are external events such as natural catastrophes (Radu & Olteanu(Puiu), 2009).

2.2. Basel Committee on Banking Supervision

The Basel Committee on Banking Supervision (BCBS), under the direction of Bank for International Settlements (BIS) that has place in Basel, Switzerland was founded in 1974 by central bank governors from the G-10 countries as a consequence of conflicts in global banking markets and currency. It meant to improve the quality of banking supervision in the world as well as to improve the risk management giving recommendations on banking regulations.

The BCBS created three series of banking regulations namely Basel I, Basel II and Basel III.

In 1988 the Basel Committee created a global principle that aimed to measure the capital adequacy in financial institutions known as the Basel I accord. Implementing minimum levels of equity this accord meant to provide guidance in order to guarantee financial institution's stability. Basel I was focused on credit risk and defined the eligible capital and a set of simple risk-weights depending on the nature of bank's counterparts and not on the intrinsic risks (Magnus, Margerit, & Mesnard, 2017).

This accord had same fragilities such as the fact that it ignore the other type of risks such as market (only included later in 1995), operational and liquidity risks; the correlation factors as well as the financial markets evolution were not being considered (Mendes, 2013).

With the increased market volatility, the collapse of companies that had impact in financial institutions and the limitations of the Basel I accord, BSBC published in 2004 a new accord, Basel II accord. Basel II aimed to adjust the banks' capital requirements improving both risk management and mitigation in order to preserve the solvency and soundness of financial system.

Operational risk is a fundamental part of financial institutions' processes and as it is not possible to eliminate completely it is key to identify, measure and mitigate them (Gonçalves, 2011). Basel II accord introduces the treatment of operational risk and aims to facilitate procedures to manage operational risk in financial institutions. In the banking sector, Basel II accord represented a booster

factor that led banks to create departments in order to implement procedures dedicated to operational risk (Gonçalves, 2011).

Keeping the fundamentals of Basel I, including the recommendation that all financial institutions should maintain a minimum amount, 8%, of capital based on a percent of risk-weighted assets, Basel II accord includes a more sophisticated approach that not only had the capital requirement but also aims to have a better risk management in financial institutions. It gives options to define the capital requirements allowing financial institutions to use the best approaches to their own operations (Couto, 2017). Basel II accord has three pillars minimum capital requirements (pillar I), supervisory review (pillar II) and market discipline (pillar III).

Operational risk becomes the only type of risk with an official definition by the Basel Committee which should indicate its complexity (Gonçalves, 2011).

2.3. Risk Assessment

Risk assessment is essential to risk management and it include three different steps that complement each other. Risk assessment models are written documents that have different formats but the goal is the same, to determine the analysis and resources' extent. The three step process is first of all identifying the hazards in the workplace, in second assessing the risks that are presented by the referred hazards in the first step and lastly implement control measures in order to mitigate the risk of these harms causing harm (HSA, 2016), the figure 2 below illustrates these three steps.

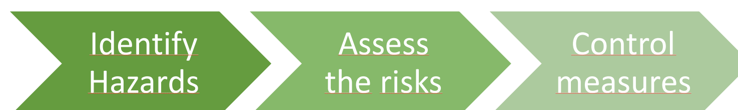


Figure 2 - Three-step process to risk assessment

Source: Elaborated by the author based on (HSA, 2016)

The quality of each risk assessment has to deal with the availability of the data that is not always possible to collect enough or as richest as needed, in that cases the approach should be qualitative and subjective with terms as low, medium, high and critical.

Cooper, Grey, Raymound, & Walker (2005) explains the descriptions of assessment approaches in the step of assigning priority to the risk as following: (i) Qualitative analysis is based on descriptive scales such as low, medium, high or critical for describing the likelihoods and impact of risk. This approach is useful when the enterprise wants to do quick assessment reviewed or initial review. (ii)

Quantitative analysis uses numerical ratio scales for likelihoods and impact, rather than description scales.

Rovins, J.E., Wilson, T.M., Hayes, J., Jensen, S.J., Dohaney, J., Mitchell, J., Johnston, D.M., Davies (2015) defined risk assessment as the technique to determine the nature and level of risk by analysing possible threats and evaluating existing conditions of vulnerability that together could possibly harm exposed people, property, services, livelihoods and the environment on which they depend. The idea behind risk assessment is that it is structured, transparent and a scientific process.

2.4. Risk Management

Risk management is a very important concept for any business as most financial decisions revolve around the corporate cost of holding risk (Koomson, Studies, Submitted, Learning, & Masters, 2011). This issue is particularly important to banks since risk constitutes their core business processes.

For many years, the term risk management has been used to specify ways to 1) reduce or mitigate the possibility of something went wrong via quality control, improved safety measures and training or 2) purchase insurance to help pay off for losses continued from something went wrong; or both. Only recently risk management becomes more complex (Dickstein & Flast, 2015).

According to Pyle (1997) risk management is the process by which managers satisfy these needs by identifying key risks, obtaining consistency, understandable, operational risk measures, choosing which risks to reduce, which to increase and by what means, and establishing procedures to monitor resulting risk positions.

Effective risk management is an efficient and cost effective management technique, which can reduce incidents, claims, wastages and losses. It can also enhance innovation by enabling considered risk taking (Carey, 2001).

The risk management role in financial institutions has been developing way more than simply risk mitigation (Gonçalves, 2011) and its acceptance is an important bank's activity

Santomero (1997) identifies four steps of the risk management process which includes: standards and reports; position limits or rules; investment guidelines or strategies; and incentive contracts and compensations. For Schmit & Roth (1990) risk management is the accomplishment of different activities formulated to reduce the adverse effect of uncertainty regarding potential losses.

The basic components of a risk management system are identifying and defining the risks the firm is exposed to, assessing their magnitude, mitigating them using a variety of procedures and setting aside capital for potential losses (Tattam, 2018).

Antia (2003) defines risk management as an active, strategic, and integrated process that encompasses both the measurement and the mitigation of risk, with the ultimate goal of maximizing the value of a bank, while minimizing the risk of bankruptcy. He defines risk management as a

process that is comprised of various steps: definition, identification, categorization, measurement, analysis, and mitigation of a bank's risk exposures.

It can be summarised that risk management in banks is a complex process, beginning with the formulation of a framework to identify measure and analyse risks and then implementation of certain measures to minimise or control inevitable losses (Ishtiaq, 2015).

Executives today face many challenges to their businesses, from uncertain economic growth to the speed of technological change. Add the clear and present risks of cyberattacks, changing customer behaviours and you have a landscape in which the first-line owners of risk must also take the lead in managing that risk as per PWC (2017).

Risk management creates value by providing opportunities for process improvement; controlling the risks that can hurt the organization most, breaking down silos, and helping the organization achieve its objectives Wallis (2012).

Risks are associated to rewards and are taken every day. As for both credit and market risk it is intrinsic that for a low risk, low reward and for a high risk, a high reward. In the other hand, as we will see next, from operational risk is not expected a return or reward. The "reward" that can come from the operational risk is the reduction or mitigation of a potential lost (Dickstein & Flast, 2015).

2.5. Operational Risk

The Great Recession of 2008 teaches us that all risks are tangled. What apparently seemed to be majority credit risk, had a huge operational risk fault there. (Walker, 2015).

Although the definitions of market risk and credit risk are relatively clear, the definition of operational risk has evolved rapidly over the past few years. At first, it was commonly defined as every type of unquantifiable risk faced by a bank Tattam (2018). The institutions face some problems in their management, as per Greenfield & Ackoff (1979) the reasons are:

1- Risks have also become more global and more complex
2- Risk management is still a relative game. It is not just how well a business or investor assesses the risk but how well it related to the competition
3- Most critical component for success for a risk management is to pick up the right tool for assessment in the light of sharp advanced in technology and availability of innumerable data analysis tool

The paper "A new approach for managing operational" (OpRisk-Advisory & Towers-Perrin, 2010) shows us a new top-down approach - Modern ORM (operational risk management) -that focuses first on the major companies' risks and goes down only in those risk areas where more granularity is required. This approach allows specialists to triage the risk management process which will led to get a better process focus as avoids focusing management attention and resources on immaterial risks. The principal differences comparing this modern ORM to the other more traditional ORM are:

(i) the definition of risk in a traditional ORM is defined as undesirable event (e.g. system failure, fraud), in modern ORM risk is defined as a measure of exposure to loss from undesirable event; (ii) risk identification process, in a traditional ORM approach is asked to managers to identify their major risks that will lead to the creation of a huge and unmanageable set of risks and modern ORM first define a finite risk classes and use hard or soft data to reveal where the large losses are taking place; (iii) the goal in a traditional ORM is a day-to-day management of threats coming from operational failures and in the modern ORM the goal is the management of key risks and the optimization of controls associated to these risks always associating cos-benefits analysis; (iv) the cost in a traditional ORM is usually very resource intensive in the other hand in a modern ORM is much less resource intensive.

Independently of which of the methodology adopted by a financial institution should always be objective in reach the goals defined by the management and should be able to reply to the basics defined by each of the operational risk's supervisor (Gonçalves, 2011).

The most general operational risk definition was presented in the year 1999 at Robert Morris Associates et al. which stated that operational risk is the risk of a direct or indirect loss caused by inadequate or unsuccessful internal procedures, human factor or system, or caused by external events. Though Basel Committee agreed with this definition, took away the indirect/direct loss and from that. In Basel Committee (1999) the operational risk was recognized as important and decided that measures must be applicable in banks just like credit and market risks. Until then operational risk was a residual category for risks and uncertainties due to the difficulty in identify, measure and manage (Power, 2005).

Controlling and reducing operational risks improves the operational efficiency of the financial institutions which lead to increases in net income, return on assets and other quantitative measures on the performance of financial institutions, as mentioned by Saunders & Cornett (2008). The five main sources of operational risks are represented in the table 1:

<table>
<tr><th>Source of operational risk</th><th>Example</th><th>Source of operational risk</th><th>Example</th></tr>
<tr><td rowspan="2">Technology</td><td>Technological failure</td><td>Capital assets</td><td>Destruction by fire or other catastrophes</td></tr>
<tr><td>Deteriorating systems</td><td>External</td><td>External fraud</td></tr>
<tr><td rowspan="2">Employees</td><td>Human error</td><td rowspan="2">Customer relationships</td><td rowspan="2">Contractual disputes</td></tr>
<tr><td>Internal fraud</td></tr>
</table>

Table 1 - Source of operational risk

Source: Elaborated by the author based on (Saunders & Cornett, 2008)

Many organizations have no pre-defined motivations or penalties related to high-frequency, low impact operational losses. Typically, only massive loss events have any consequences for management. This is likely due to the fact that operational losses have traditionally been viewed as an unavoidable cost of doing business, and there is a common perception that management has no

control over such losses (unlike credit and market risk which have standard levers for managing and mitigating risk) (Deloitte & Touche LLP, 2018).

Even though operational risk is the oldest risk financial institutions face, the recognition of its importance only appears recently. As for (Bessis (2011) mostly because of the following reasons: (i) perception of operational risks impacts; (ii) realization that quantitative approach to credit and market risk overlooks key danger areas and that operational risk management should be develop into a discipline in its own right; (iii) inclusion of operational risks in any type of total risk management; (iv) renewed interest of supervisory authorities in operational risk (Geiger, 1999).

Ong (2002) mention the top 10 reasons why so many people are interested in operational risk, being the top 3 the following: (i) new and difficult to understand; (ii) financial institutions believing had already conquer market and credit's risks and (iii) the possibility of operational risk to be an explanation to all type of possible risks.

In the decade since the global financial crisis, banks have become increasingly aware of the necessity to manage risk. Nevertheless, although banks have developed sophisticated systems for controlling financial risk, they have struggled to deal effectively with operational risk. (Fritz-morgenthal et al., 2018).

Some of the well-known operational risk events (e.g. Barings Banks, Lehman Brothers, Banco Espírito Santo) made regulators asked if the financing system was solid enough and forced them to an operational risk supervision.

Was in Basel Committee (1999) that began the vision that operational risk is important enough so banks should dedicate enough resources to its quantification.

Throughout the financial crisis, operational risk caused economic shocks, today the most newsworthy operational risk involves large data breaches generated by external attacks, nevertheless in both cases internal processes had failed (Walker, 2015). According to Young (2015) the operational risk management process can be defined as the systematic application of risk policies, procedures and practices by means of the identification, evaluation, control, financing and monitoring of operational risks.

The implementation of new technologies and the practise of new data can progress operational risk management itself, the advantages for financial institutions that manage to do this are significant (Joseba Eceiza, Ida Kristensen, Dmitry Krivin, Hamid Samandari, & Olivia White, 2020).

Independent of the adapted operational risk's methodology, there are three principal dimensions which characterize any operational risk phenome: the cause (risk factors that can enhance a determinate event), risk type (the risk characteristics associated to the event) and the consequence (the event occurrence's impacts) (Gonçalves, 2011).

Initially, financial institutions considered the most important risks only, credit risk (BCBS, 1988) and market risk (BCBS, 1995). Leaving operational risk considered as a risk that was not either market or credit. The risk of loss from human and technical error, “other risks” (Supervision, 1998). In figure 3 and as per Oesterreichische Nationalbank (OeNB) (2006) there is this vision of operational risk as complemented or residual risk:

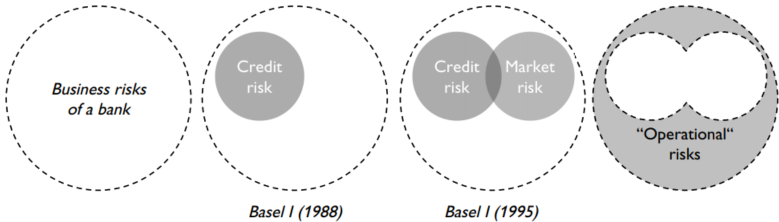


Figure 3 - Operational Risk as residual risk defined by exclusion

Source:(Oesterreichische Nationalbank (OeNB), 2006)

This denomination made it difficult in identifying and measure the risk which lead to some errors in the identification of operational risk cases and wrongly considered market or credit ones.

It was only in 1999, on the Basel Committee on Banking Supervision (Basel Committee, 1999) that was decided to highlight the operational risk' banking importance. In 2001 (BCBS, 2001a) was drafted the first definition of operational risk and finalized in September that year in the paper presented as well on the Basel Committee on Banking Supervision (BCBS, 2001b). So the figure started to look like the figure 4 below (Oesterreichische Nationalbank (OeNB), 2006):

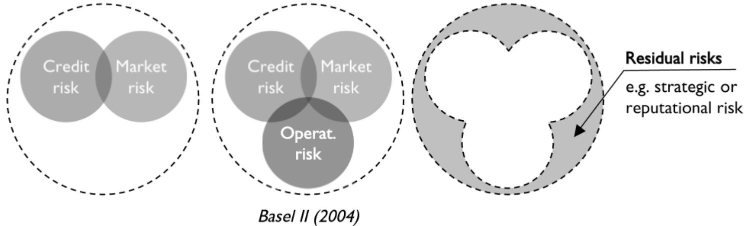


Figure 4 - Operational Risk as separate risk category

Source: (Oesterreichische Nationalbank (OeNB), 2006)

As per figure 4 we can see that with the Basel II and with the definition of operational risk, this started to no longer be qualified as a residual risk but gains importance as big as the other two groups, credit and market risk.

There are some knowledgeable banks that had some huge operational risk losses as stated before and between the years 2011 and 2016 major banks lost nearly $210 billion from operational risk events, mostly due to clients' interactions and process management, as per figure below:

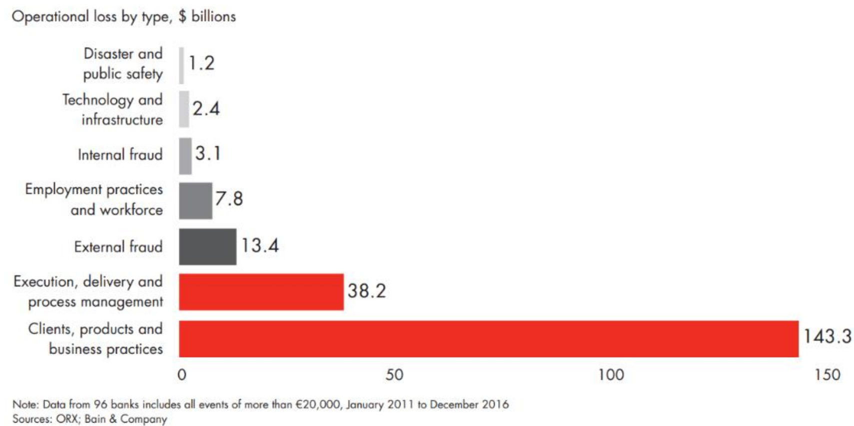


Figure 5 - Operational risk events in major banks 2011-2016
Source: (Fritz-morgenthal et al., 2018)

As per the figure 5, above, even though also execution, delivery and process management appear to have an important role on bank's losses, one of the operational risks is more representative than the others with a percentage rounding the 70% that is the clients, products and business practices. It's difficult for the banks to integrate operational risk management in their enterprise risk management's framework, as this type of risk it's more challenging and complex to control and mitigate.

Taking the figure 5 into account, the banks have all the reasons to concentrate and give even more attention to this specific risk that had and has such a negative impact in a financial institution. Operational risk is a major category in the banking sector and has been growing more and more over the past years.

The data in the figure 6 is related to December 2017 and it is visible the average percentage of operational risk around the 30% of total regulatory capital, less than the credit risk that arrives to approximately an average of 65% of total regulatory capital and with significantly more impact than the market risk, rounding the average of 5% of the total regulatory capital as per figure below:

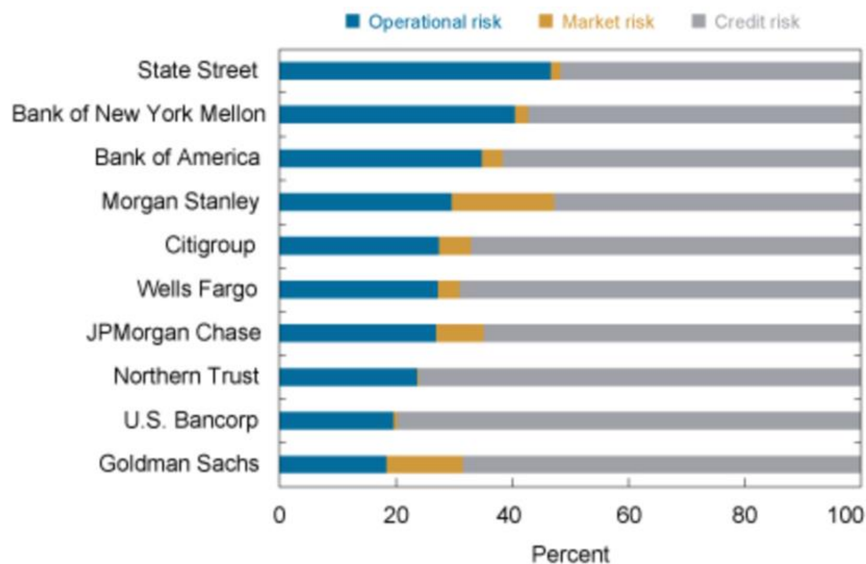


Figure 6 - Regulatory Capital Ratios for the “Advanced Measurement Approach” Banks

Source: https://libertystreeteconomics.newyorkfed.org/2019/01/coming-to-terms-with-operational-risk.html

The larger and more complex banking organizations are the more exposed to operational risk become (Curti, Frame, & Mihov, 2020).

Intrinsic to a financial institution it is always the operational risk threatening their financial solvency. In order to measure, manage and mitigate this type of risk, the information systems' development are key (Chernobai, Ozdagli, & Wang, 2020). Nowadays with the IT systems and improved technology, banks can have a better understanding on what customers are doing and have a better view for what goes wrong that is a progress on the operational risk management, having banking more customer-centric (Fritz-morgenthal et al., 2018).

While managing operational risk we have to include the 4 steps:

1. Risk identification
2. Risk assessment
3. Risk treatment
4. Risk monitoring

The risk identification and assessment process it is essential to an effective management of operational risk in a financial institution. After risks are identified, they can be classified by category. Each risk is then assessed based on its impact, and prioritized in order to direct management focus toward the most important (LLP., 2012).

These steps consist in the potential risk's identification and their classification, rating each risk on the impact and vulnerability, prioritize risks and develop action plans to each of them.

The importance of an operational risk management framework is that it allows the risk identification and can prevent it to make financial impacts if mitigated at the proper time and ensure banks they have the capital needed for operational risk's worst-case scenario (BIS, 2011).

In order to have an effective operational risk management it is key to have a complete and full knowledge of the financial institution's risk profile and based on that build a data base as well as a map of all the internal and external operational risk events, next step includes the creation of the key risk indicators that are the early warnings signs of potential problems. Only after the identification and categorization of each risk, mitigation options can be decided (Fritz-morgenthal et al., 2018).

2.6. Centralized Risk Management Processes

The term centralized indicates that authority to make important decisions lies toward the "head" center of an organization (Cummings, 1995).

A transparent organizational structure helps as a starting point for end-to-end risk transformation efforts. As a second step, clarifying roles and tasks of both first and second lines of defense, a financial institution may improve accountability, guarantee full coverage of risks faced, and reduce duplication of effort. Through judicious centralization, banks can improve standardization and trim overlap. Furthermore, selective relocation of resources can expand talent pools. (Bevan, Freiman, Pasricha, Samandari, & White, 2019).

In centralized processes the activities involving decisions and planning are taken into a specific location, onshore location, or leader. The power of decision and the executives are on the head office and the centralized ones should act as per the main organization's choices.

The shared services are a collaborative strategy that corresponds to a set of functions concentrated in a new business unity with semi autonomy whose proposal is to promote the efficiency, add value, reduce costs and improve the quality of service to the internal clients (Bergeron, 2003).

In multinational big companies there has been an increasing shift to a more multifunctional and global model that are likely to deliver higher value at lower cost. These centralized processes in form of shared service center and global business services constructs are creating an environment where digital capabilities are rapidly adopted (Deloitte, 2019).

Responsibilities can overlap both across and within the lines of defense, as example it is frequently observed the overlapping control and testing environments across the first and second lines of defense. A way to mitigate it could be defining and clarifying the roles of each line of defense as well as having a clear view of risk management activities actually undertaken. By delineating roles across the three lines of defense, institutions can improve clarity, eliminate gaps, and reduce overlaps in activities (Bevan et al., 2019).

As operational risk importance has grown in financial institutions so it grows the pressure to have it in same relevance as credit or market risks. In this times of continued global economic uncertainty, cost reduction and effective risk management remain key imperatives, as per EYGM Limited (2014) that is one of the reasons why companies are more and more opting for centralized operating models in the shape of shared services.

In order to achieve the centralization of risk management processes there must be a common and clearly articulated set of risks and regulatory requirements for those processes within scope of the operating model, without it, it may not be possible to assess if the processes being centralized are suitable to manage the risks or obedient with the applicable regulations (EYGM Limited, 2014).

Cost efficiency is becoming a higher priority in risk management and compliance, with risk managers increasingly being expected to do more with less. This pressure is creating an incentive for risk leaders to explore and embrace new technologies and techniques that can help improve the efficiency and effectiveness of their programs.(Deloitte & Touche LLP, 2018).

The performance is increased when centralizing processes in a financial institution, since the structure contributes to faster and easier decision making and clearer goals. It is also argued that the potential for internal conflicts are decreased due to the clear line of hierarchical authority (R. Andrews, Boyne, Law, & Walker, 2009).

Shared services, companies where processes are being centralized in specific location, continue to bring increased value year after year, with organizations around the world constantly filtering and improving their delivery models (Deloitte, 2017).

Part of financial institutions' location strategy is the implementation of on/near-shore models, meaning a closer proximity to head quarter (Deloitte, 2019).

Nowadays operational risk is one of the most important and relevant risk to financial institutions thus it is relevant to study the impacts that it can have to a centralized risk management process and how can we mitigate them.

When deciding whether or not to centralize processes we should take into account the following three questions represented in the figure 7 and have a positive answer to at least one of it in order to opt for the centralization (Campbell & Kunisch, 2011):

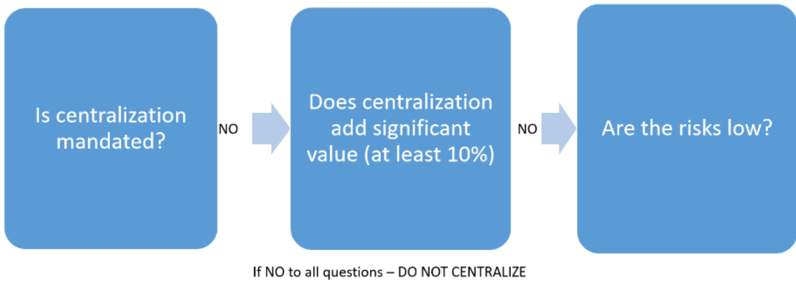


Figure 7 - Decision to centralize

Source: Elaborated by the author based on (Campbell & Kunisch, 2011)

As per M. C. Andrews & Kacmar (2001) the centralization is how power is distributed within the organization. In centralized organizational culture, the employees are not directly involved in the achievement of organizational goal (Rashed, 2017).

While deciding to choose whether to implement a centralized process, the organization should have a few points to check knowing that not only the main reason of a centralization, low cost, is needed to be in consideration but other factors such as efficiency, knowledge transference, value added, risks, external events and employees' satisfaction.

For different studies, different opinions. There is who believes that in centralization, having lack of decision-making and lack of job autonomy will have no impact in job satisfaction (Curry, Wakefield, Price, & Mueller, 1986). On the other hand, as per Poulin (1994) workers who have influence over decisions affecting their jobs and who are given flexibility in carrying out their job tasks tend to have higher levels of job satisfaction than those with less professional autonomy.

As per the information present in figure 8 we can notice that the sector that is having his operations more centralized is finance, where risk management is included:

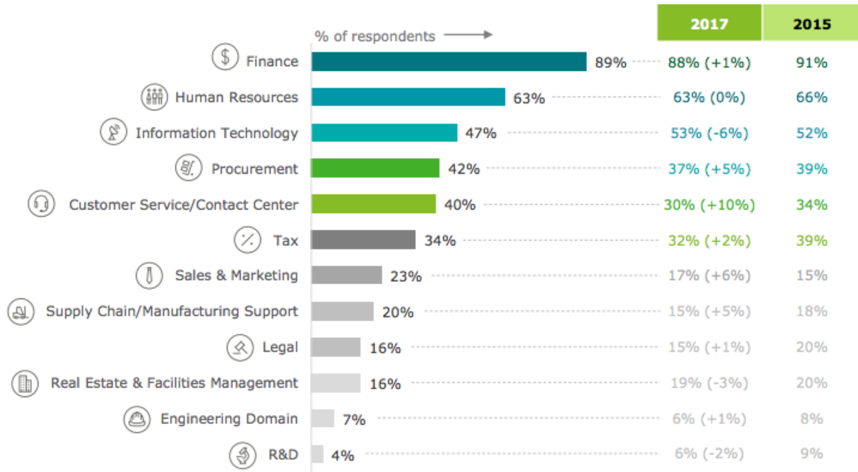


Figure 8 - Functions performed in shared services centers and global business services

Source:(Deloitte, 2019)

Companies with centralized operations are and will progressively turn out to be more global, complex, and digital, as they seek to offer quick and efficient services, stronger customer service, and high-impact business results (Deloitte, 2019).

As per the global shared services survey report by Deloitte (2019) and taking into account also reports from previous years (Deloitte, 2017) and (Deloitte, 2015) the low cost tends to be the number one reason to centralize. Figure 9 shows us on a scale from 1 to 9, in ascending order, what is most important to the business unit customers.

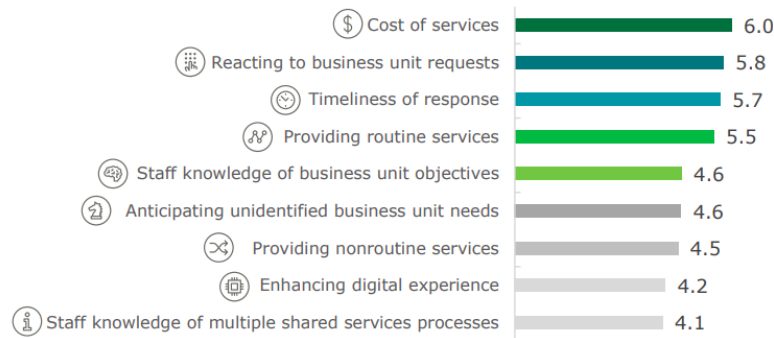


Figure 9 - What is most important to the business unit customers

Source: (Deloitte, 2019)

When centralizing processes the main goal is the cost reduction as saw previously but there are other reasons such as:

1- Improve the efficiency. As mentioned by PricewaterhouseCoopers (2016) the centralized processes institutions are a crucial driver for efficiency increase as well as cost reduction.
2- Eliminated non added value tasks. As per Cacciaguidi-Fahy, Currie, & Fahy (2002) having decentralization may mean for instance a large number of manual checks or activities with multiple authorisation processes, with the centralization there is the opportunity to exclude and eliminate these non-added value activities, redesigning processes, since new systems may be needed centralizing services.
3- More productivity. Organizations may improve the productivity by consolidating and centralizing repetitive tasks, as stated by Cacciaguidi-Fahy et al. (2002) through the centralization there is opportunity, among others, to improve the organization's productivity.
4- Better quality service to customers. By redesigning processes to take advantage of technologies and focusing staff's efforts on providing a better quality of service to customers, both external and internal. (Cacciaguidi-Fahy et al., (2002)
5- Economy of scale. By consolidating and centralizing repetitive activities, organizations may gain economies of scale (Cacciaguidi-Fahy et al., 2002). Also (Moller, Golden, & Walkinshaw, 2011) mentioned economies of scale as one of the benefits that increase efficiency.
6- Standardize. Moller et al. (2011) mentions that one of the source of likely benefit in centralized processes is to standardize procedures based on best practices. For the author, one of the roles of centralization is to achieve and increase standardisation of processes.

As per Deloitte Touche Tohmatsu (2020) in order to ensure business continuity it is key to have an emergency scenario. It is urgent to react as quickly as possible, mitigating the risks and preparing the organization for the further development of the COVID-19 pandemic and its possible scenarios.

3. Methodology

This chapter includes this study's methodology. A scientific method alerts to the choice of systematic procedures so it can be descript and explained in a study. This choice should be based in two different topics, one the nature of the goal in which is applying and second if the objective has the study in mind. (Fachin, 2005).

In this case the appropriated method should be a case study as this investigation will consist in a study in its natural form so we can have real events and to become possible to analyze with real cases and numbers what are the operational risks related to centralized risk management processes.

Case studies method is applicable whenever the investigator has troubles to identify the important variables and when the main goal to the investigator is to analyze or describe profoundly a phenomenon. Investigation should be managed by a research project with the objective of link empirical data to study's initial questions in a logical way that will allow to reach to conclusions (Yin, 2014). A case study must be used when the objective is to observe and describe with detail a specific situation Merriam (1988) and Lüdke & Andre (2013) add that a case study methodology stands out that other methodologies since it covers a specific situation, even though similarities with other cases and situations are going to be identified.

The study object is a financial institution in the banking sector and the methodology start with a literature review mainly about operational risk in financial institutions as well as the risk management process and specifically centralized risk management processes. The next step was to review the documentation of financial institution, namely the structure and procedures. Then it was time to start interviews in the financial institution in case to the director and senior management to both locations, the onshore and offshore. After it was consolidated all the information and for interviews do a statistical analysis. At the end I analyzed the results and discussed them.

The interviewees were previously contacted through written communication, e-mail, containing the presentation and contextualization of the case study. After that, the interviews were scheduled and recorded via audio to further analysis. All the interviewees chosen are workers in the company that led to this case study and interviews have in common their experience as managers in risk management areas (credit, market and operational risk).

The performed interviews aimed to find out the manager's opinions related to the research topic. It was intended to have their views in what could be the reasons to centralize risk management processes as well as their advantages, risks and chosen location.

After the literature review and as a complement, this interviews were an important part of the research in order to understand better not only this case study itself but the important opinions of who works in the company in study.

These questions were based on the literature review, the table 2 illustrates the respective authors that brought the themes in the questioned chosen:

QUESTION	LITERATURE REVIEW AUTORS
1- Why centralize risk management processes in financial institution?	(EYGM Limited, 2014)
	(Bergeron,2003)
	(Deloitte & Touche LLP, 2018)
2- What are the advantages of this centralization	(Deloitte, 2019)
	(Deloitte, 2017)
	(Cacciaguidi-Fahy, Currie, & Fahy, 2002)
3- Which are the main risks in this centralization?	(Campbell & Kunisch, 2011)
	(Rashed, 2017)
4- How can these risks be mitigated?	Fritz-morgenthal, B. S., Huber, J., & Funaro, D. (2018)
	(Deloitte Touche Tohmatsu, 2020)
	Joseba Eceiza, Ida Kristensen, Dmitry Krivin, Hamid Samandari, & Olivia White. (2020)
5- Which are the criteria to choose the location?	(Deloitte, 2019)

Table 2 - Literature review authors - Questions

Source: Elaborated by the author

In order to analyze the interviews I used content analysis method. As per Krippendorff, (2010) is a research technique that replicates and validates interpretations from either texts or other meaningful matter, to the contexts of their use. He reinforces that the content analysis has its own approach to analyze data.

Bardin (2016) adds that this technique it's structured in three different phases, being them 1) pre-analysis, 2) exploring the material, 3) discussion and interpretation of results.

In this case the pre-analysis would be the preparation and chose of relevant material to include in the case study, exploring material would be both literature review and interviews and the results and his interpretation would be the analysis and discussion of results, as well as the conclusion.

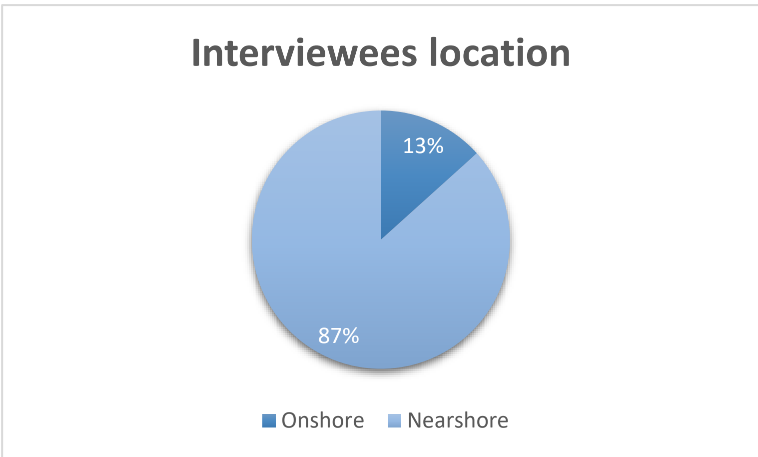
4. Analysis and discussion of results

In this chapter it is going to be presented the main results of the qualitative research arising from the analysis of collected data from the interviews made. Firstly a profiling of the interviewees and secondly the answers gotten of the interviews and analysis of the results.

4.1.1. Characterization of the Interviewees

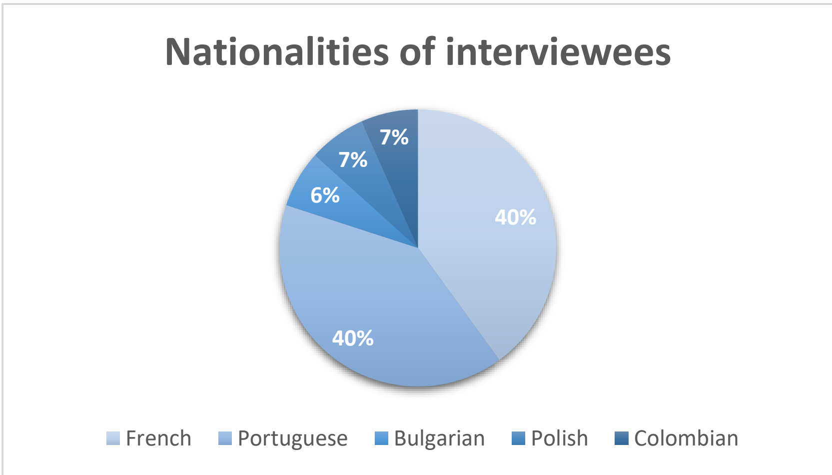
In total there were 15 interviews with all 5 questions being answered.

Thirteen out of the fifteen interviewees are working in the chosen city, called the nearshore, where the processes are being centralized and in the other hand two of the interviewees are in the company's headquarter, called the onshore, where the work initially was being done and was moved into the chosen location, as illustrated in graph 1.



Graph 1 - Interviewees location
Source: Elaborated by the author

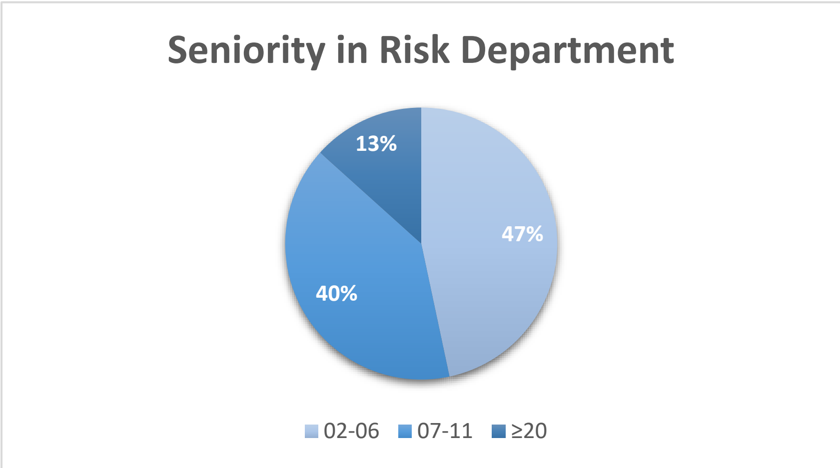
A relevant fact about these interviews, as represented in graph 2, is that they were made to persons from different countries, different cultures and backgrounds. The majority (80%) are either Portuguese or French (40 % each) and the others are one interviewee from Poland, one from Bulgaria and one last from Colombia.



Graph 2 - Nationalities of interviewees
Source: Elaborated by the author

Other important and distinguish information is the number of years each person has been in the risk department that goes from two to more than twenty years of experience.

The graph 3 illustrates this seniority of interviewees in risk department.



Graph 3 – Seniority sample in risk department

Source – Elaborated by the author

4.1.2. Interview Results

All the below information is based on the interviewees answers to the questions previously stated in 4.1.

All the tables below show each question as well as the answers given and their frequency. This frequency is the number of replies to each answer.

In the first question was asked why to centralize risk management processes in a financial institution and as for one collaborator "some reasons are very obvious and natural". As for almost all of them, but mainly the persons with a risk experience until 6 years, consider that by centralize "its achieved harmonization and consistency". Having the same approach and same methodology helps defining guidelines and can help to facilitate at the end the consolidation having the same set up in all entities owned by the group. Other main motives referred is the standardization that exists in a centralized management as well as centralization of risk management can ensure the proper risk appetite within the company, this last reason was mentioned by the two persons working in risk department for more than 20 years.

Accordingly to the results of the interviews, EYGM Limited (2014) mentions that one of the reasons for organizations to create centralized operating models is to harmonize, achieving standardization and additional value. Likewise, centralizing risk management processes aids to guarantee operational risks that need to be managed are formalized, documented and understood that will require clarity and documentation of risk appetite.

Other important motive stated by the employees working at more time in the financial institution is the importance to have a single entry point to better coordinate projects.

Bergeron (2003) in line with the outcome of the interviewees, says centralizing activities means to have a set of roles focused in a new business unity with semi autonomy whose proposal is to promote the efficiency and add value. Besides that he also mentioned a non-mentioned in the interviews point, that centralizing processes improves the quality of service to the internal clients.

Associated with the high priority in risk management, cost efficiency, Deloitte & Touche LLP (2018) mentions that risk leaders have opportunity to explore and embrace new technologies and techniques that may improve the efficiency and effectiveness of centralized processes.

Creating a center of expertise as well as harmonization and have specialization are most cited by the employees with seniority of 7 to 11 years in risk department.

The table 3 below illustrates the replies.

QUESTION	ANSWERS	FREQUENCY
1- Why centralize risk management processes in financial institution?	To harmonize	6
	To create a center of expertise	3
	To standardize	6
	To ensure the risk appetite within the company	2
	To have consistency	3
	To have a single entry point to better coordinate projects	1
	To have specialization	3

Table 3 - Reasons to centralize

Source: Elaborated by the author

Regarding the advantages of the centralization the interviewees with more than 20 years in risk department, seem to agree that a huge one is that can be made economies of scale since it is "more efficient to have people centrally doing things than having many teams splitting across the world" as mentioned by one interviewee. Sustaining this, Cacciaguidi-Fahy et al. (2002) also says financial institutions can gain economies of scale as well as improved productivity by centralizing.

This leads to another advantage, the efficiency that could be a big advantage since it is easier and faster to take a decision centrally and to change the way of work, as referred in the interviewees by a person with practice until 6 years in risk area "It is easier to take a decision centrally and then diffusing it, than having smaller teams deciding for their own perimeter".

Agreed by Deloitte (2019) that stated that is clear that organizations with centralized processes will increase and become more global and digital as their goal is to provide nimble and efficient services. Also mentioned and one more time agreeing with what was said in the interviewees, is the high priorities of being cost efficiency and driving business values when centralizing. This view was already stated in the global shared services report from 2017 by the same company, Deloitte (2017) that cost of services is viewed as the top priority when centralizing processes, and is also noticed in the interviews since is one fact that 12 persons mentioned.

Having a common risk approach used among all geographies and secure the activities with a common approach by the different lines of defense are two of the advantages pointed out for most of the collaborators as well but the major advantage identified is the cost efficiency, as per one of the interviewees with an experience in risk between 7 and 11 years, "having central teams in charge

of risk management, creating more specialization and standardizing processes is more cost efficient than having several small teams locally".

As mentioned by Cacciaguidi-Fahy et al. (2002) and in line with the interviewees answers, it is easier to modify operations when they are under the same roof, meaning it is easier to change the way of work when centralizing operations. As per the author, it is easier to implement new systems having a centralizing model, as in shape of shared service. Also Deloitte (2019) refers as one of the key characteristics needed in centralization is the timeliness of response.

Benchmarking was only mentioned once, by one of the most experienced interviewees in the department. As showed in table 4.

QUESTION	ANSWERS	FREQUENCY
2- What are the advantages of this centralization	Efficiency	11
	Benchmarking	1
	Common approach by the different lines of defense	4
	Easier to change the way of work	5
	Easier to take a decision centrally	3
	Common risk approach used among all businesses	3
	Low cost	12
	Make economy of scale	3

Table 4 - Advantages of centralization
Source: Elaborated by the author

Concerning the risks of the centralization there were identified some operational risks.

By relying only on one team instead of having many different teams across the world means that if some external event happens, such as earthquake, this could paralyze the risk management of the financial institution. As one of the employees with more than 20 years in risk perimeter referred "when all the eggs are put in the same basket there is a bigger risk they break all".

Some more risks are the language and knowledge transference, as mentioned by the most experienced people," if people do not speak the same language there is a risk that the actual process may not be total understand when transferring to the centralized location".

Also mentioned as risk were the fact that some contacts can be lost either because of the physical distance but also for the contact with the actual risk process scenarios. Stated by one worker with between 7 and 11 years in the risk area, there is the risk to "lose the local flavor in the region". The existence of a local team increases the expertise within their own perimeter.

An advantage stated on question 2 is also seen as a risk, efficiency, which is due to the fact that centralization could result in delay in work since the decisions are mostly taken from the top management which can result in less productive employees needing to wait long periods to get guidance on next steps. That last risk consequently can led to employees being less motivated, also Campbell & Kunisch (2011) mentions that one of the risks associated with centralization is the reduced motivation of the employees.

Mentioned by a person with experience between 2 to 6 years, one identified possible risk in this centralization is the dictatorial leadership, meaning that by default by centralizing operations the employees are "unable to contribute actively to the decision-making process of the organization and are implementers of decisions token at a higher level". When the employees face difficulties in implementing some of the decisions, the executives will not understand because they are only decision-makers and not implementers of the decisions. Rashed (2017) as well, mentioned that the employees can barely express their willingness and knowledge of the information. As employees have less right to share their opinion.

Table 5 shows us a more visual and sum up version of the staffs' answers.

QUESTION	ANSWERS	FREQUENCY
3- Which are the main risks in this centralization?	Employees motivation	2
	Dicatorial leadership	1
	Language	2
	Lose contact with actual risk processes or scenarios	4
	Efficiency	1
	Lose contact and interactions	5
	External events	5
	Knowledge transference	4

Table 5 - Main risks to centralization

Source: Elaborated by the author

As per how to mitigate the risks that can emerge from the centralization of risk management in financial institutions, a solution for some external event could be the creation of a backup scenario which means that in case a team is affected it would be possible to make sure the work could still be deliver. As explained by a worker with more than 20 years of knowledge in the risk department, that is a dual-office solution in which two locations are working in a dual mode, "which means that the tasks done onshore are exactly the same done nearshore, which means it's completely switchable", as explained by one of the interviewed person. It is the extreme risk scenario.

A way to mitigate the risk is the business continuity plan that is implemented in the financial institution after evaluating the possible risks. The historical incidents and action plans implemented to mitigate risks should be taking into consideration. Supporting this, Deloitte Touche Tohmatsu (2020) wrote that in order to ensure business continuity it is needed to have an emergency scenario.

Having a "standard organization and governances, as well as having controls, controls plans and regular audits" are also ways mentioned to reduce the eventual risk mentioned mostly by the employees with experience in the area between 7 and 11 years. Consistent with the result of interviewees, (Joseba Eceiza et al., 2020) also observed the importance of monitor the risks and controls in order to mitigate operational risks.

A potential risk mentioned in the question 3 was to lose contact and interactions, this could be mitigated by a virtual proximity trough the various digital channels, preferably using video and audio contacts "would definitely help to build a trustworthy relationship", as per one of the collaborators asked. This solution must be aligned with a very transparent approach with clear reporting, giving relevant and clear information to the various stakeholders.

Another stated main risk could be the language barrier and that can only be mitigated by using one official language, English. That suggestion is given by the most expert persons interviewed (with more than 20 years in the sector).

The dictatorial leadership could be bridged by more initiatives in order to "have contributions from the employees and not only being the top managers to make the decision", as stated by a collaborator with experience between 7 and 11 years.

It is important to include more the employees making them feel a part of the decision and that would led also to the stated employees motivation that could be improved not only by this initiative of belonging but also by building motivation programs either in monetary or personal development perspective. "A well-structured organization should have platforms to cascade decisions from the top level and the opposite way" is the proposal from an employee with 7 to 11 years know-how in the mentioned area.

It is noticed also in literature review, by (Joseba Eceiza et al., 2020) that the human factor composes one of the major causes of operational risks, for that the idea is to prioritized grid of human-factor risks so it can help mitigate risks at points of high exposure.

Fritz-morgenthal et al. (2018) adds a relevant point, not mentioned during the interviewees that is a key to effective operational risk management is training people to anticipate what could go wrong.

Underneath demonstrated by table 6:

QUESTION	ANSWERS	FREQUENCY
4- How can these risks be mitigated?	Backup scenario	6
	Virtual proximity through the various digital channels	3
	Official language	2
	Dual-office	2
	Have more contributions from the employees	2
	Build motivation programs	1
	Transparent approach with clear reporting	4
	Historical incidents and action plans to mitigate the risks	2
	Platforms to cascade decisions from the top level and on the opposite way	1
	Control Plan and Audits	2
	BCP - Business Continuity Plan	3

Table 6 - How to mitigate risks

Source: Elaborated by the author

The last question aimed to find the criteria to choose a location where to centralize the risk management processes. In this questioned the answers were all unanimous.

Firstly the strategy needs to be clear with measurable targets. As per one of the employees questioned with experience between 2 and 6 years, "The creation of a central team cannot be an objective itself". Looking at the trend in the market, usually the strategy is mainly a decrease of the costs. Hence the best location would be low cost countries with an abundant graduated and multi-lingual workforce, English speakers mostly since is the universal language.

Deloitte (2019) also mentions cost efficiency as one of the main reasons to choose the location to centralize. As centralizing, organizations are progressively expected to provide higher values at lower cost. For that, cost efficiency is a top priority on the strategy of centralizing processes.

Also," looking at the current trend in terms of data protection, choosing a European location could present many benefits especially in terms of regulators approvals and clients' reputation impact", as per a worker with 7 to 11 years of knowledgeable in risk.

Despite it may seem counter-intuitive, choosing a location with several competitor could help to create an experienced and diverse workforce.

The infrastructure and stability of the country are other factors to take into consideration the location to choose.

Last but not least, "the quality and qualifications of the staff is obviously very important when determine the place to centralize", stated by a person with more than 20 years of expertise. As per (Deloitte, 2019) the staff knowledge is also one of the top priorities when centralizing processes.

The table 7 sums up the answers.

QUESTION	ANSWERS	FREQUENCY
5- Which are the criteria to choose the location?	Low cost - staff and real state	15
	Location in Europe	12
	Good level of english	15
	Stability of the country	14
	Qualifications and quality of the staff	15

Table 7 - Criteria to choose location

Source: Elaborated by the author

5. Conclusion

Even though the operational risk only assume a significant role in the last few years, it is obvious the importance and impact it may have on financial institutions. The operational risk affects always directly or indirectly the results a company may have so for this reason it is important to know how to identify, measure and try to mitigate it. When deciding whether or not to opt for centralize risk management processes, it remains key to carefully analyze the operational risks inherent to it as well as the best ways to reduce it.

The centralization of services began in the 70's and until today the importance of this kind of services continue to gradually grow.

This method allows financial institutions as in the case study, to have benefits such as cost reduction, standardization and process improvements, as previously mentioned in the literature review. As per Deloitte (2015) this kind of service allows the company to have a more client oriented view and focus on continuous improvement.

The continued search in order to improve the market positioning and the goals achievement by companies with different activities make a continuous evolution in the structure of centralization.

With this study I expected to found out with the help of both literature review and interviews the answers to the questions mentioned previously in the study objectives. Below are presented the main sources of operational risk, the advantages on centralizing risk management processes in financial institution, how to mitigate the operational risks inherent to the centralization of risk management in financial institutions as well as the role of operational risk management in centralized risk management processes in financial institutions.

Below the answers to specific objectives with the main following points that answer them that were found during the research study.

Which are the main sources of operational risk in centralized risk management processes in financial institutions?

The main sources of operational risks in centralized risk management processes identified were processes, people, systems and external events.

Within the source processes, there is the fact that knowledge transference from the nearshore to onshore location may be an inherent risk and also the risk of some loss in the process due to the potential different language passing the risk management processes from a location to another.

Another main source would have to be one of the main factor in operational risk, people. In this source it is identified as potential operational risk the human error, the motivation of the employees that can be affected as employees are unable to contribute to the decision-making process of the organization and also the leadership, meaning that in centralized risk management processes resembles a dictatorial form of leadership where employees are only expected to deliver results according to what the top executives assign them.

Then we have the source systems, as an example we can have some information technology issue and that will result in operational risk.

The last main source of operational risk in centralized risk management processes in a financial institution identified is the external events, such as fire or earthquake. These kind of events, that nevertheless cannot be mitigated nor controlled, can happen and may have an impact in the centralized risk management processes in a financial institution.

What are the advantages on centralizing risk management processes in financial institutions?

There are a set of advantages identified when opting to centralizing risk management processes in financial institutions such as the efficiency that comes from it as it’s more efficient to have people working centrally means to have roles focused in a new business unity with semi autonomy whose proposal is to promote the efficiency (Bergeron, 2003).

In a time of digital transformation and standardization, having a central team definitely helps organization to achieve efficiency objectives, increasing its risk management expertise while reducing its cost.

Another relevant advantage mentioned in interviews and in the literature review is the low cost inherent of the centralized risk management processes. Having central teams in charge of risk management, creating more specialization and standardizing processes is more cost efficient than having several small teams locally. As per EYGM Limited (2014), cost reduction and effective risk management are the most important advantages when centralizing processes in a financial institution.

Also, it is easier to change the way of work since if a financial institution is central in terms of governance or authority it's easier to change the way the work is done. Having an overview and being able to see the full picture, it becomes easier to identify the problems and have all solutions, taking the best one and implementing it. As per R. Andrews et al. (2009) having centralized processes contributes to a faster and easier decision making and clearer goal.

Another advantage is that having a common approach used among all the financial institution it is possible to ensure and secure the activities with a common approach by the different lines of defense. Having the roles well defined across the three lines of defense, financial institutions can improve clarity, eliminate gaps, and reduce overlaps in activities (Bevan et al., 2019).

Which are the principal techniques to mitigate operational risk in centralized risk management processes in a financial institution?

One of the principal techniques to mitigate operational risk inherent to the centralized risk management processes in a financial institution is having a backup scenario, meaning it is possible to unsure that there is a backup scenario in case one team is affected to make sure work can continue to be deliver and do the work it's supposed to be done, as per mentioned in interviews and sustained by Deloitte Touche Tohmatsu (2020) that mentioned that to ensure business continuity, having an emergency scenario is essential.

That also leads to another technique to mitigate the operational risk inherent to the centralization of risk management that would be the dual-office. With the dual-office the work is made in a dual mode which means that the tasks done in onshore are exactly the same done in nearshore, which means it's completely switchable. The onshore can take over for the nearshore in one minute if need be and vice-versa.

Another way to mitigate the operational risk, for instance the risk of the different language would be to have an official language in order persons worldwide could understand themselves.

Being the motivation of the employees a potential risk identified, a way to mitigate it may be, to build some motivation programs either in a monetary or personal development perspective, in order to motivate and engage the employees.

A way to mitigate the kind of dictatorial leadership identified in the interviews, would be having more initiatives in order to have contributions from the employees and not only being the top managers to make the decisions.

The distance and losing contact and interactions may be an operation risk mitigated by having a virtual proximity through the various digital channels in order to build a trustworthy relationship, mentioned in the interviews.

With both literature review and interviewees that it is fundamental to identify first the main reasons to centralize processes of a financial institution, know whether or not those reasons are enough to add the significant value as per Campbell & Kunisch (2011) it should add at least 10% to be worth to centralize. Identify the main advantages as for the results the top three would be low cost, efficiency and the fact that it is easier to change the way of work. When knowing that the adding value is significant, the advantages are real and the option would be the centralization of risk management processes it should also be defined and taking into consideration the location to choose. As per the investigation it should be key to have the nearshore and onshore nearby, by that it means that the head quarter should not be far to the chosen city where to centralize, besides that one more time the importance of the cost efficiency, the language spoken that should be the same in both near and onshore and also important the quality of staff. Getting to know the risks intrinsic to the choice made it is easier to identify the best ways to try to reduce them, as per this investigation it's concluded that the main risks to centralized risk management processes in financial institutions are operational ones, such as employees' motivation, the knowledge transference and also external events that may happen, such as a pandemic or a tsunami. The ways found to mitigate them pass by build some motivation programs, have more inputs from the employees and create backup scenarios teams.

Starting from the specific objectives, we will now answer the main question of this project, which was initially mentioned:

Understand the role of operational risk management in centralized risk management processes in financial institutions

Understanding and knowing now all the operational risks that might come from the centralized risk management processes in financial institutions it becomes key and imperative the role of operational risk management there.

In each decision made there is an inherent risk associated. Choosing to centralize risk management processes in a financial institution will also bring challenges and some risks. The kind of risks that a financial institution might face while opting for this centralized risk management process are, not only but mostly, operational risks, as previously mentioned. Consequently it is important to identify, measure and search the best way to mitigate the potential operational risks.

With this study I was able to identify the most relevant risks that can come from the centralized risk management processes in a financial institution, such as the motivation of employees, the language barrier, the possibility to lose contact either with the actual risk processes or scenarios either with persons and interactions, the difficulty always found when passing work so the knowledge

transference it is also a potential risk, and the fact that is always possible to happen any kind of external events (such as a pandemic like now COVID-19). Identifying them it was the time to find ways to mitigate these kinds of risks, as presented in the specific objective above. And now after all the operational risks nominated as well as the ways to mitigate them, it remains an important and fundamental factor the role of the operational risk management in centralized risk management processes in a financial institution.

6. Limitations of the study and future research

The findings of this study have to be seen in light of some limitations, firstly the biggest constraint and limitation was the pandemic we are currently living. This made difficult to schedule the interviewees and consequently to collect the different views and replies to the employees in the financial institution in study. Being in the same office it would be easier to have much more quicker answers and the study could have been faster.

Secondly limitation is the fact that the investigation is based on a case study and interviewees only made to managers to the financial institution in study.

Another limitation is that there are not so many studies about the topic which makes the research more challenging.

In the future it is suggested to analyze more than just one case study, to do some questionnaires to all relevant employees' bases on the answers given in managers' interviewees. It is proposed that while researching in the future that a person goes personally to the financial institutions' case studies chosen in order to collect the greater numbers of responses possible that will improve the research.

This case study can be used as an example to future ones and hopefully it also serve as an alert to the operational risks in centralized risk management processes in financial institutions.

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