FRAMEWORK OF EFFECTIVE RISK MANAGEMENT IN SMALL AND MEDIUM ENTERPRISES (SMEs): A LITERATURE REVIEW

Nsikan Ekwere[1]
Magister Manajemen, Universitas Katolik Parahyangan, Bandung

ABSTRACT

Governments have realised the need to encourage entrepreneurs to open small businesses believing that the development of the small business sector will decrease high unemployment rate thereby leading the country to a sustainable economic development. However, research shows that this aim cannot be achieved by only facilitating access to finance to entrepreneurs but that some management strategies such as risk management should be introduced, understood and applied by small business owners, in order for their businesses to go beyond the estimated survival period of three to five years. This paper reviews and provides background to which risk management techniques are applied within the ambit of small enterprises. The review shows that not many SME owners, managers, entrepreneurs or key designated employees effectively make use of a well-structured risk management tool and technique within their businesses, to achieve growth and sustainability.

Keywords: Enterprise Risk Management, Small and Medium Enterprises (SMEs)

ABSTRAK

Pemerintah yang telah sadar perlunya mendorong wirausahawan untuk membuka usaha percaya bahwa sektor usaha kecil akan mengurangi tingkat pengangguran, sehingga akhirnya membuat pembangunan ekonomi di negaranya berkelanjutan. Tetapi, penelitian menunjukkan bahwa hal tersebut tidak dapat dicapai hanya dengan memberikan kemudahan akses pada sumber keuangan tetapi justru yang penting adalah strategi-strategi manajemen seperti manajemen risiko yang harus diperkenalkan, dipahami dan diterapkan oleh para pemilik usaha kecil, agar bisnis mereka mampu bertahan melampuai periode survival tiga sampai lima tahun. Tulisan ini menelaah dan memberikan latar belakang ketika teknik-teknik manajemen risiko diterapkan pada perusahaan skala kecil. Hasil penelaahan menunjukkan bahwa tidak banyak pemilik usaha bisnis kecil dan menengah, juga manajer, wirausahawan atau pegawai yang menduduki posisi kunci, secara efektif menggunakan instrumen dan teknik manajemen risiko yang tertata dengan baik dalam usaha bisnis mereka, dalam rangka mencapai pertumbuhan dan keberlanjutan usahanya.

Kata kunci: Manajemen risiko perusahaan, Usaha kecil dan menengah (UKM)

1. INTRODUCTION

Risk can be seen as the possibility of economic or financial losses or gains, as a consequence of the uncertainty associated with pursuing a course of action (Chapman and Cooper, 1983). Risk pervades all human actions (to varying degrees), all kinds of business and every area of management of a company. However, in many cases, risk can be predicted on the basis of experience, trying to better govern the disorder. Risk management (RM) has the task of identifying risks, measuring the probability and the possible impact of events, and treating risks, eliminating or reducing their effects with the minimum investment of resources. Risk

[1] E-mail address: nsikwere@gmail.com

Management is being developed and adopted in a lot of fields, such as environment, healthcare, public safety, and within enterprise management.

This paper considers risk management for small and medium enterprises (SMEs). More so than larger organizations, SMEs require the adoption of a risk management strategy and methodology, because they lack the resources to respond promptly to internal and external threats, leading to potentially huge losses that seriously threaten their survival.

A further motivation to push the implementation of risk management in SMEs is to protect innovative projects, which are fundamental to gain competitive advantage and succeed in the market, but necessarily involve risky decisions and activities (Vargas-Hernandez, 2011). The early identification and management of risks is required by innovative SMEs to control the project-related risks. Risk management could enhance the ability to successfully manage all stages of the innovative projects.

It has only been a few years since business management literatures started to show an interest in applying risk management in SMEs; for this reason, many areas are still understudied.

The choice of this topic is determined first, by the SMEs' fundamental role in society from an economic and social point of view; in 2013, SMEs in Europe numbered about 21.6 million, employed 88.8 million people and generated €3,666 trillion in value added in the non-financial business sector. This is equivalent to 28% of EU GDP. Overall, SMEs accounted for 99.8% of all enterprises active in the EU non-financial business sector, 66.8% of total employment and 58.1% of the value added (European Commission 2014).

In ASEAN, Small and Medium Enterprises (SMEs) play an important role in economic integration because between 89-99% of the firms in ASEAN Member States (AMSs) are SMEs and together, they create between 52-97% of employment, and contribute between 23-58% to the Gross Domestic Product (GDP), and 10-30% in total exports (ERIA 2014).

Despite SMEs' strategic importance to economic growth, having less resources and structural features results in a greater vulnerability to risk; thus, the second motivation is to promote the development of risk management for SMEs and till now there have been limited studies to improve these firms' ability to survive and create value over time.

This paper therefore focuses on the risk management processes that should be adopted in small businesses. It will analyse the existing literature concerning risk management process in SMEs, synthesize and classify it based on different established categories, investigate main risk management terms and theoretical risk management models as well as highlight the current gaps and opportunities for future research.

2. RISK MANAGEMENT EFFECTIVENESS

According to COSO (2004), determining whether an entity's enterprise risk management is "effective", is a judgment resulting from an assessment of whether the eight components are present and functioning effectively. As a result, the components also serve as criteria for effective enterprise risk management. For the components to be present and functioning properly, there can be no material weaknesses, and risk needs to have been brought within the entity's risk 'appetite'.

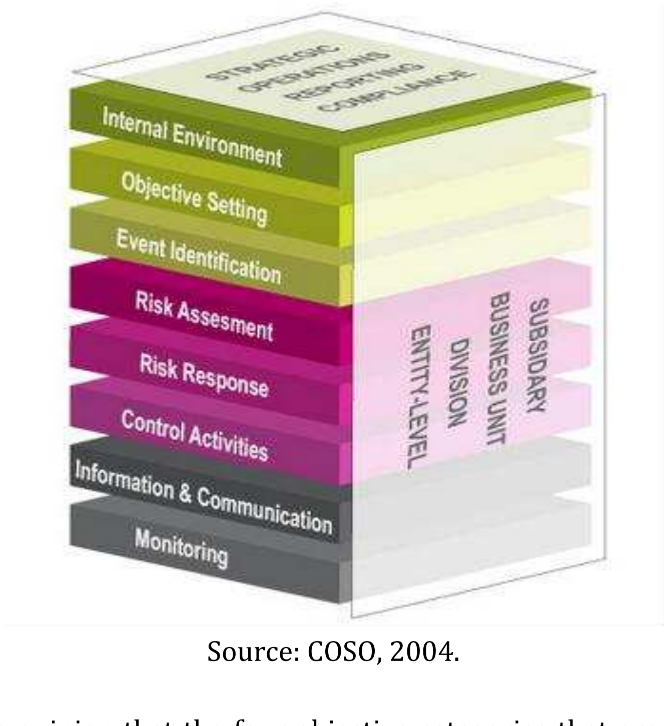
When enterprise risk management is determined to be effective in each of the four categories of objectives respectively, the board of directors and management have reasonable assurance that they understand the extent to which the entity's strategic and operations objectives are being achieved, and that the entity's reporting is reliable and applicable laws and regulations are being complied with. The eight components will not function identically in every entity. Application in small and mid-size entities for example, may be less formal and less structured. Notwithstanding, small entities still can have effective enterprise risk management, as long as each of the components are present and functioning properly (COSO, 2004).

3. Risk Management Components

Enterprise risk management consists of eight interrelated components. These are derived from the way management runs an enterprise, and must be integrated with the management process (COSO, 2004). The interrelated elements are expanded upon below:

1. Internal Environment: This determines the risk management philosophy, appetite for risk and risk culture of the entity.
2. Objective Setting:
   a. Strategic: High-level goals, aligned/ supporting the mission/ vision.
   b. Operations: Effectiveness and efficiency of entity's operations.
   c. Reporting: Internal/external reporting of financial/ non-financial risk.
   d. Compliance: Compliance with applicable laws and regulations.
3. Event Identification: External/internal factors that affect risk.
4. Risk Assessment: Likelihood and impact events affecting objectives.
5. Risk response: Risk avoidance, reduction, sharing, acceptance of risk.
6. Control Activities: Policies, procedures to ensure proper execution of risk response.
7. Information and communication: Communication and awareness of risk.
8. Monitoring: Ongoing activities or separate evaluation.

Figure 1. ERM Objectives and Components Relationship



Source: COSO, 2004.

COSO is of the opinion that the four objective categories that are stated below and the above eight components are combined to create a matrix, as illustrated by Figure 1. below, with the entity and its organisational units. The objectives are what an entity strives to achieve, and the ERM components represents what is needed to achieve them (COSO, 2004). The objectives are set forth in four categories, namely:

1. Strategic: High-level goals, aligned with and supporting its mission.

2. Operations: Effective and efficient use of its resources.
3. Reporting: Reliability of reporting.
4. Compliance: Compliance with applicable laws and regulations

The above objectives are what an entity or organisations strives to achieve, and the ERM components represents what is needed to achieve them (COSO, 2004). To be deemed effective all eight components must be present and functioning, but they do not need to function with the same level of maturity.

4. CLASSIFICATIONS OF RISK

One of the first definitions of risk is attributed to Bernoulli, who in 1738 proposed measuring risk with the geometric mean and minimizing risk by spreading it across a set of independent events (Bernoulli, 1954). Accordingly, the traditional definition of risk is measured by two combined variables:

The frequency of occurrence (probability) of the "risky" event, *i.e.*, the number of times the risky event is repeated in a predetermined period and the extent of the consequences (magnitude) that the event generates, *i.e.*, all the results of its occurrence.

Following Chapman and Cooper (1983), risk is the possibility of suffering economic and financial losses or physical material damages, as a result of an inherent uncertainty associated with the action taken. But in a later definition developed by management literature, the concept of risk comprises positive and negative consequences of an event, which may affect the achievement of strategic, operational and financial objectives of a company (BBA *et al*., 1999). But in the ISO 31000 document issued in 2009, risk is given the shortest definition as the effect of uncertainty on objectives.

Given the complexity and magnitude of the risks that companies face, scholars recognize a macro classification of risks into two main categories (Mowbray *et al*., 1979 cited in Antonio & Barbara 2013), namely:

- Pure or static risk: This is the risk that only causes damage without the opportunity of earning from its occurrence. Always negative, it is characteristically unexpected because it is determined by accidental events. This risk falls perfectly under the insurance policy.
- Speculative or dynamic risk: This is the risk that can cause either damages or earning opportunities. These are the typical entrepreneurial risks, consequences, for example, of an investment that has not generated a profit. They are normally related to planning and managing the different businesses and functions of the enterprise, such as production, product, marketing and sales.

Risky events can be caused by external factors (economic, environmental, social, political and technological aspects) or internal factors (infrastructure, human resources, process and technology used by a company) (COSO, 2004).

5. THE CONCEPT OF RISK MANAGEMENT

Risk management is a central part of any organisation's strategic management. It is the process whereby organisations methodically address the risks associated to their activities with the goal of achieving sustained benefit within each activity, and across the portfolio of all activities. Furthermore, it should be a continuous and developing process, which runs throughout the organisation's strategy and the implementation of that strategy. It should also address systematically all the risks pertaining to the organisation's activities past, present and in particular, the future. Moreover, it must be integrated into the culture of the organisation with an effective policy and a programme led by senior management. It must translate the strategy into tactical and operational objectives, assigning responsibility throughout the organisation with each manager and employee responsible for the management of risk as part of their job description. This supports accountability, performance measurement and reward, thus promoting operational efficiency at all levels (IRM, 2002).

Risk management is defined as the process intended to safeguard the assets of the company against losses that may hit it in the exercise of its activities, through the use of instruments of various kinds (prevention, retention, insurance, etc.) and in the best cost conditions (Habib *et al.* 2014).

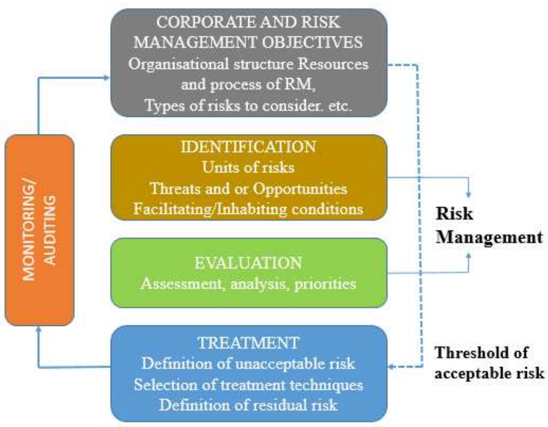
Another definition is risk management refers to the process of planning, organizing, directing, and controlling resources to achieve given objectives when unexpectedly good or bad events are possible (Head, 2009).

The International Organization for Standardization (ISO 31000, 2009) further redefined risk management as coordinated activities to direct and control an organization with regard to risk. It went on to identify the following principles of risk management to include: create value; be an integral part of the organizational processes; be part of decision making that explicitly addresses uncertainty; be systematic and structured; be based on the best available information; be tailored; take into account human factors; be transparent and inclusive; be dynamic, iterative and responsive to change; and be capable of continual improvement and enhancement.

The adoption of a risk management methodology or framework can lead firms to reduce the negative effects and take advantage of the positive effects of uncertainty in enterprise management, to ensure continuity in production and trading in the market, to decrease the risk of failure, and to promote the enterprise's external and internal image. Therefore, risk management creates business value, maximizes business profits by minimizing costs (Habib *et al.* 2014).

Risk management follows a stage-gate process (Henschel, 2008; ISO 31000, 2009; Habib *et al.* 2014), as described in Figure 2.

Figure 2. Risk Management Process



From the above diagram, a preparatory step requires defining the risk management plan to be consistent with strategic business objective of the enterprise, and conduct a context analysis.

On risk management, the first stage aims to identify all the risks to which the enterprise is exposed. The second stage is the assessment and risk analysis, which aims to determine the probability and the expected magnitude associated with the occurrence of the damage.

A threshold of acceptability must be defined to proceed to the next stage, depending on the risk appetite of top management and on the availability of resources. The third stage is the treatment of unacceptable risks, which identifies the most appropriate actions to reduce the risk; and finally the process is supervised.

In the literature, the first two phases (identification and evaluation) are often called risk assessment. The implementation of a risk management system is a long-term, dynamic and interactive process that must be continuously improved and integrated into the organization's strategic planning (Di Serio *et al.*, 2011).

6. THE PURPOSE OF RISK MANAGEMENT

The goal of risk management is to identify potential risks, to analyse risks to determine those that have the greatest probability of occurring, identifying the risks that have the greatest impact on the entity if they should occur, and defining plans that help mitigate or lessen the risk's impact or avoid the risks while making the most of the opportunity (Hong, 2014). Furthermore, Hong (2014) believes that risk management more specifically concerns the following five areas, namely:

- Identifying and documenting risks.
- Analysing and prioritising risks.
- Perform risk planning.
- Monitoring risk plans and applying controls.
- Perform risk audits and reviews.

Reuvid (2009), summarises the objectives of the above five areas when he points to the fact that risk management must be a disciplined and consistent process that should imperatively include all the areas outlined below.

i. Risk identification and assessment: Identification of the significant risks that face the organisation and include development of risk registers and risk mapping, along with both quantitative and qualitative analysis of the exposures.
ii. Risk mitigation strategies: The development of risk mitigation strategies is the key to the management of risk issues, and action plans need to be included in the overall business plans of the organisation to ensure successful implementation.
iii. Residual risk transfer: Once all risk mitigation strategies have been evaluated and implemented as appropriate, the residual risk has to be effectively managed through a combination of insurance, hedging and other alternative techniques to ensure the best possible coverage at the lowest possible transfer cost.
iv. Risk reporting: The organisation needs the ability to report on risks internally, specifically to senior management and the board of directors.
v. Monitoring: This part of the process is designed to ensure adherence to effectiveness in relevance of policies and procedures relating to risk management.

Ernst & Young is of the opinion that, "a critical attribute of a successful business is the effectiveness of its risk management process: the better the process, the more certainty there is of prosperity and potential long-term competitive advantage".

7. THE IMPORTANCE OF RISK MANAGEMENT

According to IRM (2002), risk management protects and add value to the organisation and its stakeholders, through supporting the organisation's objectives by:

1. Providing a framework for an organisation that enables future activity to take place in a consistent and controlled manner.
2. Improving decision making, planning and prioritisation by comprehensive and structured understanding of business activity, volatility and project opportunity/threat.
3. Contributing to more efficient use/allocation of capital & resources within the organisation.
4. Reducing volatility in the non-essential areas of the business.
5. Protecting and enhancing assets and company image.
6. Developing and supporting people and the organisation's knowledge base.
7. Optimising operational efficiency.

8. RISK MANAGEMENT LIMITATIONS

Reuvid (2009) is of the opinion that small to large businesses owners, managers, and entrepreneurs should acknowledge that risk management has limitations equal to any other management process. These weaknesses comprise the following:

- Risk management will not make decisions or take resolutions for the company: It can facilitate the owner to build decisions, but these resolutions will be restricted by the profundity of the research and examination of risk and the experience and risk management skill of anyone involved in the risk assessment.
- Freedom from all risk is not guaranteed when using risk management: Risk management does not intend to eliminate risk, but rather to prioritise the suitable application of insufficient resources and time.
- Risk management cannot assure that adverse events will not happen: It does however provide for important warning of likely problems and a focus on techniques to defend reputation and business continuity.
- Risk assessments will not be all-inclusive and are consequently not fail-safe (GRA & NSW, 2005). Risk assessment will attempt to identify all significant risks, but they are limited by the resources available, including information availability, staff capability, time and budget.

9. SMALL BUSINESSES (SMEs)

While the importance of the SME sector and the informal sector is acknowledged internationally, defining an SME is a challenging task, as every country has its own definition. There is no universally accepted definition of a small firm (Hans, citing Storey, 1994). Firms differ in their levels of capitalisation, sales and employment. Hence, definitions which employ measures of size (*e.g.* number of employees, turnover, profitability and net worth) when applied to one sector might lead to all firms being classified as small, while the same size definition when applied to a different sector might lead to a different result.

SME definitions can be broadly categorised into two, "economic" and "statistical" definitions. Under the economic definition, a firm is regarded as small if it meets the following three criteria;

a. Has a relatively small share of their market place;
b. Is managed by owners, or part owners, in a personalised way and not through the medium of a formalised management structure;

c. Is independent in that it is not part of a larger enterprise.

The "statistical" definition, on the other hand, is used in three main areas:

a. Quantifying the size of the small firm sector and its contribution to GDP, employment and exports;
b. Comparing the extent to which the small firm sector's economic contribution has changed over time; and
c. In a cross-country comparison of the small firms' economic contribution.

These definitions, however, have a number of weaknesses. For example, the economic definition, which states that a small business is managed by its owners or part owners in a personalised way and not through the medium of a formal management structure, is incompatible with its statistical definition of a small manufacturing firm which might have up to 200 employees.

According to UNIDO, the definition of SMEs is a significant issue for policy development and implementation and depends primarily on the purpose of the classification. For the purposes of policy development, UNIDO generally advises countries to take into account the quantitative and qualitative indicators for SME definition. The following table summarises the main qualitative indicators that may be used in order to differentiate between SMEs and large companies.

It is also important at this juncture to define entrepreneurship. Put simply, 'entrepreneurship' is the creation of new enterprise, which includes SMEs.

10. RISK MANAGEMENT IN SMEs

"*A critical attribute of a successful business is the effectiveness of its risk management process: the better the process, the more certainty there is of prosperity and potential long-term competitive advantage*" (Ernst &Young,2008).

The importance of small enterprises has been emphasised worldwide due to their mechanism for job creation, innovation and durable economic development. Small and medium-sized enterprises account for 60 to 70 per cent of jobs in most Organisation for Economic Co-operation and Development (OECD) countries; they also account for a disproportionately large share of new jobs. However, the OECD study observed that many start-ups do not survive for more than five years and fewer still develop into high-growth firms (AFREC, 2005).

But researchers believe that the concept of Risk Management can help small business owners, managers or entrepreneurs to meet their business objectives (see CPA Australia 2009 and Crisp 2015). Winks (2009), former president of the Institute of Risk Management South Africa (IRMSA), stated that, "*Every business or other venture needs to practice risk management; otherwise they have a high probability of failure*". Furthermore, SMEs are more vulnerable than bigger outfits, but seldom take a structured approach to this critical area.

Risk management highlights the fact that the survival of a business entity depends heavily on its capabilities to anticipate and prepare for change, rather than wait for the change and then react to it. It should be clearly understood that the objective of risk management is not to prevent or prohibit taking risk, but to ensure that risks are consciously taken with complete knowledge and clear understanding so that it can be measured to help in the mitigation thereof. It is more so in the case of SMEs (Raghavan, 2005).

Table 1. Application for Qualitative Indicators in Comparing SMEs and Large Companies

Category	SMEs	Large Companies
Management	Proprietor entrepreneurship Function-linked personality	Manager – entrepreneurship Division of labour by subject matters
Personnel	Lack of university graduates All-round knowledge	Dominance of university graduates Specialisation
Organization Sales Buyer's relationships Production Research Development	Highlypersonalized contacts Competitive position not defined & uncertain Unstable Labour intensive Following the market, intuitive approach	Highly formalised communication Strong competitive position Based on long-term contracts Capital intensive, economies of scale Institutionalized
Finance	Role of family funds, self financing	Diversified ownership structure, access to anonymous capital market

Source: United Nations Industrial Development Organization (UNIDO)

Table 2. Synopsis of SME Definitions by Region

	EU	USA	Asia (Indonesia)	BRICS					
				Brazil		Russia	India	China	RSA
				Industrial	Commercial				
Words	SMEs	SMEs	SMEs	SMEs	SMEs	SMEs	SMEs	SMEs	SMEs
Number of employees									
Small	< 50	< 100	5 – 50	20 – 99	10 – 49	15-100	0	<300	50-99
Medium	< 250	< 500	51 - 150	100 - 499	50 – 99	101-250	0	300-2000	100-200
Turnover									
Small	$13m	0	Rp.250.000 to Rp.10m	0	0	400mRUB max.	Rs50-60m	<Y30	R2m-R4.5
Medium	$67m	0	Rp.10m to Rp.25m	0	0	18 RUB max.	Rs60-99m	Y30 – Y300m	R4.5-R50m

Source: Author's compilation from various sources

In India, according to Khosla (2009), it is a fact that financial risk, market risk, operational risk, strategic risk, and environmental risk are impossible for SMEs to avoid. What SMEs need to have is a strategy to minimize risks by monitoring the exposure of their businesses, so as to ensure that they do not derail business operations. Furthermore, the author believes that to minimize risks in business operations, SMEs need to first identify and rank business risks internally by the management through self-assessment. Once the risks are identified, management should go for the most appropriate strategy to avoid these risks and implement controls to manage other potential risks (Khosla, 2009).

Risk has always been part of the operational environment of organisations. It is something that neither the SME owner, nor the large multinational can escape (Odendaal, 2003).

11. CATEGORIES OF RISK IN SMALL BUSINESS

Many areas or categories of risk relate to small businesses. This is why a careful distinction should be made between each specific area and topic as this will favour a structured approach to risk identification. It is sometimes done by means of a brainstorming exercise or SWOT analysis. Classifying risks into categories will enable business owners to do risk planning and communicating risk information more easily. In addition, they will be able to select appropriate tools and techniques for each category (GRA & NSW, 2005). Table 3 below reflects some common risk categories.

Table 3. Some Categories of Risk

Risk Category			
Financial	Equipment	Safety	Strategic
Organisational	Operational	Project	Technology
Security	Reputational	Commercial	Stakeholder Management
Legal & Regulatory compliance	Service Delivery		

Source: GRA & NSW, 2005.

12. INCORPORATING RISK MANAGEMENT IN SMALL BUSINESS

The risk management strategy should leave nothing to chance. There is a plethora of risk models, which 'captures' all significant risks and identifies, analyses, prioritises and manages those risks (Di Serio, et al., 2011). Therefore, risk management in a small business should not be used as a stand-alone program, as the latter is integrated with other management processes and techniques employed to guarantee the successful operations of a business (GRA & NSW, 2005). Figure 3. illustrates this integration.

The wheel of integration graphically depicted in Figure 3 in terms of its integrated parts, is elaborated upon below;

- Business planning: It is an important management technique in a business of any size. Risk management can assist the business to effectively manage the weaknesses and threats to achieve the objectives of the business, as well as recognising where opportunities exist and capitalising on these to help the business grow and develop.
- Occupational Health and Safety (OH&S): A duty is placed on employers towards their employees' health and safety at the workplace. Risk management ensures that risks and hazards related to employees' safety and health are identified, reported and kept as low as reasonably practicable.
- Human resources management: Risk management will assist the business owner identify risks associated with human resource management, and their appropriate treatment strategies to manage and monitor them on an ongoing basis.
- Compliance: Risk management can assist to develop a clear understanding of the areas of compliance that must be managed and monitored, including risks associated with potential breach and what can be done to avoid that breach.
- Financial management: Risk management assists to determine where both financial risks and opportunities exist to ensure the efficiency and effectiveness of the business financial management.
- Client-customer relationship management: Risk management assists to identify existing relationships with clients or customers, and to minimise their degradation. This could be achieved via a complaints management system.

- Contract management: Contracts are entered with suppliers, clients or subcontractors. Risk management helps ensure the effective management of those contracts to protect a business and its staff.
- Quality assurance: It is an integral part of risk management. It is the process that continuous from risk treatment through monitoring and reviewing to a cycle of continuous improvement.

Figure 3. The Wheel of Integration

Source: GRA & NSW, 2005.

13. RISK MANAGEMENT IMPLEMENTATION IN SMEs

Research has confirmed that the majority of the studied SMEs do not have systematic risk management strategies in place. Moreover, the identification of root causes of the risk determinants and their related origins is not practiced in SMEs, and in SMEs where it is practiced to some extent, the flow of information tends to miss many of the relevant personnel (Islam and Tedford, 2012). Using a structured risk management method, it can identify all risks clearly and point out related solution at all. Martínez *et al.* (2012) observed that the risk management process should be followed in parallel to the different project management phases by integrating a risk plan in the beginning of the project and also by using the standard document, methodology and criteria. Small and Medium Enterprises should be able to apply “described” methodology to assist them in identifying and treating the risks appropriate to them. In this way, they should be able to identify the extent of the risks associated with the determinants by incorporating the metrics of time, money, and asset loss due to these.

Table 4. Application of Risk Management in Small Businesses

MANAGEMENT LEVEL	AREA	APPLICATION OF RISK MANAGEMENT
Strategy and Planning	Business Continuity Planning	Business interruption procedures and strategies
	Emergency Planning	Contingency planning; Disaster planning Recovery ; Fire and life safety management
	Business Planning	Business plan; Strategic plan
	Human resource management	Training; Culture; Knowledge management; Occupational health safety

MANAGEMENT LEVEL	AREA	APPLICATION OF RISK MANAGEMENT
Strategy and Planning	Financial Management	Budgeting; Cash flow management; Asset management; Capital expenditure
	Outsourcing	Intellectual property protection; Contract management
Operations	Product and services development	Insurance; Equipment management; Environmental management; Resource allocation; House keeping; Emergency response; Security; Documentation Quality assurance ; Reporting Occupational health and safety; Supply management ; Maintenance
	Product and services delivery	Project management; Customer relationship management ; Postal service Guarantee management ; Occupational health and safety ;Hazard assessment/management ; Contract management ; Complaint management

Source: GRA & NSW, 2005

14. RISK MANAGEMENT PROCESS

Risk Management Process (RMP) is applied to small businesses. Figure 4 depicts how the RMP should be approached in a small business context. Furthermore, the process depicted in Figure 4. is underpinned by an analysis thereof interpreted by GRA and NSW (2005).

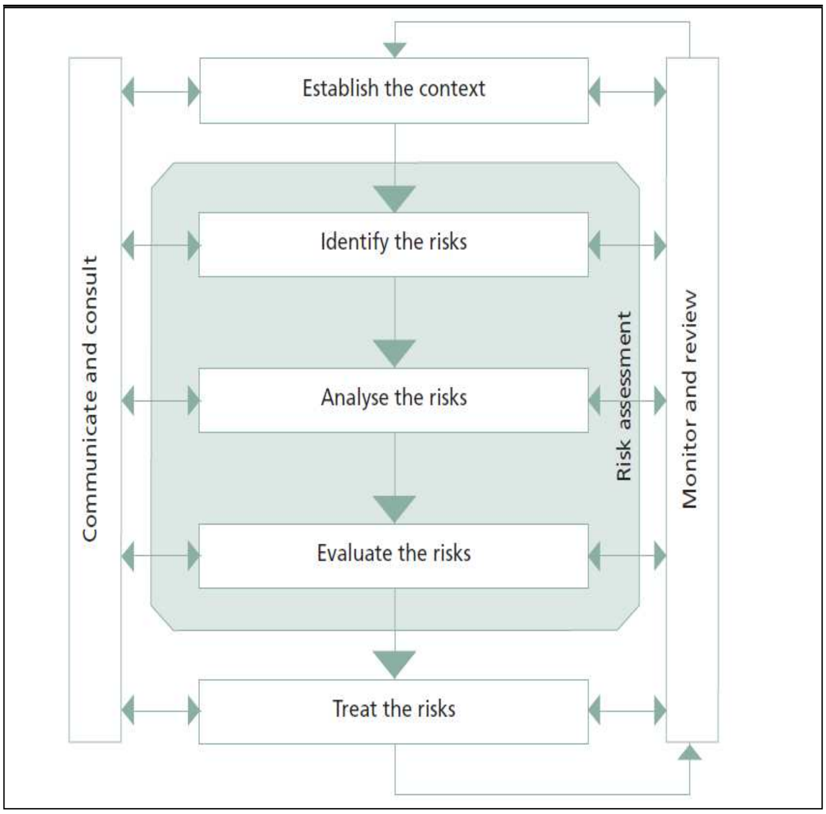
Step 1: Communicate and consult

Communication and consultation aims to identify who should be involved in assessment of risk (including identification, analysis and evaluation), and it should engage those who will be involved in the treatment, monitoring and review of risk. As such, communication and consultation will be documented in each step of the process.

There are two main aspects that should be identified in order to establish the requirements for the remainder of the process. This initial step aims at:

- Eliciting risk information: Communication and consultation may occur within the organisation or between the organisation and its stakeholders. It is very rare that only one person will hold all the information needed to identify the risks to a business or even to an activity or project. It is therefore important to identify the range of stakeholders who will assist in making this information complete. To ensure effective communication, a business owner may decide to develop and implement a communication strategy and/or plan as early as possible in the process. This should identify internal and external stakeholders, and communicate their roles and responsibilities, as well as address issues relating to risk management. Consultation is a two-way process that typically involves talking to a range of relevant groups and exchanging information and views. It can provide access to information that would not be available otherwise.

Figure 4. The Risk Management Process



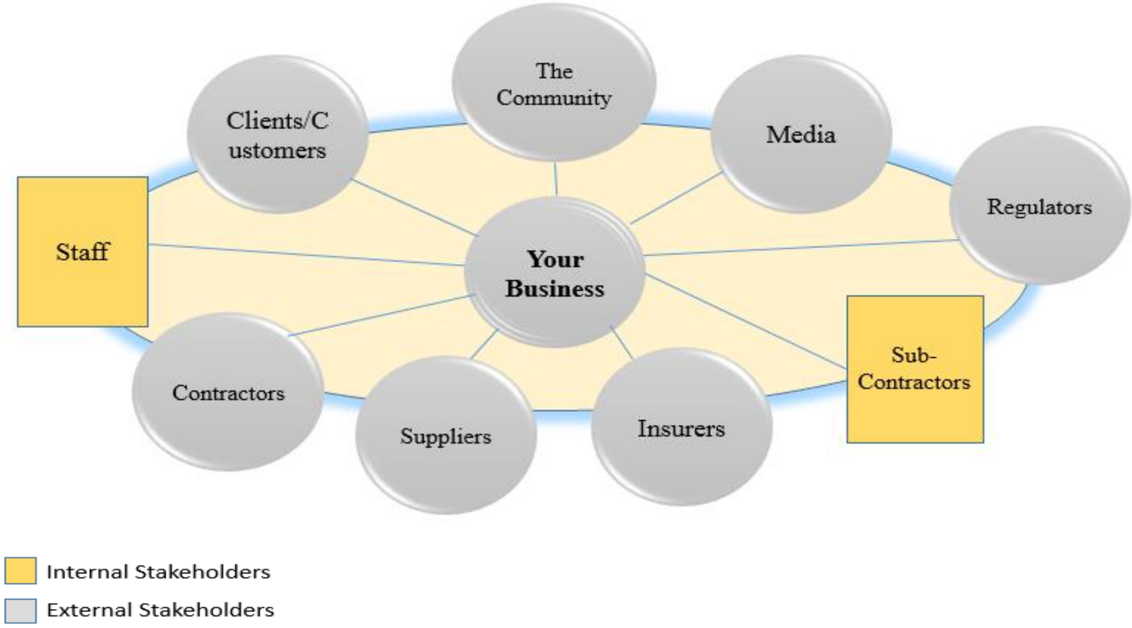
Source: ISO 31000; 2009

- Managing stakeholder perceptions for management of risk: There will be numerous stakeholders within a small business and these will vary depending upon the type and size of the business. Stakeholder management can often be one of the most difficult tasks in business management. It is important that stakeholders are clearly identified and communicated with throughout the risk management process. They can have a significant role in the decision-making process, so their perceptions of risks, as well as their perceptions of benefits, should be identified, understood, recorded and addressed. Stakeholder communication should incorporate regular progress reports on the development and implementation of the risk management plan, and in particular provide relevant information on the proposed treatment strategies, their benefits and planned effectiveness.

Step 2: Establish the context

When considering risk management within a small business, it is important to first establish some boundaries within which the risk management process will apply. For example, the business owner may be only interested in identifying financial risks; as such the information collected will pertain only to that area of risk.

Figure 5. Stakeholders in Small Business



Source: GRA & NSW, 2005.

AS/NZS 4360 cited by (GRA & NSW, 2005) provides a five-step process to assist with establishing the context within which risk will be identified.

Establish the internal context. As previously eluded to, risk is the chance of something happening that will impact on business objectives. As such, the objectives and goals of a business, project or activity must first be identified to ensure that all significant risks are understood. This will ensure that risk decisions always support the broader goals and objectives of the business. This approach encourages long-term and strategic thinking. In establishing the internal context, the business owner may also ask themselves questions like:

- Is there an internal culture that needs to be considered? For example, are staff resistant to change?
- Is there a professional culture that might create unnecessary risks for the business? What staff groups are present?
- What capabilities does the business have in terms of people, systems processes, equipment and other resources?

Establish the external context: This step defines the overall environment in which a business operates and includes an understanding of the clients' or customers' perceptions of the business. An analysis of these factors will identify the strengths, weaknesses, opportunities and threats to the business in the external environment. A business owner may ask the following questions when determining the external context:

- What regulations and legislation must the business comply with?
- Are there any other requirements the business needs to comply with?
- What is the market within which the business operates? Who are the competitors?
- Are there any social, cultural or political issues that need to be considered?
- Establishing the external context should also involve examining relationships the business has with external stakeholders for risk and opportunity.

Establish the risk management context: Before beginning a risk identification exercise, it is important to define the limits, objectives and scope of the activity or issue under examination. For example, in conducting a risk analysis for a new project, such as the introduction of a new piece of equipment or a new product line, it is important to clearly identify the parameters for this activity to ensure that all significant risks are identified. Establishing the parameters and boundaries of the activity or issue also involves the determination of:

- Timeframe (e.g. how long will it take to integrate a new piece of equipment?)
- Resources required.
- Roles and responsibilities
- Additional expertise required.
- Internal and external relationships (e.g. other projects, external stakeholders)
- Record-keeping requirements
- Depth of analysis required.
- The extent of analysis required for this step will depend on the type of risk, the information that needs to be communicated and the best way of doing this. And to determine the amount of analysis required, the following should be considered:
- Complexity of the activity or issue
- Potential consequence of an adverse outcome
- Importance of capturing lessons learned so that corporate knowledge of risk associated with the activity can be developed.
- Importance of the activity and the achievement of the objectives
- Information that needs to be communicated to stakeholders
- Types of risks and hazards associated with the activity

Develop risk criteria: Risk criteria allow a business to clearly define unacceptable levels of risk. Conversely, risk criteria may include the acceptable level of risk for a specific activity or event. In this step, the risk criteria may be broadly defined and then further refined later in the risk management process. It is against these criteria that the business owner will evaluate an identified risk to determine if it requires treatment or control. Where a risk exists that may cause any of the objectives not to be met, it is unacceptable and a treatment strategy must be identified. The table below shows a number of examples of risk criteria for a project in an SME.

Define the structure for risk analysis: Categories of risk, which one wishes to manage should be categorised. This will provide greater depth and accuracy in identifying significant risks. The chosen structure for risk analysis will depend upon the type of activity or issue, its complexity and the context of the risks.

Table 5. Examples of Risk Criteria for a Project

RISK CRITERION	OBJECTIVE
Safety	Safety must be upheld at all times. No injuries or fatalities will be accepted
Financial Impact	Project costs should remain within allocated budget
Media Exposure	The project must ensure that the reputation of the business is protected from negative media exposure
Timing	The project must be completed within the contractual timeframe
Staff Management	The project must utilize the existing staff skills. But where a particular skill set is not available, sub-contracting may be considered
Environment	The project must operate within requirements of the environmental legislation and must be consistent with the business's environment commitment

Source: Compiled by researcher from different sources

Step 3: Identify the risk

Risk cannot be managed unless it is first identified. Once the context of the business has been defined, the next step is to utilise the information to identify as many risks as possible. The aim of risk identification is to identify possible risks that may affect, either negatively or positively, the objectives of the business and the activity under analysis. There are two main ways to identify risk, namely retrospectively and prospectively which are elaborated upon below:

- Retrospectively: Retrospective risks are those that have previously occurred, such as incidents or accidents. Retrospective risk identification is often the most common way to identify risk, and the easiest. It is easier to believe something if it has happened before. It is also easier to quantify its impact and to see the damage it has caused. There are many sources of information about retrospective risk, which include:
    - Hazard or incident logs or registers.
    - Audit reports.
    - Customer complaints
    - Accreditation documents and reports
    - Past staff or client surveys
    - Newspapers or professional media, such as journals or websites
- Prospectively: Prospective risks are often harder to identify. These are incidents that have not yet happened, but might happen sometime in the future. Identification should include all risks, whether or not they are currently being managed. The rationale here is to record all significant risks and monitor or review the effectiveness of their control. Methods for identifying prospective risks include:
    - Brainstorming with staff or external stakeholders
    - Researching the economic, political, legislative and operating environment
    - Conducting interviews with relevant people and/or organisations
    - Undertaking surveys of staff or clients to identify anticipated issues or problems.
    - Flow charting a process
    - Reviewing system design or preparing system analysis techniques.

Risk categories will help break down the process for prospective risk identification. It is important to remember that risk identification will be limited by the experiences and perspectives of the person(s) conducting the risk analysis. Problem areas and risks can be identified with the help of reliable sources.

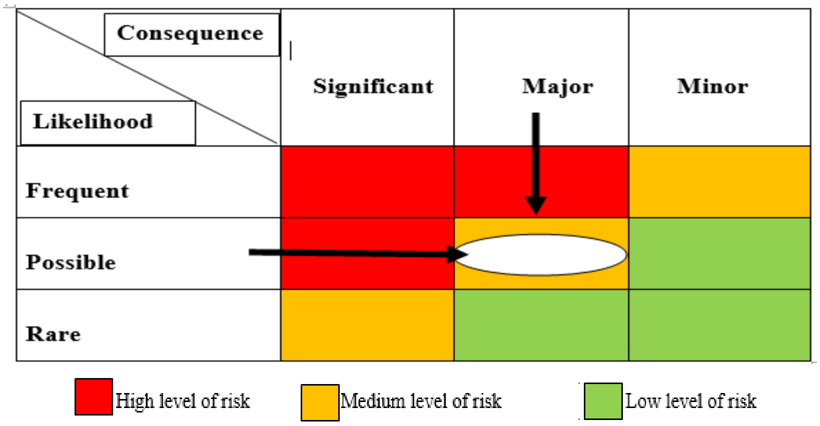
Step 4: Analysis of the risks

During the risk identification step, a business owner may have identified many risks and it is often not possible to try to address all those identified. The risk analysis step will assist in determining which risks have a greater consequence or impact than others. This will assist in providing a better understanding of the possible impact of a risk, or the likelihood of it occurring, in order to make a decision about committing resources to control the risk. Risk analysis involves combining the possible consequences, or impact, of an event, with the likelihood of that event occurring. The result is a 'level of risk'. This is known as the 'risk analysis equation':

$$\text{Risk} = \text{consequence} \times \text{likelihood}$$

Most commonly, the overall level of risk is determined by combining the identified consequence level, with the likelihood level in a matrix as illustrated in Figure 6 below

Figure 6: Risk Analysis Matrix for Determining Level of Risk



Source: Researcher

The elements of a risk analysis include the following elements:

- Identify existing strategies and controls that act to minimise negative risk and enhance opportunities.
- Determine the consequences of a negative impact or an opportunity (these may be positive or negative).
- Determine the likelihood of a negative consequence or an opportunity.
- Estimate the level of risk by combining consequence and likelihood.
- Consider and identify any uncertainties in the estimates.
- Analysis techniques

The purpose of risk analysis is to provide information to business owners to make decisions regarding priorities, treatment options, or balancing costs and benefits. Just as decisions differ, the information needed to make these decisions will also differ.

Not all businesses or even areas within a business will use the same risk analysis method. As such, the risk analysis tools need to reflect these risk types to ensure that the risk levels estimated are appropriate to the context of the business.

There are three categories of analysis; qualitative, semi-quantitative, or quantitative but the most commonly used in risk analysis is the qualitative method and as a result will be elaborated upon briefly. This type of analysis is usually based upon the area of risk being analysed. It relies on subjective judgement of consequence and likelihood (i.e. what might happen in a worst case scenario). It produces a 'word picture' of the size of the risk and is a viable option where there is no data available. Qualitative risk analysis is simple and easy to understand but it disadvantages include the fact that it is subjective and are based on intuition, which can lead to the forming of bias and can degrade the validity of the results.

Methods for qualitative risk analysis include: brainstorming, evaluation using multi-disciplinary groups, Specialist and expert judgement, structured interviews and/or questionnaires, word picture descriptors and risk categories.

Step 5: Evaluate the risks

It is important to be able to determine how serious the risks are that the business is facing. The business owner must determine the level of risk that a business is willing to accept. Risk evaluation involves comparing the level of risk found during the analysis process with previously established risk criteria, and deciding whether these risks require treatment. The result of a risk evaluation is a prioritised list of risks that require further action. This step is about deciding whether risks are acceptable or need treatment.

Low or tolerable risks may be accepted. The term 'acceptable' means the business chooses to 'accept' that the risk exists, either because the risk is at a low level and the cost of treating the risk will outweigh the benefit, or there is no reasonable treatment that can be implemented. This is also known as ALARP, an acronym for 'As Low as Reasonably Practicable'. A risk may be accepted for the following reasons:

- The cost of treatment far exceeds the benefit, so that acceptance is the only option (applies particularly to lower ranked risk).
- The level of the risk is so low that specific treatment is not appropriate witt available resources.
- The opportunities presented outweigh the threats to such a degree that the risk is justified.
- The risk is such that there is no treatment available, for example the risk that the business may suffer storm damage.

Step 6: Treat the risk

Risk treatment is about considering options for treating risks that were not considered acceptable or tolerable during Step 5. Risk treatment involves identifying options for treating or controlling risk, in order to either reduce or eliminate negative consequences, or to reduce the likelihood of an adverse occurrence. Risk treatment should also aim to enhance positive outcomes. It is often either not possible or cost effective to implement all treatment strategies. A business owner should aim to choose, prioritise and implement the most appropriate combination of risk treatments.

Figure 7 below, summarises how risk treatment should be done. The following risk treatment options according to GRA and NSW 2005 may be applied to develop a risk treatment strategy:

- Risk avoidance: Controlling measures do not exist or cannot reduce the risk to an acceptable level, thus the risk should be avoided.
- Changing the consequences: When selecting this treatment, gains and losses are increased and reduced respectively.
- Risk sharing: Involves transferring the risk to another party to share responsibilities.
- Risk retaining: The option of keeping certain risks, which have been deemed to be of no important harm to the business as they are considered to have an acceptable level. When using this treatment option, an appropriate treatment should be selected, a cost-benefit analysis should be conducted, and a risk treatment plan and recovery should be executed.

But before a risk can be effectively treated, it is necessary to understand the 'root cause' of the risk, or how risks arise.

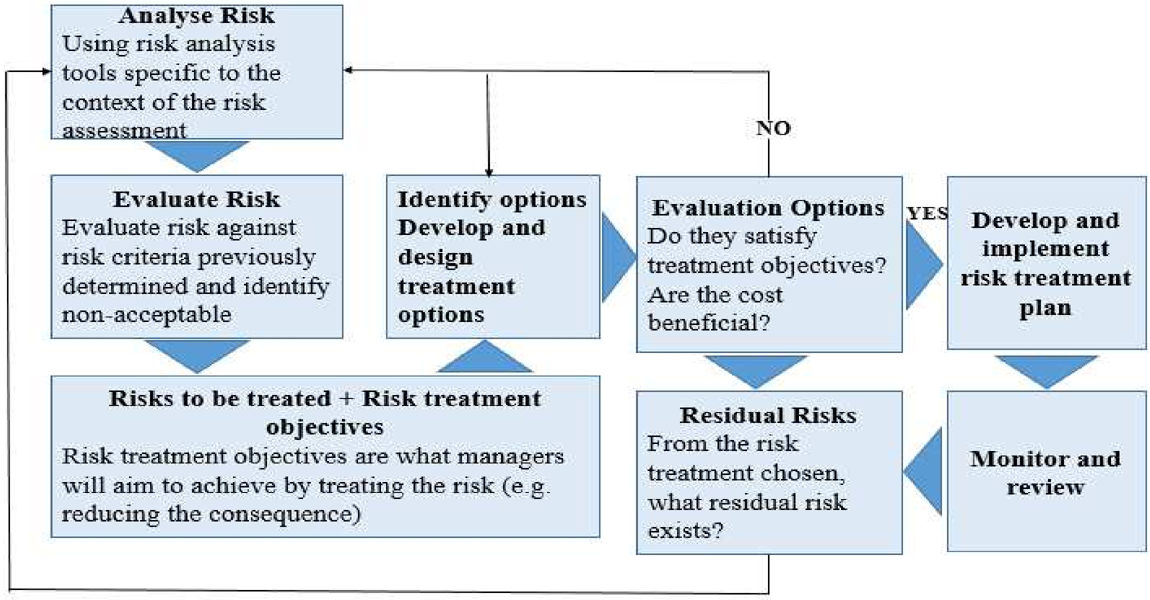
Identifying appropriate treatments: Once a treatment option has been identified, it is then necessary to determine the residual risk, meaning, has the risk been eliminated? Residual risk must be evaluated for acceptability before treatment options are implemented (refer to Fig. 7 above).

Conducting a cost-benefit analysis: Business owners need to know whether the cost of any particular method of correcting or treating a potential risk is justified. Considerations include:

- The number of treatments required.
- Benefit to be gained from treatment
- Other treatment options available and why the chosen one has been recommended.
- Effectiveness of the treatment
- Timeframe

- Total cost of treatment option.
- Total reduction in residual risk
- Legislative requirements

Figure 7. Treating Risks



Source: GRA & NSW, 2005

Business owners are required by law to provide a safe workplace. If existing work environments need to be upgraded to fully meet codes of practice and standards, a risk management approach should be adopted to demonstrate due diligence. A staged action or risk treatment plan can be used to document the risks, and to outline remedial actions. Appropriate consultation with stakeholders, should also occur.

Risk treatment plan: A risk treatment plan indicates the chosen strategy for treatment of an identified risk. It provides valuable information about the risk identified, the level of risk, the planned strategy, and the timeframe for implementing the strategy, resources required and individuals responsible for ensuring the strategy is implemented. The final documentation should include a budget, appropriate objectives and milestones on the way to achieving those objectives.

Risk recovery: Although uncertainty-based risks are problematic, if not impossible to predict, as there are ways in which businesses can prepare for a significant adverse outcome. This action is commonly referred to as risk recovery. Businesses should consider adopting a structured approach to planning for recovery. This planning may take many forms which could include the following:

- Crisis or emergency management planning: The business anticipates what might occur in a crisis or emergency, such as a fire or another physical threat, and then plans to manage this in the short term. This will include listing emergency contact details and training staff in evacuation and emergency response procedures.
- Business continuity planning: The business moves beyond the initial response of a crisis or emergency, and plans for recovery of business processes with minimal disruption. This might for example include ensuring that there is sufficient documentation of processes if a

key staff member is unavailable to return to work and another staff member is required to fulfil that role, identifying options for alternative premises if the existing premises are damaged, or documenting alternate suppliers for key supply material if a key supplier does not fulfil their contract.

- Contingency planning: Contingency planning can include a combination of the above. A contingency planning tool can help to identify what should be done to minimise the impact of a negative consequence on key business processes arising from an uncertainty-based risk. This would include the initial response (crisis management) and the delayed response (business continuity).

Step 7: Monitor and review

Monitor and review is an essential and integral step in the risk management process. A business owner must monitor risks and review the effectiveness of the treatment plan; strategies and management system that have been set up to effectively manage risk. Risks need to be monitored periodically to ensure changing circumstances do not alter the risk priorities. Very few risks will remain static, therefore the risk management process needs to be regularly repeated, so that new risks are captured in the process and effectively managed. A risk management plan at a business level should be reviewed frequently. An effective way to ensure this occurs is to combine risk planning or risk review with annual business planning.

15. RISK MANAGEMENT FRAMEWORK

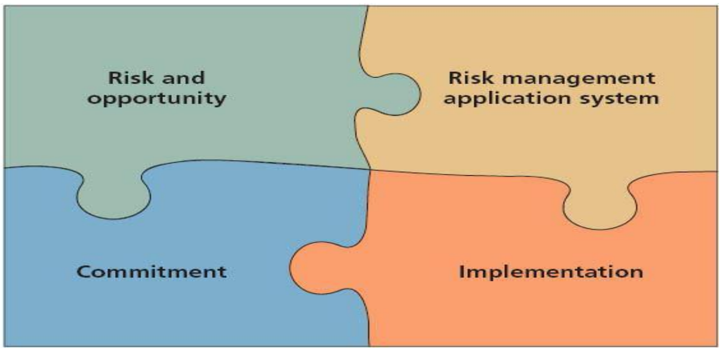
Risk Management Framework (RMF) is used to sustain the risk management process. More specifically, a risk management framework helps to visualise how risk management can be applied. Figure 8 graphically depicts which elements of an RMF can be found in a small business (GRA & NSW, 2005).

The elements of a Risk Management framework graphically depicted in the above figure, are expanded upon below.

- Risk and opportunity: Are considered at the following two levels:
    - Business level: Significant risks and opportunities that will affect the objectives and goals of the business are identified through annual risk profiling. Risk profiling can assist a business in implementing strategies to ensure the objectives of the project or activity are successfully attained. It is done using retrospective and prospective risks identification methods applied to the business risk management process.
    - Operational level: Refers to identifying risk and opportunity at a project, activity or speciality level, to ensure the project's objectives are successfully achieved.
- Risk management application system: It is everything that allows the successful execution of a risk management framework, namely:
    - The risk management process
    - Where risk management should be applied.
    - Risk analysis tools
    - Risk reporting
    - Risk management techniques
    - Scale of risk escalation and acceptance.
    - It aims at ensuring that all resources needed to execute programme present, consistent and are clearly understood.
- Commitment: A statement of commitment will provide a clear understanding of the business approach to risk management. The risk management should be underpinned by:

    - The intentions and expectations for risk management
    - Defined business objectives and rationale for managing risk
    - Links to other management processes, such as business planning.
    - Categories of risks that have been identified as specific to the business
    - Levels or types of risk to be accepted
    - Responsibilities and accountabilities for identifying and managing risk (especially important for businesses with multiple staff)
    - Guidance on risk management documentation
    - Requirements for monitoring and reviewing performance against the policy
- Implementation: This should include:
    - Ensuring appropriate commitment to risk management
    - Setting clear objectives and guidelines for risk management
    - Allocating adequate resources
    - Training staff appropriately
- Implementing systems for monitoring and reviewing risks

Figure 8. Elements of a RM Framework for a Small Business



Source: GRA & NSW, 2005

16. CONCLUSIONS AND FURTHER RESEARCH LINES

In the debate among managers, there seems to be a fruitful interest in risk management applied to SMEs. However, this is not accompanied by a substantial body of studies in the literature. The impression is that risk management for SMEs is still a “spot” subject, despite their wide diffusion and importance from an economic and social perspective, and the fact that they are structurally weaker and exposed to the danger of failure when facing unexpected risks.

This paper provided a literature background pertaining to the principles and concepts of risk management in small and medium enterprises, risk management process, implementation, tools, strategies and frameworks were discussed and few cases were reviewed.

However, as has been observed from the review, the most recent challenge in effective risk management in SMEs is the drive towards an integrated management of all risk types (ERM). This review opens a new research stream that studies the effective implementation of risk management in the context of smaller companies, detailing the first contributions and suggesting future directions. Although the current study provides an input to the field, knowledge of the issues is inadequate at this early stage, and practical and academic studies are still very limited. Many useful implications are expected in the future from this emerging stream, especially in this period of economic recession, where the companies’ survival is so threatened and important.

In this context, the present theoretical article constitutes a preliminary work, being necessary to contrast the observed findings empirically in order to define with a higher level of accuracy the implementation of ERM in SMEs. Furthermore, it is desirable that the incidence of the observed findings is contrasted against the business performance as well as the generation of competitive advantages.

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