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# Risk Management Maturity in Moroccan SMEs: A Descriptive and Comparative Case Study

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**Abstract:** This qualitative study compares and describes the risk management maturity of two Moroccan SMEs in the information technology sector. To this end, an evaluation grid drawn from the literature was used. The results reveal a very low level of maturity, corresponding to the "Naïve" (Hillson) and "Emerging" (OECD) levels, reflecting non-formalized and poorly integrated risk management. The study highlights the need for greater awareness and formalization of risk management in Moroccan SMEs.

**Keywords:** SME, risk management, maturity, case study, Morocco.

## Introduction

Business risks are all events that can reduce profitability and call into question an organization's existence. They can be threats that come true, management or forecasting errors, or the occurrence of unfavorable hazards (Bressy & Konkuyt, 2004). The notion of risk covers a wide range of contents. So, there is no consensus on this notion. Therefore, risk is a probabilistic event that can positively or negatively affect a company's activity (Ennouri, 2013).

SMEs are particularly exposed to a variety of risks, which can jeopardize their long-term survival (Beasley et al., 2020). Despite these multiple risks, risk management often remains unstructured or informal in SMEs, limiting their ability to effectively anticipate and manage these threats (Bergner et al., 2021). In a competitive and uncertain economic environment, proactive management is necessary to ensure the growth and sustainability of SMEs (Oliveira et al., 2019).

## Research Aim and Research Questions

The aim of this paper is to identify the level of risk management maturity within two Moroccan SMEs operating in the information technology sector, and then to compare these levels in order to highlight any similarities or disparities.

## Research Results

1. **Risk management culture**

   Risk management culture is: "all the general and specialized knowledge of an organization's employees in terms of risk management" (KARIMa Mialed & Ibrahim DadsI, 2020). It is also the set of conditions put in place to improve risk management within an organization, in order to make it a fertile ground for the implementation of risk management culture (Karima Mialed & Ibrahim Dadsi, 2020).

   Darsa (2016) believes that "the culture of risk management must therefore incorporate a conscious ability on the part of its actors to accept risks and seize the opportunities that will arise, without adopting by default a restrictive vision of risk and its potential impacts". With this in mind, the International Professional Practices Framework (IPPF) proposed criteria in 2019 to measure the maturity of risk management culture within companies. The key aspect of creating a flexible risk culture, in which individuals take responsibility for results, is to perceive risk as an opportunity. Indeed, effective opportunity management is better than defensive risk management (Alami & Achaba, 2020).

   The culture variable is a key factor in the implementation of a formal risk management system in companies (Karima Mialed & Ibrahim Dadsi, 2020), which is why companies need to promote a risk management culture among their staff if they are to achieve a significant degree of maturity in this area. Culture thus determines risk acceptance or refusal strategies (Thompson & Wildavsky, 1982).

2. **Risk management maturity models**

   Maturity is "the stage at which an organization has reached full development" (Marc, 2011). It is an organization's ability to proactively identify, assess, control and respond to all aspects of risk in order to improve decision-making and create value for the organization (COSO, 2017). A maturity model is a simplified representation of the development that an organization's maturity can follow, signifying the degree to which quantitatively managed and optimized processes have been implemented (DEGUIL, 2008). Maturity models are generally descriptive in nature, focusing on processes and overall results rather than on measurements. They enable management to understand its capabilities and choices (OECD, 2021). There are several different maturity models, but all have their origins in a grid proposed by Crosby in 1979 (Fraser et al., 2002). [Table 1] provides a summary of risk management maturity models.

**Table 1**

*Risk management maturity models*

| Models | Authors | Maturity levels | Characteristics / Lines of analysis |
|---|---|---|---|
| QMMG (Quality Management Maturity Grid) | Crosby (1979) | 1.Uncertainty<br>2. Wake-up call<br>3. Illuminated vision<br>4.Wisdom<br>5. Certainty | 6 axes: management attitude, quality organization, problem management, cost of non-quality, improvement actions, activity review |
| CMMI (Capability Maturity Model Integration) | Based on CMM (software origin) | Progressive levels (not detailed here) | Improvement of software development practices, respect for quality/budget/deadlines |
| RMM (Risk Maturity Model) | Hillson (1997, 2010) | 1.Naive<br>2.Novice<br>3.Standardized<br>4. Natural | 4 attributes: process, culture, experience, application |
| OECD ERM maturity model | OECD (2018, 2021) | 1.Emerging<br>2.Progress<br>3.Established<br>4.Leader<br>5. Aspiring | 8 areas: strategy, governance, culture, risk identification/assessment/management, review, communication |

*Source:* authors

Research shows a weakness in maturity models due to their lack of theoretical foundation and empirical validation (Spikin, 2013). A maturity model has been developed on the basis of a theoretical study for public administrations and empirically validated with Dutch municipalities, thus avoiding the weaknesses of existing maturity models (Nissoul et al., 2017).

In Morocco, there is a growing awareness of the importance of implementing risk management systems at corporate level. In this sense, some researchers have developed a risk management model specific to the Moroccan company (Nissoul & Riane, 2014).

It is important to note that these maturity models are not exclusive and can be adapted according to the specificities and needs of each organization. However, they do present a useful framework for assessing and improving quality and risk management practices.

Our study is based on a qualitative approach using two case studies. These are two SMEs with the same characteristics (gender of managers, business sector, region, seniority) in order to isolate variables specific to risk management maturity.

We used an analysis grid drawn from the literature to collect and structure the responses of the two SMEs in terms of risk management maturity assessment. The grid contains other main axes: assessment of risk culture, assessment of risk management process and tools, assessment of risk management governance and responsibilities, assessment of risk management monitoring and continuous improvement.

The use of an analytical grid in qualitative case studies is recommended to standardize data collection, while offering flexibility in the interpretation of responses (Eisenhardt, 1989). It also facilitates data triangulation and increases the reliability of results (Hillson, 2010).

This methodological approach is part of a logic of descriptive and comparative qualitative analysis, aimed at comparing empirical data with theoretical models of risk management maturity (Hillson, 2010; OECD, 2021).Table 2 presents the different characteristics of the SMEs.

**Table 2**

*Characteristics of the SMEs studied*

| Elements | SME 1 | SME 2 |
|---|---|---|
| **Respondent status** | Owner | Owner |
| **Gender of respondent** | Male | Male |
| **Age of respondent** | Age 36-45 | Age 36-45 |
| **Legal status** | SME | SME |
| **Sector of activity** | Information technology (IT) | Information technology (IT) |
| **Age of company** | Less than 5 years | Less than 5 years |
| **Region** | Casablanca-Settat | Casablanca-Settat |

*Source:* authors

Table 2 shows two SMEs in the IT sector, located in the same region (Casablanca-Settat), of similar age (< 5 years), with male owners aged 36-45.

**Table 3**

*Risk management maturity assessment results*

| Dimensions / Indicators | Case 1 | Case 2 |
|---|---|---|
| **1. Risk culture** | | |
| **Regular employee awareness** | Not at all in place | Not at all in place |
| **Ability to identify and report risk** | Partially, informally | Partially, informally |
| **Open risk communication** | In place but not systematic | In place but not systematic |
| **2. Risk management processes and tools** | | |

| | | |
|---|---|---|
| **Formal procedure for identifying, assessing and dealing with risks** | Not at all in place | Not at all in place |
| **Use of specific tools (matrices, tables, etc.)** | Not at all in place | Not at all in place |
| **Regular risk assessment** | Not at all in place | Not at all in place |
| **3. Governance and responsibilities** | | |
| **Person or group designated to oversee risk management** | Not at all in place | Not at all in place |
| **Management involvement in risk analysis** | Partially, informally | Partially, informally |
| **Clearly defined risk management responsibilities** | Not at all in place | Not at all in place |
| **4. Monitoring and continuous improvement** | | |
| **Follow-up of implemented actions** | Not at all in place | Not at all in place |
| **Measurement of risk management results** | Not at all in place | Not at all in place |
| **Regular updating of risk management policy** | Not at all in place | Not at all in place |

*Source:* authors

Table 3 explains the characteristics of risk management maturity at the two SMEs as follows:

- **Risk culture**: employee awareness not in place or partially informal, open communication encouraged but not systematic.
- **Processes and tools**: total absence of formal procedures, lack of specific tools and absence of regular risk assessment.
- **Governance and responsibilities**: no designated person or group, partial and informal involvement of management, undefined responsibilities.
- **Monitoring and continuous improvement**: actions not monitored, results not measured, policy not updated.

We note that both cases present a very low maturity profile in all areas. According to Hillson's model, this profile clearly corresponds to level 1 "Naïve", where no structured risk management is in place, and the organization has little awareness of the importance of risk. In addition, there is no experience or formalization of risk management processes. As a result, risk management is virtually non-existent or in its infancy.

According to the OECD model, the organization has few formal arrangements in place for risk management, so efforts are limited to what already exists, without a structured approach. In addition, there are significant gaps in risk management culture, governance and processes. This shows that risk management is not yet integrated as a strategic lever.

This situation underscores the urgent need to raise awareness, formalize processes and involve management, as well as put in place suitable processes and tools in line with the recommendations of the models to move to the next level (Novice or Progress level).

## Conclusion

Both cases show a very low maturity profile in all areas, corresponding to the "Naïve" level of the Hillson model and the emerging level of the OECD. The results show that Moroccan SMEs in the IT sectors still underestimate the strategic importance of risk management. While these findings are important, they cannot be generalized given the small number of interviewees.

Identical responses may indicate either a common reality among similar SMEs (low risk management maturity), or a limitation of the sample or tool (few respondents or identical understanding of items). For this reason, this study could be extended to include more Moroccan SMEs from different business sectors, in order to enrich the analysis.

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