The implementation of management accounting in small-medium enterprises (SMEs). A knowledge transfer perspective*

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Abstract

This paper aims to provide a contribution on how the small and medium enterprises (SMEs) may reduce the gap between theory and practice on management control knowledge. The paper adopts a knowledge transfer (KT) approach grounded on Liyanage *et al.*'s (2009) framework. A project of management accounting (MA) implementation in a SME located in Umbria is presented and discussed following a strong interventionist research approach. The case demonstrates the knowledge management relevance on MA implementation, able to integrate and reinforce the influence of contingency variables and institutional pressures. It contributes to show how the MA implementation has been positively influenced by the SME absorptive capacity (AC) and willingness to learn (WTL), connected to some educational and technical conditions characterizing the entrepreneur and the organization. This paper provides a practical contribution for practitioners and SMEs involved in the implementation of MA tools, demonstrating that successful implementation requires gradual learning cycles and some organizational pre-conditions to bring successful results. It also contributes to scientific debate enhancing the active role of the actors in designing and implementing managerial control systems, as well as providing an original view that involves the supply and demand for innovation in managerial systems as sources and receivers of management control knowledge.

Keywords: Management accounting tools; implementation; interventionist research; knowledge transfer

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* Although this paper is the result of the joint work of the authors, the individual contributions are as follows: Andrea Cardoni – parr. 1, 4 and 5; Alessio Paradisi – parr. 2 and 3.

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1. Introduction

The gap between theory and practice in management accounting (MA) studies, although a long-known problem (Hopwood, 1983), is still wide (Chiucchi, 2014). If this problem generally applies to all kind of organizations, it is even more relevant to small and medium-sized enterprises (SMEs), which continue to be a key component economy in terms of value creation and employment (OECD, 2017; Eurostat, 2015). In this context MA is relevant to tackle competition and increase the SMEs strategic and economic sustainability. In fact, the literature demonstrates the possible important role of management control in supporting the SMEs internationalization (Carenzo and Turolla, 2010; Mitter and Hiebl, 2017), the generational succession (Songini *et al*., 2013; Cesaroni and Sentuti, 2019) and, more generally, the strategy formulation (Skærbæk and Tryggestad, 2010; Heinicke, 2018) and change management (Pavan and D'Onza, 2013).

While the contingency theory (Otley, 1980) and institutional perspective (Scott, 2001; Powell and DiMaggio, 1991) provided relevant arguments to explain the adoption of management control in the SMEs context, literature continues to highlight some critical issues on MA implementation. Particularly, Bahari *et al.* (2017) pointed out the lack of clear strategic objectives, the short-term and financial orientation of measurement processes, the limited human and financial resources, and the influencing role the entrepreneur/owner (Durst and Edvardsson, 2012; Battisti *et al*., 2019). These perspectives are often based on a static view of MA implementation, not adequately considering the dynamic process involved in identifying, transferring, managing the MA knowledge within the organization. Furthermore, adopting these theoretical lens, it is difficult to gain an integrated understanding of how the contingent, institutional and knowledge variables are interacting on MA tools implementation in SMEs.

To fill this gap, the paper considers the implementation issue of MA tools as a knowledge management (KM) matter. With specific reference to SMEs the integration between MA knowledge and entrepreneurial knowledge (Cardoni *et al.*, 2019), becomes critical. Moreover, the negative effect of the limited absorptive capacity (AC) highlighted by literature in smaller enterprises (Heinicke, 2018) should be considered. In our opinion, the adoption of KM perspective to interpret the MA implementation issues is supported by the following reasons:

- the KM theory can provide a dynamic and integrated view on MA implementation, conceptually linking knowledge, actors, processes (Cinquini and Norreklit, 2015) and context (Gatti and Chiucchi, 2017);
- this is especially true in the context of SMEs, where the knowledge gap between MA theory and practice tends to be more relevant (Bahari *et al.*, 2017);
- the KM view is theoretically consistent with the MA lifecycle approaches (Neely *et al.*, 2000) and maturity models (Wettstein and Kueng, 2002) proposed by theory, as they are able to provide a practical framework for implementing MA tools in SMEs.

The interaction between management control and KM perspective has already been studied. Particularly, Ditillo (2004) explored the role of management control systems in fostering the learning processes in knowledge-intensive firms. More recently Massaro *et al.* (2012) examined the positive impact of management control systems to integrate knowledge creation and creativity. However, at the best of our knowledge, the role of KM processes on MA implementation in traditional SMEs still remains an under-investigated topic.

In the complex set of KM processes, the paper focuses on the knowledge transfer (KT) phase, being considered as the most critical process affecting the MA implementation. During this phase the organization needs to identify the appropriate characteristics of MA knowledge and the appropriate sources and receivers that are able to support the managerial innovation (Ax and Greve, 2017). More critically, the SMEs have to activate a process of external knowledge acquisition that fits with their internal environment, often characterized by informal controls, tacit knowledge, and transfers based on social dynamics. Therefore, MA implementations is primarily considered a KT issue (Cardoni, 2018).

Literature presents a gap even when specifically referring to KT. Indeed, this perspective was used in literature only for financial accounting (Hines, 1989) and educational processes studied from an institutional perspective (Bennet et al., 2004), but never adopted with reference to the knowledge of MA (Cardoni, 2018).

The present paper therefore aims to contribute on how SMEs can narrow the gap between theory and practice on MA knowledge. Particularly, the research aims to investigate the adoption of MA tools from a KT perspective (Cardoni *et al.*, 2019), identifying and discussing the critical factors for a successful implementation.

2. Literature review and research question

2.1. The theory and practice knowledge gap in the MA tools for SMEs

During the last decades some relevant streams of research were adopted to interpret the role and characteristics of management control in SMEs, particularly referring to contingency theory (Garengo and Bitici, 2007) and institutional perspective (Scott, 2001; Powell and DiMaggio, 1991). The contingency theory of management control (Otley, 1980) still represents the main theoretical reference for a large part of the research in the field (Otley 2016). Contingency theory is based on the premise that there is no universally appropriate accounting system which applies equally to all organizations in all circumstances but a range of variables are able to influence both the design and the implementation of management control. It consequently needs to be customized to effectively match the characteristics of these variables (Demartini, 2014), such as environmental uncertainty, size and organizational structure, outsourcing relationship, environmental management (Perego and Hartmann 2009), national cultures and strategy (Langfield-Smith, 2008). Garengo and Bititci (2007) systematized five contingency factors that influence the implementation and use of management control in SMEs: i) corporate governance structure; ii) management information system; iii) strategy; iv) organizational culture and management style; v) external environment.

In the institutional perspective the choice of an appropriate management control system is influenced by several complex economic, social, cultural and organizational factors (Burns and Scapens, 2000). For any organization the introduction of structural changes can occur as the result of isomorphism (Powell and Di Maggio, 1991), that is the complex process that makes the organizations more similar without necessarily making them more efficient. This is especially true for the normative isomorphism which can stimulate a management fashion, defined by Abrahamson (1996, p. 257) as "a relatively transitory collective belief, disseminated by management fashion setters, that a management technique leads rational management progress". Consequently, process of management accounting change can derive from the institutional factors represented by (Hussain and Hoque, 2002): i) economic factors (economic constraints and competition); ii) mimetic factors (copying best practice from others); iii) coercive pressure (financial legislation, socio-economic-political institutions' pressure); iv) normative influences (professionals, organizational strategic influence and corporate culture).

Moving to analyse the implementation issue, literature highlights that SMEs usually adopt MA systems that are much more limited if compared to large companies (Lavia Lopez and Hiebi, 2015). SMEs can rely on informal planning and control process, until their growth requires a more formal approach. For instance, some authors (King *et al.*, 2010; Sandalgaard and Nielsen, 2018) have discovered a positive correlation between the size of the organization and the implementation of formal tools of MA. Other authors state the need for managers to deal with an increasing volume of information, directly proportional to the size of the organization, until it becomes crucial to formalize control process (Chenhall, 2007). The size of the company is therefore a fundamental driver for the creation of a MA system within the company (Hiebl *et al.*, 2013).

The literature shows that, in addition to the different impact of information needs, there is also a greater limitation on resources. In fact, larger companies have the ability to commit resources for the development and implementation of innovative accounting practices (Carenzo and Turolla, 2010) which SMEs do not have for resource shortages, both financial and professional. These critical issues are certainly confirmed in terms of practice. It is easy to discover that SMEs often use informal tools of MA (Davila, 2005) based on the personal approach for the key functions of management and control, with an intuitive approach to decision-making (Palazzi *et al.*, 2019). This leads to a loss of knowledge in case of turnover of key people operating within the organization. Even more recently, research shows that the level of education of the top management and the professional environment represent one of the main discriminating factors in the choice of implementation of the MA tools (Heinicke, 2018). In this regard, external consultants should promote greater consultancy activities aimed at promoting appropriate MA tools instead of focusing on traditional services, thus helping to increase and strengthen the managerial culture of SMEs (Del Baldo *et al.*, 2019).

2.2. Knowledge management, KT and absorptive capacity (AC) in SMEs

Nowadays knowledge plays a crucial role in creating value for companies and strongly influences their survival. Penrose (1959) outlines two types of knowledge relevant to a company's success: entrepreneurial and managerial knowledge. The first refers to the ability to develop a business opportunity, while the second is connected to the ability to structure the business processes associated with that opportunity. While for the former, experiential learning mechanisms are predominantly emphasized (Politis, 2005), for managerial knowledge a crucial role is played by the MA tools. It is in this

perspective that the processes of management and transfer of knowledge in SMEs must be carefully considered.

From a general point of view, knowledge management (KM) can be defined as a complex set of processes for the acquisition, storage, updating and dissemination of knowledge that allows the company to manage significant data and information making the knowledge resource as productive (Beijerse, 2000). According to a consolidated approach (Durst and Edvardsson, 2012), the KM is composed of different processes represented by: i) identification; ii) creation; iii) storage / retention; iv) knowledge transfer; and v) use. For the purposes of this work, the focus is devoted on the knowledge transfer phase (KT) since SMEs have their own peculiarities that require research aimed at understanding which specific features the implementation of the MA tools can take. Massaro *et al.* (2016) states that the constraints on resources, together with the different managerial capacities, determine different knowledge management processes in SMEs compared to larger companies (Wong and Aspinwall, 2004; Wee and Chua, 2013). In a theoretical position, a form of socialization of tacit knowledge prevails (Nonaka and Takeuchi, 1995; Nonaka and Toyama, 2003) and the aptitude to exploit external cognitive sources. Durst and Edvardsson (2012) highlights that SMEs tend to be informal and non-bureaucratic; with few rules or structures. Furthermore, controls tend to be based on the personal supervision of the owner/manager. This contributes to a concentration of knowledge in the mind of the owner and a few workers (Durst and Edvardsson, 2012), which limits the circulation of knowledge and configures the KT as an informal process "along the corridor" (Wong and Aspinwall, 2004) or "during the birthday parties of members of the organization" (Durst and Wilhelm, 2012).

These conditions limit the SMEs absorptive capacity (AC), often indicated in the KM literature as one of the determinants explaining the slow growth and slack of innovation in smaller dimensions (Heinicke, 2018). AC is a multidimensional element that includes the ability to acquire, assimilate and exploit knowledge (Cohen and Levinthal, 1990; Liao *et al.*, 2003), guiding companies to absorb new cognitive resources through long-term investments and collaborations (Zahra and George, 2002). This process takes place thanks to a series of organizational routines necessary to identify and use externally generated knowledge (Liao *et al.*, 2003). The issue of AC is particularly critical in the SME economy. According to Liao *et al.* (2003), SMEs with the most developed AC are more likely to adapt to changes in the external environment and growth-oriented.

The KM and KT process are therefore central and vital to the survival and development of SMEs. The literature on management control emphasizes

poor use of management control in SMEs and the shortage of human resources and competencies is often considered as one on the most influential reason that leads to the misconception of the MA benefits for decision-making (Hudson *et al.*, 2001). However, in-depth empirical investigations on the knowledge factors influencing MA tools implementation in SMEs are scarce (Garengo *et al.*, 2005; Smith and Bititci, 2017). The focus of research is mainly devoted to investigate the contingent (Garengo and Bititci, 2007) and institutional (Burns and Scapens, 2000) variables influencing the MA tools design and usage (Neely *et al.*, 2000), not considering the dynamic impact of knowledge factors during the implementation stage.

The aim of the research presented here is to fill this gap. The purpose is to contribute to a better understanding of the knowledge factors affecting the MA implementation in SMEs, answering the following research question:

RQ 1: How could the implementation of management accounting (MA) tools in SMEs be interpreted in a knowledge transfer (KT) perspective?

3. Research methodology and data collection

Research in MA has often been criticized for having a limited impact on practice (Tucker and Lowe, 2014). Particularly, Dumay (2010) highlights the limit of positivist research and qualitative approaches (e.g., grounded theory) as unable to develop a valid framework (Jansen, 2018) and to provide support to practitioners, organizations and society (Malmi and Granlund, 2009). Following Dumay and Baard (2017) arguments, traditional approaches to research, such as surveys and case studies, do not encourage the solution to real-world problems.

In our work a field-based research (Ryan *et al.*, 2002) was adopted. Particularly, for the aim of this paper, an interventionist research (IR) was considered the most suitable approach to analyze the institutional, contingency and KM interactions during the implementation stage. While the traditional case study protocol requires to maintain an external position in the solution of the problem, through IR the researcher becomes actively responsible for the result together with the key figures of the organization (Chiucchi, 2014). We considered the direct involvement on the field of action (Chiucchi, 2014), driven by a consistent theoretical framework (Jonsson and Lukka, 2006), as the best condition to investigate in a holistic and dynamic perspective the institutional, contingency and KM interactions.

This paper is then based on a project to implement MA tools in an SME and followed a strong interventionist approach. The project considered, both in the design and interpretation of the results, the theoretical framework of KT developed by Liyanage *et al.* (2009).

It was decided to adopt this framework because it gives three main contributions (Cardoni *et al*., 2019): i) it delineates the elements that KT entails; ii) it specifies that KT can occur at both the individual and organizational levels, which is particularly relevant within SMEs context; iii) it underlines the relevance of the active participation of the knowledge source and receiver. To this extent, differently from other approaches (Tangaraja et al., 2015; Paulin and Suneson, 2012), the Liyanage *et al.* (2009) model emphasizes the concept of KT as a dynamic act of "communication". We found this characteristic particularly relevant to investigate the interactions between institutional, contingency and KM variables. In addition, as confirmed by previous studies (Cardoni *et al.*, 2019), the Liyanage *et al.* (2009) framework is suitable to be operationalized and implemented for research investigation.

This framework identifies some key components in the KT process, such as relevant knowledge, sources and receivers, KT steps, and other elements that describe the form of transfer and the extent of its effectiveness.

The framework states that the KT will succeed only if an organization has not only the ability to acquire knowledge but also the ability to absorb it and then assimilate it, and effectively practice ideas, techniques of knowledge and artifacts. As a result, together with willingness to share and gain knowledge, one of the main key factors for a successful KT is the absorptive capacity (AC) of the receiver (Liao *et al.*, 2003).

In the adapted version of the framework, two main components are highlighted.

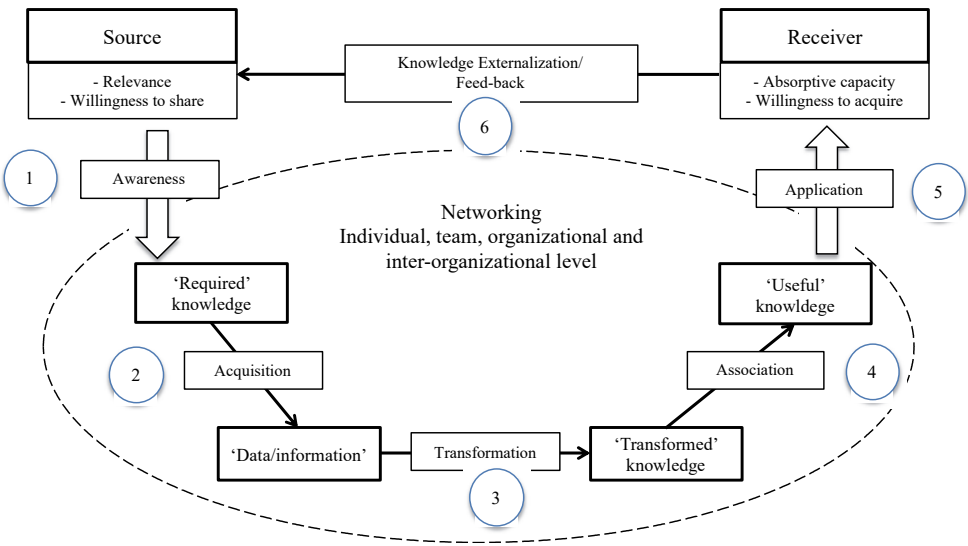
The first component concerns the interpretation of KT as a process of communicating relevant knowledge between two entities that need to be carefully identified. It is a source holding the relevant knowledge and a willingness to share, and a receiver endowed with the necessary capacity to absorb and be motivated towards acquiring relevant knowledge (Carlile, 2004).

The second component concerns the dynamic interpretation of the KT as a six-step process, represented by:

1. Awareness: ability to perceive a gap and identify the knowledge that needs to be transferred from the source to the receiver;
2. Acquisition: ability to select and acquire externally generated knowledge that is critical to perform operations properly (Zahra and George, 2002);

3. Transformation: it is a phase of translation of the specialized knowledge acquired to make it useful for the purposes of the application;
4. Association: the transformed knowledge is linked to the internal needs and capabilities of the entity, making it useful for the recipient;
5. Application: brings the acquired, transformed and associated knowledge together to solve concrete decision-making and operational problems. This is the most significant step during the KT process and is the only step that leads to an improvement in performance or value creation (Liyanage *et al.*, 2009);
6. Externalization: disseminate knowledge through a feedback process. A successful KT should not be a one-way process where the receiver takes a good part or all of the benefits. The KT should therefore add value to both the receiver and the source, and lead to enhanced collaborations and relationships.

Fig.1 – The KT Process (Liyanage et al., 2009)



Source: our adaptation by Liyanage *et al.*, 2009

To perform our study, a pre-selection of the firm on the data availability using a non-probability sampling technique was carried out. Particularly, we considered a SME operating in Umbria, held anonymous for confidentiality (Alfa company), which requested to be supported by the Department of Economics of the University of Perugia in the implementation of some MA tools.

Umbria is a region of Italy characterized by a high density of manufacturing SMEs which present features similar to the majority of Italian smaller firms. Even the literature focused on SMEs (O'Regan *et al*., 2005) highlights the same characteristics at international level.

Company Alfa is an industrial SME with a turnover that has grown in the last four years to reach about 10 million euros. The company has an average EBITDA margin of 20% and an ROI that stood at 5% in 2017. The evolution of net invested capital, which increased by about EUR 6 million for new structural investments, is very significant. The net financial position remained proportionate to the invested capital (approximately one third), showing a sustainable financial leverage. The number of employees also increased within the four-year period, rising from 55 to 70, enriching the level of human and infrastructural resources.

Company Alfa is a third-generation company whose top governance is individually lead by the entrepreneur. The latter, under the age of 50, holds a master degree in economics and is in charge for the general management of the Company, being supported by a middle management structure in the sales, production, engineering, quality control and administration. Thanks to his education, the entrepreneur is also able to perform an effective administrative control. The administrative structure is very streamlined, consisting of a manager and a staff, and the entire cycle of financial accounting is managed internally. The company has always been controlled based on accounting data, without elaborating reports and indicators that can support strategic analysis and financial planning. In this direction, the entrepreneur already made important innovations in information technology infrastructure, implementing an ERP system. In addition, an important investment process is under way (€8 million) for a further expansion of production capacity.

The entrepreneur aimed to evolve the individual and organizational competence in the area of planning and control. He then contacted a researcher on management control topics, a co-author of this contribution, to discuss these issues and identify the most suitable solutions. After several preliminary meetings, the project was started. The meetings lasted an average of about 3 hours and represent, together with the documentation collected, the sources of this research work. The meetings took place from July, 2017 to September, 2018, followed the problem-solving logic of the project, and were documented through notes, presentation and discussion material shared with the entrepreneur. Details of the meetings, the topics discussed, the reference dates, time of intervention, and the reference for the next use in the paper are presented in Table 1 (www.sidrea.it/implementation-management-acconting).

4. Findings

The first meetings occurred in the early stages of the project were fundamental to understand the needs of the company, to share the entrepreneur's vision on MA issues and also to gain a growing awareness of the opportunity for collaboration, as he stated in PM1:

> *"I believe that today having a management accounting system is an essential requirement for every company: there is no more room for improvisation or error.*
> *Competitive pressures, the decreasing trend of margins, the need to know their costs and plan investments require adequate performance monitoring tools."*

The entrepreneur expressed some of his specific needs related to the company's development strategy and organizational change in human resources and information systems, emphasizing the importance that a university approach could ensure the effectiveness of the project. Therefore, the entrepreneur requested to evaluate a possible project of collaboration (PM1). In the next meeting the researcher presented the various components of MA's tools able to address the entrepreneur's issues (PM2), clarifying the importance of a gradual approach to start with performance and financial analysis. The third meeting (PM3) was dedicated to the operational proposal, based on the elaboration of an economic and financial report highlighting margins and indicators useful for decision-making and business monitoring.

During the meeting, preliminary training on the analytical and strategic relevance of these measures was provided, and the methodological steps were clarified. The entrepreneur shared and appreciated this further advancement in awareness, as observed in PM3:

> *"I now realize that my accounting-administrative control is not able to support me in performance analyses and strategic choices and that it must be strengthened according to more advanced and systematic logics."*

The project started by collecting business data and information based on the general ledger and trial balance (BD1-4), financial statements (BD5-8), and other operational details (BD9-12). The importance to select the most suitable receiver/s was also discussed. The solution agreed identified:

- the entrepreneur, as a person responsible for acquiring expert knowledge on margins and indicators analysis;

- the administrative manager, with a key role in acquiring technical knowledge to apply the logic, criteria and data processing tools for report elaboration.

Once selected the relevant knowledge to be transferred and appropriate receivers, the implementation process can be interpreted in a dynamic KT perspective as described in the following table (Table. 2 – www.sidrea.it/implementatio-management-accounting). Each stage of the Liyanage framework is developed through the case and is conceptually linked to some determinants as proposed by the contingent theory (CT), institutional theory (IT) and knowledge management theory (KMT).

As noted above, the preliminary meetings (PM 1, 2 and 3) served to share the needs of the KT and raise awareness about the relevance of the knowledge to be transferred. Following the Liyanage *et al.*'s model (2009), the awareness phase has led to the focus on "required" knowledge, identified in the ability to process and use models of performance analysis and financial analysis.

The main factors affecting the awareness stage were firm's growth strategy, investment process, and implementation project based on ERP system innovation. These contingency variables fostered the entrepreneur to plan an evolution of the company's control system (Garengo and Bititci, 2007; Del Baldo *et al.*, 2019). This need was also supported by the increasing level of competition in the firm's industry, hardly exposed to international pressures, creating the premises for a competitive isomorphism as institutional variable (Hussain and Hoque, 2002). Conversely, the influence of knowledge management factors is not particularly visible at this stage.

In the acquisition phase a first transfer from the researcher to the entrepreneur was realized. The output of the phase was the shared "information" regarding the theoretical/practical settings behind the calculation of margins and indicators and their relevance to the strategic and operational management of a company. In this step, still theoretical and introductive, the process was facilitated by the entrepreneurial AC (Liao *et al.*, 2003; Zahra and George, 2002) and willingness to learn (WTL), key components in KMT. These two characteristics were supported by the education at university level on business administration. In addition, the entrepreneur was provided with a strong desire to reach the best professional standards, consistent with a normative isomorphism. In these first two stages, the administrative manager was not involved in the meetings and the transferred knowledge was not declined to the specific context of the Alfa company.

The knowledge contextualization required the transformation phase, the most operational part of the project. Based on all the information provided

by the administrative manager (BD1-4, BD5-8, BD9-12), the pre-agreed reclassification algorithms were applied to obtain business performance analysis reports for the years 2014-2016. This phase required direct involvement of the administrative manager who was able to focus the inputs of the process, for a subsequent application on its own.

Administrative manager provided accurate and complete data, and a valuable collaboration. Alfa's organizational culture has positively acted as a contingency variable, being embedded in routines, procedures, and accounting processes, that allowed a complete and prompt elaboration of the report (Baard, 2010; Filippini *et al.*, 2012). However, the strong administrative culture could also act as a potential barrier to accounting change (Kasurinen, 2002), due to the lack of expertise in MA tools of the administrative manager.

The new form of reporting company information thus represented the "transformed" knowledge on which the next transfer step was implemented. A crucial phase of the work has been achieved with the association. The company reports were shared with the entrepreneur, who read his company's performance through margins and indicators that could correlate with the events of strategic and operational management on his experiential learning (Politis, 2005). As highlighted by the entrepreneur himself in OM2:

> *"These reports provide me with a complete view of the business. I definitely need further training to fully understand the meaning of the indicators, but now I find a lot clearer some basic links between the economic, financial and value performance of my company that I have always perceived but have never been able to explain."*

The OM2 meeting also achieved a significant enrichment of knowledge for the researcher, who was able to associate with greater depth the performance processed through the algorithms with the strategic and operational profile of the Alfa company, thus producing a "useful knowledge" for the recipient (Baard, 2010). This meeting was also very important for the administrative manager who was able to see the entrepreneur's keen interest in the evolution of the analysis model as well as to start a training session on the type of output that can be obtained from the transformation process (Dumay, 2010).

During the association phase the entrepreneur enhanced his accounting knowledge thanks to a visible commitment to the learning process. It was a very delicate phase of the project that should be carefully considered in the

KM perspective, both at an individual and organizational level (Beijerse, 2000). The contingency and institutional influences seemed to play a weaker role at this stage.

The entrepreneur's interest was manifested by the request to use the analysis model to carry out simulations of the company's development process. This took place at first in OM4 using widely estimated forward-looking data with a main training test, to demonstrate how the whole historical basis and algorithms could support decision-making. This step created a balanced combination between the contingency variables originated by the growth strategies, the institutional conditions related to the administrative culture, and the KM aspects referred to the AC and learning process. The entrepreneur showed the ability to use the new conceptual proposals for his planning needs (Politis, 2005), while the administrative manager encountered more difficulties to evolve his administrative view. Operative instructions and elaboration of the report as at July 2018 were very useful to overcome this barrier (Kasurinen, 2002).

Subsequently, the entrepreneur requested an operational meeting (OM6) to use the analysis model and develop an economic-financial plan supported by much more accurate strategic development assumptions. These meetings have in fact achieved a step of application of transferred knowledge that has found positive feedback in the receiver, as highlighted in OM6:

> *"This reports, plans and the simulation logic they incorporate are really useful to support my strategic vision. They allow me to have in a simple and complete way a visibility of the performance related to my current choices of investments."*

Such an application was also an important feedback of the acquired knowledge, which was useful to test the relevance of the project impact from the receiver perspective.

At the same time, the transfer process also involved the administrative manager, to whom specific training sessions in OM4 and OM5 were dedicated, to illustrate the reclassification algorithms and the logic of operation of their media. This training allowed the administrative manager to elaborate some reports examined during the OM6 meeting. Even at this stage an integrated balance between contextual and knowledge-based factors (Brem *et al.*, 2008) emerged.

5. Discussion and conclusions

In KT perspective, the case highlights a continuous interaction between contingency and institutional variables, and KM issues. More specifically, it is possible to observe how the KM conditions have become the most critical components in the KT central steps (acquisition, transformation, association, and application), being particularly supported by the absorptive capacity (AC) and willingness to learn (WTL) at entrepreneurial and organizational level. This confirms that KM dynamic is crucial for the MA implementation in SMEs (Sousa and Aspinwall, 2010).

The case shows the importance of focusing on the heterogeneity of MA knowledge, that consequently requires a careful design of the learning cycles and the appropriate selection of the relevant knowledge and related receivers (Liyanage *et al.*, 2009).

As widely pointed out, successfully introducing a management control innovation requires a "compatibility" between the adopter's organizational culture and the system of values and principles embedded in administrative innovation. In this continuous interaction, the timing of the implementation must be carefully evaluated; the complex nexus of motivations that drive innovation (Ax and Greve, 2017), and widening the perspective; the influence of cultural and macro-economic factors (Chanegrih, 2008). More attention should be paid to the life cycle of the company. Moving from birth to decline, in fact, changes the need for managerial tools, going from a greater focus on the design of such systems to a greater focus on their implementation (Zoni *et al.*, 2012).

At the first stage it was important to distinguish the two forms of knowledge involved in the implementation of MA: one, of a high level, to be integrated with the strategic management of the SME and useful to a more advanced form of performance analysis for decision-making; another, more operational, concerning the systematic and structured processing of the reports. In the preliminary meetings it emerged that the knowledge gap existed mainly on the first type of knowledge (Politis, 2005). This circumstance should be taken into account, especially in the light of the high training, the proven entrepreneurial skills and administrative control of the receiving party. The proposed and implemented reporting model, while being basic in its theoretical features, required a much more structured approach to accounting knowledge of the entrepreneur. This evidence reinforces, on one hand, the need to manage the gap with preliminary exemplification and modelling, in order to create the climate of trust between the source and receiver

(Baard, 2010). On the other hand, there is further evidence that the gap between theory and practice in the use of MA for SMEs management tends to be wide and structural (Chiucchi, 2014). When the MA literature proposes advanced tools for smaller companies, the risk to furtherly increase this gap (Dumay 2010; Baard, 2010) should be considered.

Indeed, once the relevant knowledge was identified, the AC and WTL conditions were keys in the case analyzed; both at the individual and organizational level. As already highlighted, without adequate AC it may be difficult for SMEs to identify external sources of knowledge that are fundamental to their innovation, giving too much importance to the knowledge they already possess and excluding other relevant ones (Zahra and George, 2002).

Besides the benefits, however, acquisition costs should not be neglected (Wales *et al.,* 2013), which could generate a negative effect that exceeds the advantages deriving from the assimilation and transformation of knowledge. An important factor of balancing and moderation is however represented by entrepreneurial orientation (EO), and is understood as the set of attitudes and abilities of the entrepreneur to take risks, innovate processes, and identify opportunities (Wales *et al.*, 2013). In the case analysed the risk of obtaining a learning benefit below the cost was managed through an appropriate level of entrepreneur's EO. The entrepreneur understood how KT could be an extremely important process within an organization to address complexity and support development and strategic processes. In pointing out this centrality of the entrepreneur in any KT project for the SMEs, the related critical issues cannot be underestimated. On the theoretical level, it should be considered what Politis (2005) has demonstrated, which describes entrepreneurial learning as an experiential path, as difficult to structure according to the KT mechanisms typical of managerial knowledge. Even in the operational level (Beijerse, 2000), this centrality can lead to difficulties, as demonstrated by the Alfa case, where the implementation advancements were highly dependent on the availability of time and attention of the entrepreneur (Durst and Edvardsson, 2012).

Generalising, the case shows that organizational learning processes are continuously interacting with the entrepreneurial learning mechanisms. Such findings may represent a valuable opportunity when the entrepreneur is ready to embed new structured knowledge into his experiential learning model (Politis, 2005). However, it can also represent an obstacle to successful implementation when the entrepreneurial learning process is not able to evolve (Kasurinen, 2002).

As KM success factors, in the case of Alfa company, an individual and organizational AC was needed to successfully implement MA knowledge

and ready to adopt new logics and tools (Xu and Quaddus, 2005). On an individual level, the AC was facilitated by the high-level education of the entrepreneur and the simultaneous desire to carry out a process of investment and growth. On the organizational level, on the other hand, it was facilitated by comprehensive and accurate administrative processes: general ledger updated in a timely manner in all accounting cycles, fast-closing accounting procedure, responsiveness to provide relevant details for report processing. These capabilities were accompanied by a visible WTL, based on a strong sponsorship of the entrepreneur, in his commitment to learning and in the continued willingness of the administrative manager to support the implementation of the project. It is considered important to emphasize the above, as these conditions are not easily found in SMEs, for reasons related to scarcity of resources, skills or attitudes that are not inclined to change (Massaro *et al.*, 2016).

The results discussed reveal important theoretical and practical implications. On the theoretical level, the research raises a strong question concerning the determinants of AC and WTL in the knowledge of MA with respect to internal (e.g. governance, education, performance, debt) and external (e.g. sector, life cycle, recession, financial market trends, etc.) conditions. It would be important to devote special research, even quantitative research, to understand what factors can be associated to these two conditions that favour the KT. For example, given a trend of performance, there is often a need for SMEs to strengthen MA in times of declining margins or financial problems. Such a conditioning can positively affect the WTL (Zakay *et al.*, 2004) but it has virtually no effect or even a negative effect on the AC.

A further theoretical implication concerns the importance of field-based research and IR to bridge the gap between theory and practice (Chiucchi, 2014), especially by interpreting the project in a KT framework. Maintaining an observational focus on the demand side of knowledge and on the compatibility of the organization with respect to the suggested innovations allows to thoroughly investigate, on the empirical level, the required elements to an effective KT for the MA. This can avoid distant theoretical proposals in SMEs culture (Filippini *et al.*, 2012), based on innovative tools, and push the literature to focus on new ways to implement the rich, and in some ways traditional, set of existing tools (Aureli *et al.*, 2019). It is precisely in this context that greater collaboration between academia and operational contexts would be particularly valuable, both to suggest managerial solutions and to test the actual ability of smaller organizations to absorb the new form of knowledge (Dumay, 2010).

On an empirical level, the perspective of the KT allows to approach a consulting intervention with a different awareness (Del Baldo *et al*., 2019), paying great attention to the pre-conditions necessary for the success of the implementation project. Defining in advance learning cycles, distinguishing between the two forms of knowledge implicit in the project (knowledge for reading data and processing them), assessing the entrepreneurial and organizational AC and WTL, allows to reduce the gap in expectations and emphasizes the importance of the needed commitment of the receivers for the KT success. In these respects, a proposal for university collaboration could be particularly appreciated, since the source of knowledge has educational, theoretical and problem-solving skills to be used jointly for gap reduction (Muscio, 2007).

Concerning the research limitations, this study considers only one component of KM, namely KT, overlooking other issues still characterized by an existing gap (Durst and Edvardsson, 2012). Further researches can point to investigate more components of KM within the SMEs context. Moreover, this study focuses only on the implementation stage of MA for smaller firms. Hence, future studies may analyze how the institutional, contingency and KM variables are interacting in the MA usage stage, extending the analysis to bigger companies. Finally, we do not consider the inverse relation between management control and KM, especially the role of MA in KM. In the light of the growing body of literature investigating this perspective, we believe that further study on the combined interactions between the two components have the potential to be relevant.

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