

**FINANCIAL LITERACY IN SMEs:  
A BIBLIOMETRIC ANALYSIS OF AN EMERGING TOPIC**

**Abstract**

The purpose of this study is to review the existing literature on financial literacy (FL) in SMEs in general, and particularly in family SMEs, and describe the current state of publications in this area through the use of bibliometric techniques. The review of 88 documents, in the period between 2005 and 2020, will identify the agents involved (countries, organizations, journals, authors, publications) that have the greatest influence on the development of this research topic. In turn, the content analysis through the co-occurrence of the author's keywords will detect the driving themes. In the first analysis carried out, it is evident the positive impact that FL has on the performance and access to financing of the SMEs. Other lines of growing interest and still little developed are the effect of FL on firm capital structure and innovation. The main contribution of this research is to provide coverage to the existing gap in FL in SMEs bibliometric analysis, helping scholars to locate the existing gaps in this research topic.

**Keywords:** bibliometric analysis, financial literacy, SMEs, family firms.

## **1. Introduction**

Financial literacy (hereafter FL) allows SMEs to manage their economies in such a way that they can design their budgets, maintain the emergency fund, or take risks, in addition to causing better financial inclusion in the real economy (Grohmann, Klühs, & Menkhoff, 2018). FL improves the ability of SMEs to make effective decisions and judgments regarding the acquisition, use and management of finances (Beal & Delpachitra, 2003). Previous literature also demonstrates that FL in SMEs encourages to intervene more actively in financial markets, by diminishing information restrictions (Bayrakdaroglu & San, 2014) and obtaining better access to financing (Hakim, Oktavianti, & Gunarta, 2018). The more FL in SMEs, the more these firms enjoy assumption of risk and consequently make more innovative decisions (Nitani, Riding, & Orser, 2020). Moreover, FL has a positive direct effect on technological innovation in SMEs and a favourable indirect influence alleviating financial constrains (García-Pérez-de-Lema, Ruiz-palomo, & Diéguez-soto, 2021). Consequently, the importance of FL is related to its beneficial impact on the performance of SMEs (Wise, 2013), as well as the lack of FL has been identified as the main reason for the failure of SMEs (Kotzé & Smit, 2008).

The implications of the FL acquire special relevance in the cases in which the SME is managed by a family, given that previous studies show that the managers of family businesses have lower levels of education than those of non-family businesses (Reid, Morrow, Kelly, & Mccartan, 2002), motivated by the lesser importance they give to training within their business strategy (Matlay, 2002). Likewise, if we focus on the heterogeneity of the family business itself, we see that the greater the family ownership, the lower the level of FL (Molina-García, Florido-Ruiz, Campos-Valenzuela, & Diéguez-Soto, 2020). Whereas, the presence of CEOs, CFOs and shareholders external to the owner family is beneficial, since they promote the financial

sophistication of the small family business (Di Giuli, Caselli, & Gatti, 2011). The relevance of FL for family SMEs is evidenced, for instance, when the lack of FL makes the possibility of accessing formal financing minimal, since FL directly affects the attitude of the owner-manager towards debt (Koropp, Grichnik, & Kellermanns, 2013), which in turn causes an inadequate capital structure and, consequently, the failure of the family SME (Sandhu, Hussain, & Matlay, 2012).

Moreover, the growing development in science of situations such as “information overload” or “filter failure” has increased the use of new methods to examine huge quantity of information such as bibliometrics. Bibliometric analysis is a popular technique commonly employed to identify, examine, and highlight various global emerging research themes and scientific outputs in the literature (Wong, Nyakuma, Wong, Lee, Lee, Lee, 2020). Specifically, it is a set of methods used to study or measure texts and information, especially in big datasets (Cobo, López-Herrera, Herrera-Viedma, & Herrera, 2011). Bibliometric methods are really useful to analyze the influence of a specific research field, the influence of a set of researchers or the influence of a particular paper.

In spite of the increasing attention on FL, the ongoing use of bibliometric techniques with regards to FL is scarce. Bedi, Karn, Kaur, & Duggal (2019) analyzed a sample of 2,096 publications between 1964-2017. Ingale & Paluri (2020) studied a sample of 1,138 publications during the period 1985-2020. Goyal & Kumar (2021) carried out a study comprising a review of 502 articles published from 2000-2019. Abad-Segura & González-Zamar (2019) carried out a bibliometric analysis on 665 documents regarding the influence of financial education and FL on creative entrepreneurship during the period 1990-2018. However, these studies examine mainly

FL from individuals and household point of view, and the analysis of FL at a firm level, and more specifically in SMEs, have been discarded, to the best of our knowledge.

### 1.1. Financial literacy

There is no a single definition of FL. In other words, there has not been an agreement between academics and experts on the definition of FL in the existing literature. FL has been conceptualized as “the knowledge of basic financial concepts and the ability to do simple calculations” (Lusardi, Mitchell, & Curto, 2010). Huston (2010) went further and associated FL with two dimensions that can be conceptualized: the understanding as knowledge of personal finance and the use as an application of business finance. Research has also understood FL as a measure of the degree a person understands key financial concepts and possesses the ability and confidence to manage finances through proper decision-making in the short term and sound financial planning in the long term, while taking into account economic events and changes (Remund, 2010). More recently, FL has been also defined as the “knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply that knowledge and understanding in order to make effective decisions in a variety of financial contexts, to improve financial well-being of people and society, and to allow participation in economic life” (OECD, 2014). While some studies have defined FL as the “ability to use knowledge and skills to manage financial resources effectively for lifelong financial security” (Jump\$tar Coalition, 2017), other authors define the term FL involving knowledge, skills and also capabilities (Nkundabanyanga, Kasozi, Nalukenge, & Tauringana, 2014).

Furthermore, financial knowledge and FL have been used synonymously (Huang, Nam, & Sherraden, 2013). What is more confusing is that some studies have utilized the terms FL, financial knowledge and financial education in their research referring to the same concept

(Eresia-Eke & Raath, 2013). The building of FL construct have been also mixed. Whereas some prior research has analysed FL including financial awareness, attitude and knowledge (Tuffour, Amoako, & Amartey, 2020), other studies have defined FL containing financial attitude, knowledge, behaviour and skills (Rasyid, Lukman, Husni, & Adrimas, 2020).

## 1.2. Objective

Taking into account the problems that exist in the definition of FL, the lack of consensus by the authors who have studied this term (which causes disparate conclusions) and the need to move towards better FL at the business level, this research aims to identify the quantity and main results of the literature in the field of SMEs, in general, and in the family SMEs domain, particularly. A bibliometric study has been designed with the aim of identifying the main scientific publications related to FL, to know its main authors, most productive countries and other indicators that allow conclusions on the subject to be drawn.

## 2. Methods

This study examines bibliography in an objective and quantitative way that allows us to prove useful organization information within FL in the SMEs field. Through the bibliometric analysis, we are using keywords to study thoroughly the main topics of research within a domain and relationships at the microlevel (Chen & Xiao, 2016). As it is explained in previous studies, we have divided the analysis in five steps (Castillo-Vergara, Alvarez-Marin, & Placencio-Hidalgo, 2018). First, we focused our analysis on FL in SMEs. Second, document information was recovered from the Scopus database because 84% of the manuscripts of Web of Science (WoS) are also indexed in Scopus and Scopus contains more journals than WoS (Mongeon & Paul-Hus, 2015). Third, we defined the search strategy that included both the search string and the temporal restrictions imposed on the database, as well as the elimination of books and book chapters.

Fourth, we encoded the information through Excel (*v.2020*), in order to prepare the data to apply the bibliometric techniques through VOSviewer (*v.1.6.15*). We decided to use this software because it is considered one of the most widely used bibliometric tool (Casado-Belmonte, Marín-Carrillo, Terán-Yépez, & Capobianco-Uriarte, 2020). It is a text-mining software developed by van Eck & Waltman (2010) for the construction and visualization of network maps with nodes of different sizes. Each node contains a term based on the subject studied. The distance between each node is related to the similarities shared by the nodes (Lancho-Barrantes & Cantú-Ortiz, 2019). Fifth, and the most relevant step, we carried out the pertinent analysis (co-authorship, co-occurrence, co-citation, bibliographic coupling...) with the different subjects involved (countries, organizations, funding agencies, journals, authors, articles...) and a deep content analysis.

### **3. Prior analysis and potential contribution**

Our first analysis shows that research on FL begins to grow exponentially in 2017. There is a high fragmented collaboration between the agents involved in our research topic, and a clear predominance of developing countries. Through the author's keyword co-occurrence analysis, we can observe how the impact of FL on SME performance and SME access to finance are the driving themes of our research topic, both for its importance in the development of other themes (centrality) and for its own internal development (density). Besides, some other research lines of growing interest, but still scarcely developed, are the effect of FL on firm capital structure and innovation. All the studies in this research topic focus their analysis on the owner-manager and accountant, not taking into account the rest of the members of the firm, which would imply another interesting level of analysis in the FL - SMEs research.

The contributions of this work are twofold. On the one hand, the existing gap in the bibliometric analysis of FL in SMEs is covered, since previous works have only focused on the

consumer finance or household finance (e.g. Goyal & Kumar, 2021). On the other hand, this analysis can help academics to broaden their vision regarding FL in SMEs, particularly in the family firm field where research in FL is still underdeveloped or non-existent, prompting the identification of gaps in the literature that can be taken as future research opportunities.

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