

A Review of Risk Management Tools for Small Business

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Abstract: The uncertainty in the business environment, especially in the last years, has increased due to more dynamic and unpredictable development in science or the economy. The paper aims to provide a summary of the risk management tools suitable for use by small enterprises, thru the use of a bibliometric analysis and a systematic review. The tools term was used in order to encapsulate all the models, methodologies and techniques encountered in the review process. The initial data set utilized is comprised of 243 papers for the bibliometric analysis, with only 30 articles being taken into consideration for the systematic review. The papers considered for the review fall into the Pareto distribution, accounting for approximately 80% of the total citations. The usefulness of the paper resides in the synthesized presentation of the tools discovered, providing a potential guide, for managers or business owners of small enterprises, in the research for risk management tools that could be implemented.

Keywords: small business; bibliometric analysis; systematic review; risk management tools

JEL Classification: M10; M21

1. Introduction

The business environment is characterized by a great amount of uncertainty. In only the last two years, the economy as a whole has been hit by a series of events not encountered in modern times, such as the Covid pandemic, the military invasion of a European country, high levels of inflation, or surges in the European energy markets prices. Given the actual circumstances, especially smaller firms should consider a high focus on risk management.

The definition of small business does not follow a generally accepted trend. Different approaches could be encountered around the globe, with complex takes seen in the USA (U.S. Small Business Administration, 2019), Argentina (Administración Federal de Ingresos Públicos, 2022) or China (Yang et al., 2006), in which the distinction between different business sizes was made according to the economic sector in which the firm operates, the number of employees, the annual revenue or assets under management. Simpler versions of the definition could be encountered in the EU (European Commission, 2020), Australia (Gilfillan, 2015), or New Zealand (Small Business Council, 2019), where only the number of employees, revenue, or asset being the deciding factors.

In order to determine the types of methods or procedures utilized by the small firms for risk mitigation, an understanding of business risk would be necessary. One approach to risk

explains it as the outcome of an uncertain event (Manuj & Mentzer, 2008). Another take on the definition stated that business risk is the impact of situations or events on the objectives of the firm (Murray-Webster & Dalcher, 2019). A similar approach was proposed by Paino et al. (2014), in which the business risk was the chance of a business missing the set objectives due to external or internal factors. It is to be noted that the future risk that a business might encounter would not be a certain danger to the firm prospects, but rather could provide competitive advantages if the correct approach would be used. Hence, an important path for firms to follow in the hopes of higher returns or profits could be the implementation of risk management practices.

The objective of the paper is to conceive the summary of the literature regarding the risk management tools proposed for utilization in small businesses. By realizing the summary, business owners and managers are provided with a synthesized approach of the potential techniques that might help mitigate the uncertainty's effects.

The paper is structured as follows: after the introduction, a short review of the literature on the topic of risk management is performed, in order to uncover the principal areas of interest in the academic community. The third chapter presents the objectives and the methodological steps followed in the paper, with the fourth chapter presenting the data discovered. The fifth part represents the discussion emerging after the data presentation. The last chapter is comprised of the conclusions of the paper.

1.1. Review of the Scientific Literature

Research on the topic of small business risk management (RM) is scarce, the topic being covered under the bigger category of the small and medium-sized enterprises (SME). A systematic review that analysed the risk types for smaller organizations enlists several clusters with the capability of inducing risk: project RM, supply chain RM, and strategic RM (Lima et al., 2019). The SME's low number of risk-reducing techniques were thought to come from the lack of resources or the scarcity of resources (Crovini et al., 2021), but it was also theorized that the absence of ability from the entrepreneur could be a decisive factor in the lack of implementation of RM tools (Palich & Bagby, 1995). The conflicting interest of stakeholders influences the organisation's capability to identify and combat risk, and the tendencies were aggravated by the increasing information uncertainties (Burggraf et al., 2021). In addition, the lack of long-term planning was not suggesting an absence of RM strategy, but revealed a low priority for RM (Manuj & Mentzer, 2008).

The level of education of managers and owners constitutes a risk factor for SMEs in Slovakia (Hudáková et al., 2019). It has been proven that education was essential in recognition of the benefits of using RM tools and that the application of such methods increases with the level of education of the upper levels of management.

Supply chain risks were discovered in the literature to be covered by systematic review with the topic relating to risk management. Three main types of risk were discovered to influence the supply chain of an enterprise. Supply risk (supplier opportunism, inbound production quality, or transit time variability) alongside operational risks (inventory ownership or asset ownership) synergize with demand risks (demand variability or

forecasting error) to endanger the future prospects of the firm (Manuj & Mentzer, 2008). Alongside the aforementioned sources of risks, the network and the environmental forces were considered causes of uncertainty (Ghadge et al., 2012). Six types of risk management strategies were being proposed for supply chains: postponement, speculation, hedging and control/share/transfer, security and avoidance (Manuj & Mentzer, 2008).

In the attempt to manage the supply risk, the literature regarding artificial intelligence are proposing five general procedures: evolutionary computation used to detect, fuzzy logic, computational creativity, machine learning and probabilistic models (Nimmy et al., 2022).

In more recent times it can be seen that the focus is switching to a computer-based approach, with the prevalent use of machine learning and artificial intelligence algorithms growing as time marched forward.

2. Methodology

The objective of the paper was to synthesize the literature on the topic of RM on the level of a small business in order to determine what types of tools were suggested. To achieve the desired result, a bibliometric analysis was performed on the selected dataset, followed by a systematic review used for in-depth research.

The data was retracted from the Web of Science (WoS) website, provided by Clarivate. A large number of entries in the database motivated the selection, also the lower number of duplicated entries played a role in the decision (Pranckute & Raminta, 2021). The filtering of the database was realized on February 2, 2022.

The first phase of the research was represented by the process of selecting the keywords for the initial filtering of WoS. In order to achieve the stated objective, the following keywords were considered: small near/3 business* OR small near/3 firm* OR small near/3 organization* OR small near/3 enterprise* OR small near/3 venture* OR small near/3 company* AND risk management OR risk technique OR risk evaluation OR risk assessment OR risk identify. The NEAR operator was used to identify in the database those articles that used expressions such as “small and medium business” or “small or micro-enterprise”, etc. In the hopes of eliminating any unwanted results, the operator was used for only three words adjacent to the partner keyword.

The initial query for the parameters selected returned 846 results. Subsequently, only the documents that were articles were retained. The reason behind the choice was represented by the higher quality of the type of papers and the availability or access to the material. Given the aforementioned criteria, only 537 articles remained. The following step was to keep only those research papers within the theme of business management and thus, the articles that corresponded to the WoS categories of “Management”, “Economics”, “Business Finance” and “Operations Research Management Science” were selected. The preceding elimination generated 249 results. Regarding the language of the papers, only those written in English were considered, ensuring thus a level of consistency, resulting in 243 papers. The first result of 243 articles represented the base for the bibliometric analysis.

Subsequently, two types of analysis were used on the extracted data: a bibliometric one and a systematic review. The bibliometric analysis could be defined as the quantitative and

qualitative procedure, on a specific research area, topic, or publication, used to uncover the underlining trends in the scientific field (Rey-Marti, Ribeiro-Soriano, & Palacios-Marqués, 2016). The data was processed with the help of the software VosViewer 1.16.17 and the informatics solution Publish or Perish 8 (PoP).

The keyword analysis was performed on the papers selected. The initial result of the research done thru VosViewer generated 623 unique keywords. Only 50 keywords were being encountered in more than five papers, so only those keywords were selected for the following step. For a better representation of the trends presented in the literature, the following list of words was eliminated: risk-management, SMEs, business, model, determinants, size, firm, firm performance, firms, risk, enterprises, small enterprises, uncertainty, methodology, empirical-evidence, small businesses, corporate, impact and perspective. The elimination was done on the basis that the aforementioned keywords were expected to appear, due to the query parameters. The keywords not considered were variations on the search terms in WoS, being similar in meaning with the concepts of risk or small business. Therefore, only 31 keywords were kept for an in-depth analysis.

In the process of reviewing the database, the distribution of citations was identified to follow the Pareto model, therefore the most cited papers account for more than 80% of the total citations, and thus 47 articles were considered for the systematic review, from the initial database. The review represents the process in which the literature is searched to discover the most relevant scientific contributions (Tranfield et al., 2003).

The abstract of the 47 articles, as displayed in WoS, was reviewed to determine the relevancy level relative to the subject of the paper. Therefore, from the starting set of papers, 12 were considered irrelevant. The contents of the aforementioned papers were also reviewed to evaluate if the papers were truly not in the theme of the research. From the remaining set, six articles were removed based on the lack of availability. The 30 papers that remained constituted the base for the systematic review.

3. Results

The results of the paper are going to be presented in two stages, the first being the bibliometric analysis with the subsequent stage being represented by the systematic review.

3.1. Bibliometric Analysis

Starting at the level of the publication, 154 journals were identified. The journal that contributed with the most number of articles was Safety Science with 12 entries. The result could be explained by reviewing the general themes covered by the journal, with the focus being represented by the safety of the people in the work environment or in other situations. Ranking the publication by the cumulative number of citations, the Journal of Financial Economics was identified as the category leader with 1,999 citations, accounting for more than 34% of the total citations. The overwhelming contribution was the result of one paper, with 1,962 that distort the overall picture. If the exception was not taken into consideration, the Journal of Banking & Finance emerges as the leader.

The most prolific authors ranked by the number of citations were Graham, J.R. and Harvey, C.R. with 1903 citations each, but generated by the same paper. From a quantitative perspective, Dvorsky, Jan has contributed with six papers. As a general rule, the authors have produced on average one paper each.

Researchers affiliated with the United States of America dominated the geographical distribution in terms of the number of citations, links and volume of documents, as shown in Table 1.

Table 1. The geographical distribution of the articles

| Country | Links | Documents | Citations |
|-----------------|-------|-----------|-----------|
| USA | 16 | 48 | 3,142 |
| England | 15 | 28 | 759 |
| Netherlands | 12 | 9 | 333 |
| Peoples R China | 4 | 21 | 205 |
| Italy | 10 | 14 | 178 |
| Slovakia | 5 | 13 | 177 |
| Czech Republic | 5 | 15 | 174 |
| Germany | 5 | 10 | 168 |
| Spain | 12 | 10 | 168 |
| Canada | 3 | 9 | 140 |
| Scotland | 10 | 7 | 119 |

| Country | Links | Documents | Citations |
|--------------|-------|-----------|-----------|
| Denmark | 6 | 5 | 92 |
| France | 11 | 10 | 84 |
| South Korea | 6 | 6 | 66 |
| Taiwan | 8 | 5 | 59 |
| Indonesia | 2 | 5 | 51 |
| Turkey | 8 | 6 | 38 |
| India | 4 | 9 | 33 |
| Poland | 8 | 8 | 27 |
| South Africa | 14 | 9 | 24 |
| Malaysia | 6 | 6 | 21 |

The dynamic of the articles in time has presented an upward trend, with the interest growing in the subject of small business RM as time marched forward, as shown in Figure 1. Seventeen articles were not listed with the year of publication, but for a better representation of the trend, the early access year was considered. A spike was identified as the Covid pandemic started, but the trend only accelerated, being similar to a representation of the compounding effect of the money over time.

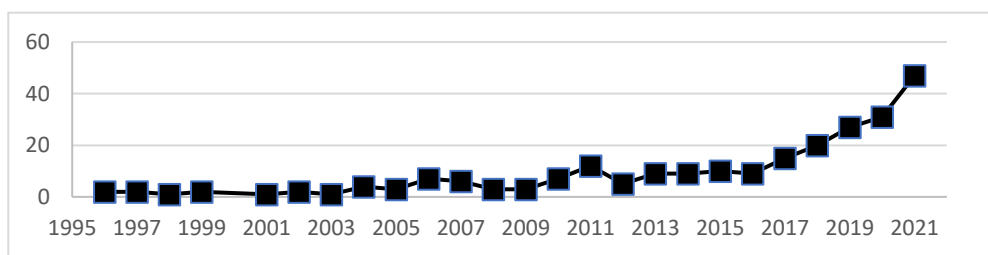


Figure 1. The chronological evolution in the research

From the perspective of the keywords, performance, management, innovation and investment were identified as the most prevalent, as seen in Figure 2. In the coupling of the 31 nodes discovered, six clusters emerged. The biggest cluster was the red coloured one, which covered themes regarding the safety aspects of the organizations. The green cluster was being comprised of keywords such as credit or finance. The third cluster covered topics in the realm of financial risk, suggesting a strong link between financial management and innovation. The yellow-colored cluster indicated an area of emerging risk in the components of the market and also in the attitude of the business toward information use. The smallest

clusters were referring on one hand to the bankruptcy risk and the potential of its avoidance, and on the other to the strategic vision of the enterprise.

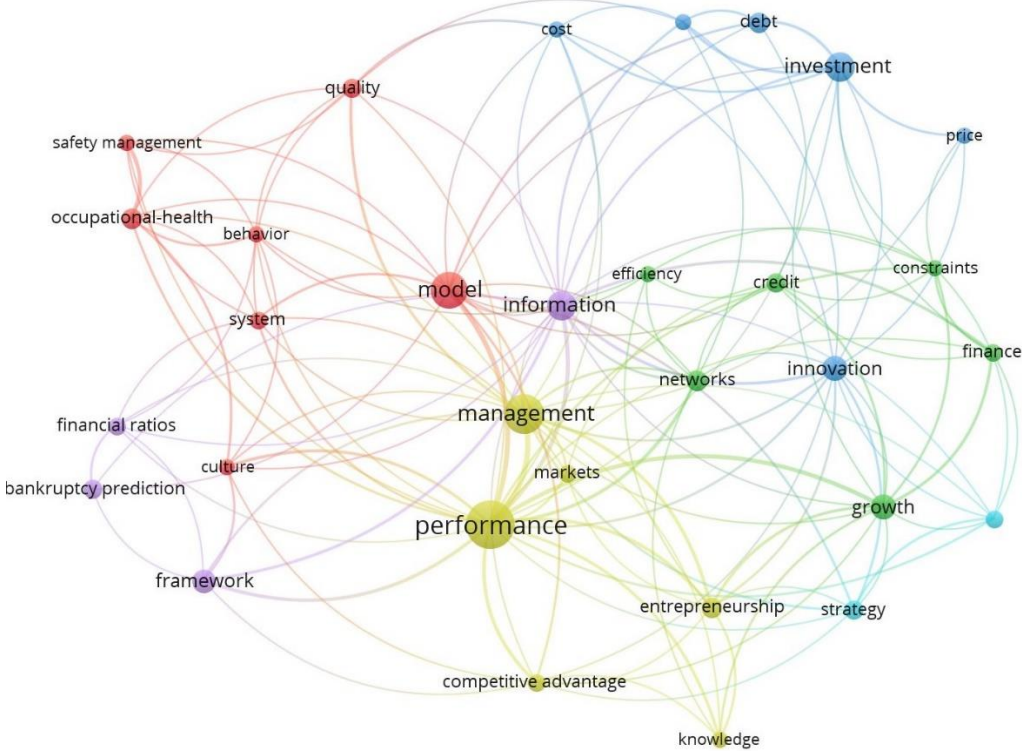


Figure 2. Keywords mapping

A different grouping in clusters was observed, in regards to the keywords identified. A general tendency was observed, covering the financial risk encountered at a small business level. The cost, investment or debt could be grouped with bankruptcy prediction and the financial ratios. The second avenue of thought was represented by the knowledge-centric approach. Innovation, information culture or competitive advantages hits at a need of models, which helps, evaluate and manage the risk associated with knowledge. The last overall cluster contains the risk generated by the employees’ safety regarding the occupational hazard.

The h-index for the data set was calculated thru PoP (Harzing, 2007) at a value of 35, meaning that only 35 papers received over 35 citations from publications until the date of the analysis. The g-index was 70 and analysed in correlation with the h-index, a discrepancy between the number of citations received by the top-cited papers and the rest of the articles was evident.

3.2 Systematic Review

The articles were reviewed in order to determine the types of methods proposed to be utilized in a small business setup. From the articles reviewed, the data source for the research was extracted, along with the research approach and the type of business analyzed. Table 2 represents the articles that were considered for the systematic review.

Table 2. List of articles included in the systematic review

| References | Data source | Type of research | Type of business |
|--|--------------------------|--------------------------|-------------------|
| Bajo, Borrajo, De Paz, Corchado, & Pellicer, 2012 | Surveys | Qualitative/Quantitative | SMEs |
| de la Torre, Peria, & Schmukler, 2010 | Surveys | Quantitative | SMEs |
| Behr & Guettler, 2007 | German banks database | Quantitative | SMEs |
| Ye & Zhang, 2011 | Financial report | Quantitative | All businesses |
| Yang, Ishtiaq, & Anwar, 2018 | Questionnaire/interviews | Quantitative | SMEs |
| Li, Niskanen, Kolehmainen, & Niskanen, 2016 | Financial report | Quantitative | SMEs |
| Brown, Ongena, & Yesin, 2021 | Surveys | Quantitative | Small enterprises |
| Cioccio & Michael, 2007 | Interview | Qualitative | Small enterprises |
| Walker & Tait, 2004 | Audit | Quantitative | Small enterprises |
| Pennings & Garcia, 2004 | Interview | Quantitative | SMEs |
| Vickery, 2008 | Surveys | Quantitative | SMEs |
| Rosengard & Prasetyantoko, 2011 | Surveys | Quantitative | SMEs |
| Forlani, Parthasarathy, & Keaveney, 2008 | Surveys | Quantitative | Small enterprises |
| Kim & Vonortas, 2014 | Surveys | Quantitative | Small enterprises |
| Thun, Druke, & Hoenig, 2011 | Surveys | Quantitative | SMEs |
| Hofmann, 2011 | Literature review | Qualitative | SMEs |
| Canton, Grilo, Monteagudo, & van der Zwan, 2013 | Surveys | Quantitative | SMEs |
| Killip, 2013 | Interview | Qualitative | SMEs |
| Marcelino-Sadaba, Perez-Ezcurdia, Echeverria Lazcano, & Villanueva, 2014 | Case study | Qualitative | Small enterprises |
| Wedawatta & Ingirige, 2012 | Case study | Qualitative | SMEs |
| Rostami, Sommerville, Wong, & Lee, 2015 | Surveys | Qualitative/Quantitative | SMEs |
| Ciampi & Gordini, 2013 | CERVED database | Quantitative | Small enterprises |
| Danso, Adomako, Lartey, Amankwah-Amoah, & Owusu-Yirenkyi, 2020 | Surveys | Quantitative | SMEs |
| Ellegaard, 2008 | Surveys | Quantitative | Small enterprises |
| Sarkis, 2006 | SGP database | Quantitative | SMEs |
| Hudakova, Masar, Luskova, & Patak, 2018 | Questionnaire/interviews | Quantitative | SMEs |
| Belas, Smrcka, Gavurova, & Dvorsky, 2018 | Albertina database | Quantitative | SMEs |
| Binks & Ennew, 1997 | Surveys | Quantitative | SMEs |
| Graham & Harvey, 2001 | Surveys | Quantitative | All businesses |
| Altman, Sabato, & Wilson, 2010 | Financial report | Quantitative | SMEs |

In the analysis of the papers, the principal data gathering method was the survey, being utilized in 46% of the articles. The preferred type of data interpretation was the quantitative analysis, being utilised in 23 articles. Only six papers performed an analysis specific to the level of the small business, with two-thirds of the papers studying the broader category of SMEs.

Four specific methodologies were identified in the studies reviewed, presenting the steps that are to be performed if the business or other third party wants to implement them. In the following paragraphs, the tools identified are going to be detailed.

CBR-BDI (case base mechanism – beliefs, desires, intentions) (Bajo et al., 2012) follows an architecture similar to the hierarchic pyramid, in which the business in need of consultation transmits data to a business agent. The benefits of the model reside in the cross

experience of the agents involved, opening a new perspective for the small business. In addition, given the fact that the analysis begins after an initial matching was realized, the previous experiences are providing at least a pattern for the current situation from which parallels could be drawn, thereby excluding the mistakes encountered in the past. Regarding the limitations of the model, the lack of data to feed into the system induces a slow process, especially at the beginning of the system. In addition, the success of the procedure will be influenced by the willingness of the businesses to provide data about the situations they have faced. In the cases where the problem is new, the system could provide a suboptimal result.

Artificial neural networks (ANN) is an artificial intelligence algorithm with the capability of learning based on experience (Li et al., 2016; Ciampi & Gordini, 2013). The technique explores the relation between the variables fed into the algorithm (Ciampi & Gordini, 2013). The data used by the studies analysed were in the spectrum of financial information. The benefit of the system resides in the self-correcting nature of the algorithm. The complexity of the model could be considered a hindrance in the implementation, at the level of a small business, requiring either a consultant or a dedicated employee in order to develop and implement the procedure. Given the smaller resources at the disposal of small businesses, the supplementary cost might represent a restriction. In addition, the algorithm requires data for training, and in specific cases, the information might not be available.

Project risk management methodology (Marcelino-Sadaba et al., 2014) was defined as a six-phase algorithm. The structure followed the next phases: initial risk evaluation, control indicators definition, indicators monitoring, project closure, risk final analysis, knowledge analysis.

The purpose of the model is to aid the small business in the project selection and in the knowledge which could be gained in the closing stages of the project. The proponents of the method identified that the small enterprises almost ignore the latter stages of a project, missing important feedback, which could be used in the implementation of future projects. The benefits of this approach reside in the reduction or elimination of the strategic risk, especially in the selection phase of a project. Given that some projects may require outsourcing, the model does not take into account the associated risk. In addition, the rich methodology could not be used in a project with a small-time span, the implementation could be more time-consuming than the project itself.

The z-score (Behr & Guettler, 2007) represent a binary regression logistic model, used in the reviewed case as a means to determine the associated default risk of SMEs. The data used to determine the default risk was the financial statement of German SMEs, including the balance sheet and the profit and loss statement. The benefit of implementing the methodology comes from the ability of the enterprise to estimate its own potential cost of debt. Regarding the limitation, the model lacks the qualitative element that could unpredictably influence the outcome.

4. Discussion

The ANN model emerged as a sole cross-study algorithm, being the only model present in more than one paper. The complexity of the procedure might not allow a small firm to

implement it, but given the fact that it can underline the hidden relation between different factors, the deployment of such a method might produce benefits in the long run for the company. Indeed, the algorithm might not be suitable for a new venture, taking into account the lack of data to train the system, but designing the data structure of the organization in such a manner that would allow the later implementation could be perceived as a route to follow.

The CBR-BDI presents an interesting approach to business management in general, and to RM in particular, but the infrastructure required could not be provided by one singular small enterprise. The model could be implemented in a business sector if only the organisations involved are willing to help each other. In a cross-countries knowledge exchange scenario, the architecture could provide benefits, if the platform already exists and experts that are willing to help can be recruited. It is to be noted that companies could become sceptical of this approach, considering an open history as an opportunity for competitors to reap the benefits of their past struggles, thereby gaining new information or even a competitive advantage without the costs paid by the current competitors.

Project risk management methodology would be a good feedback process from which the company could understand the shortcoming of their ways. It could be noted that the information about the hurdles faced in the implementation of the project would provide future guidelines for the management, but if the business environment in which the firm operates is highly volatile, the lessons of the previous projects might not work. The procedure could be useful in the development of a structure for project management.

The z-score seems to provide a way of analysing the whole business environment, so the firm using it could gain knowledge on the elements which are suboptimal compared to the competition. The lack of qualitative data could lead to wrong conclusions about the competitors. The models should be used in correlation with qualitative data that can provide useful feedback.

The financial risk emerged as a topic of interest in the majority of the articles, being the most analysed. Themes such as lending, the management of the financial resources or the bankruptcy risk were studied. It was found that small firms that finance the activity by using loans contracted in foreign currency were more likely to be the subject of an audit (Brown et al., 2021). In addition, SMEs with financing from venture capitalists or equity investors were more likely to default, given that the type of organization with needs for outside equity engages in more risky projects (Behr & Guettler, 2007). As an alternative to venture capital, state-backed programmes might be considered, but the impact of this type of aid was argued to be low for SMEs (de la Torre et al., 2010).

The SMEs incorporated as subsidiaries to large corporations encountered reduced pressure, the holding company providing aid in form of financial support, R&D help, etc., thereby mitigating the poor performance of the subsidiary (Altman et al., 2010).

Regarding the exposure to debt, a higher leveraged company faces a financial issue, in the sense that the organization could be forced into an adjustable-rate debt, especially if the lender was a bank (Vickery, 2008). As a company grows larger, the likelihood of tight debt management increases, with a reported 55% of the large firms having a stricter debt target as

opposed to 36% in the case of the small businesses (Graham & Harvey, 2001). In regards to higher long-term debt, a firm in this situation encountered a greater risk of failure (Altman et al., 2010). For small firms with high cash to total assets ratio, the propensity of bankruptcy was lower, similar to companies that can cover their debt with the obtained profits.

As donations in the name of corporate social responsibility exceed the expected values, the debt financing cost grows (Ye & Zhang, 2011). The inverse was also true, since, if the company was situated below the expected level of investment for corporate social responsibility, the financing cost also was higher, demonstrating a U shape relation.

Credit risk was correlated with the financial knowledge of the entrepreneur, therefore, as the complexity of the products offered by the banks grows, a financial illiterate manager could choose more riskier solutions, inducing problems in the company (Belas et al., 2018). In addition, an SME was found to be more willing to change the current financial institution if the charges they practised were too high. Also, the relationship aspect was important, coming at a greater importance than even the interest rate (Binks & Ennew, 1997).

The smaller and newer the firm was, the lower the perceived access to loans was (Canton et al., 2013). As the company grows in size or age, the perceived access grows. The phenomenon can be related to the fact that a company with a better business model was more likely to reach maturity, and thus, the perception could be altered. In addition, the government policies could influence the willingness of banks to lend to small and medium enterprises, as shown in the case of Indonesia (Rosengard & Prasetyantoko, 2011).

The size factors were revealed crucial in the perception of market risk, with micro-enterprises reporting an increased level of risk compared to a medium-size business (Hudakova et al., 2018). The small businesses used as outsourced resourced by large companies receive the associated risks of the activities performed, such as labour disputes (de la Torre et al., 2010). In contrast, small businesses were more reluctant to use outsourced resources, purchasing managers were stating that they prefer to buy locally in order to reduce the associated risk (Ellegaard, 2008). However, the price changes for the raw materials or currency rates fluctuation could lead to losses or even bankruptcy. The phenomenon could be explained by the inability of the small firm to transfer the price risk onto its customers, especially in a previously agreed price contract (Hofmann, 2011).

The risk attitude and risk perception were two fundamental forces in the shaping of the business behaviour, the interaction between the two factors being linked with the management response to the future (Pennings & Garcia, 2004). The managers of a more competitive firm were more likely to risk the expected profits to mitigate the unexpected losses that might appear (Forlani et al., 2008). In addition, the supply chain managers exhibit a risk-averse character, preferring a lower risk as opposed to opportunities regarding purchase (Ellegaard, 2008).

The cost of implementation was identified as a potential obstacle in RM implementation, at the level of small businesses in the U.K., firms stating that investments in unclear RM procedures or methodologies were not considered as a benefit. In addition, the lack of knowledge was indicated as a factor in the absence of such protocols (Rostami et al., 2015).

As a second research area, supply chain-related risks emerged. Smaller companies were found to use a reactive type of strategy, with the focus being on the instruments that measure safety stock or logistics capacity, opposed to the preventive business model employed by large companies. In addition, small firms were typically engaged in including redundancies in the supply chain to mitigate the risk, the approach contrasting the elimination of risk factors performed by large enterprises (Thun et al., 2011).

Natural hazards could be an occurrence in the life of a small business, so, even though the premium for insurance could be considered prohibitive, the financial capability of the smaller organization could not provide enough resources to combat the uncertainty (Cioccio & Michael, 2007; Wedawatta & Ingirige, 2012; Rostami et al., 2015).

Small firms will try to develop and sell new products or services in the hopes of undermining the technological risk (Kim & Vonortas, 2014). In addition, for a better chance of accessing financial support, the businesses were more likely to maintain networks. The short life cycle of the products or services appears as a response to market risk. The additional demands of a client were not considered a hindrance in the activity of a small business, as opposed to the unwillingness to pay on time the supplementary work, as shown in the case of construction firms (Killip, 2013).

As the level of competitiveness grows, the smaller enterprises were more likely to engage in sustainable business models as a means to differentiate from other companies (Danso et al., 2020).

Smaller businesses were less sophisticated about the practices regarding the evaluation of risk. If a larger company was more likely to use techniques such as net present value or capital asset pricing model, the same tendency was not encountered for small businesses (Graham & Harvey, 2001). In addition, the lack of resources affects the number of RM practices regarding environmental performances (Sarkis, 2006).

The small firms that engage in enterprise RM could gain a competitive advantage, through lower costs of the provided services or the manufactured goods. In the deployment of the RM measures, the organization not only gains a competitive advantage, but also improves the overall performance of the business (Yang et al., 2018). However, risk assessment was not considered of high importance, with firms being oblivious to any preparation for the analysis of the risk, while other companies had less than a full A4 paper completed with risk assessments (Walker & Tait, 2004). The trend was shown to be influenced by as little as one and a half hours of training for each small business, so the cost must not be the deciding factor.

The general focus of the articles was to, either evaluate the risk, or to provide a way of identification for uncertainty. A general theme emerged, the impact of the risk on the financial state of the business. Even if topics like supply-chain management or natural hazards were encountered, the underlining trend was the protection of the small business. Unexpected disruption in the supply chain or natural events with a possible negative impact could directly influence the cash flow of the firm. By utilising the tools discovered, a business could predict, with a certain degree of confidence, the possible risks. Even if the anticipation is not possible, by understanding the present situation of the firm in relation to business environment, the decisions adopted could benefit from the additional support provided by the tool identified.

5. Conclusions

The objective of the paper was to synthesize the literature on the topic of RM in the hopes of identifying the types of tools used. Four such tools were discovered to be proposed for small businesses, with a singular model being encountered in more than one paper. It is to be determined if the literature is suggesting more models of RM for business, not accounting for size. The identified approaches were utilized by the academic environment, but none of the papers studied or identified what types of RM tools the businesses are using in practice. A potential cause could be that in the business practice, the RM tools are not considered RM methodologies, but rather considered operational aiding procedures, especially by smaller firms.

Small business RM was evaluated together with the RM for medium enterprises; hence a lack of particularization was identified. Given the restricted nature of the resources at the disposal of small businesses, the proposed methodologies could be inadequate. The restrictions could arise also from the lack of awareness or knowledge of the top management in smaller firms. Even if the necessity for RM is identified, more concerning matters might be considered more important by a new venture, so the focus could be on the product or services offered to the detriment of risk identification.

The limitations of the paper were represented first by the use of a singular database, namely WoS, other sources of information not being included. In addition, while the paper reviewed the top 80% of the most cited papers in order to highlight the RM methods used, a possibility arises that some underappreciated works might be overlooked.

As future research paths, the need for only small businesses analysis was identified. The RM techniques were proposed for the bigger category of SMEs. It is to be studied if the same approach could work in a more resource-deprived venture. The risk for small firms could be different, or the impact or manifestation of risk could vary, so specific practices are considered as an opportunity for study.

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Conflict of interest: none

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