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Article

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RESEARCH

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Identifying SME mortality factors in the life cycle stages: an empirical approach of relevant factors for small business owner-managers in Brazil

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Abstract

Although small and medium-sized enterprises (SME) are an important part of worldwide economy, frequently, researches on SME mortality factors ignores their characteristics. This paper discusses the relation between the SME mortality factors and the small business owner-manager, based on the life cycle stage as an essential part for a better understanding of their closure moment. The research paper was designed in two main complementary phases: (i.) a systematic review focused on failure subject, in order to capture the state of the art of the theme added by the conceptual background of classical SME studies and (ii.) a multiple case study of seven Brazilian SME with a qualitative, descriptive and empirical approach. The results show that small business owner-managers failure business did not use correctly or gave required attention to the mortality factors such as full time dedication, exercising operational activities and managerial roles, discipline, purchase abilities, negotiation, finance and family motivation in keeping up the business. The main contribution for entrepreneurship studies is the indication of an existing relation between mortality factors and the life cycle stages of SME, which evidences the changing importance of the mortality factors throughout the life cycle stages, including closure. The practical results of this paper offers new insights into the relevant SME mortality factors, opening a number of potential avenues for future studies focused on SME, mortality factors and the small business owner-manager.

Keywords: Small and medium-sized enterprises, Mortality factors, Small business owner-manager, Life cycle stages

Background

Towards the 1980 decade survival of small and medium-sized enterprises (SME), as a relevant part of economy, was still in debate. Motta and Bresser-Pereira (2004) believed that poorly organized social systems, such as SME, were likely to disappear and replaced by large and bureaucratic organizations. SME has always been seen as a potential large firm. It is useful to point, for example, the analogy of 'little big business' by Welsh and White (1981) and the young plant in the nursery seedbed by Alfred Marshall, described by Day (2000).

Despite the social domain of big and bureaucratic enterprises the SME did not disappear. Its relevance is known all over the world (BARRETT and RAINNIE 2002; Blackburn and Kovalainen 2009). Australian SME represents 96% of all enterprises of the country (Stone 2011). In the USA 99% of enterprises are small or medium sized (Fadahansi 2012), the same percentage assessed in Brazil by Brazilian Support Service for Small Businesses (Serviço Brasileiro De Apoio Às Micro E Pequenas Empresas – Sebrae org.. Anuário do trabalho na micro e pequena empresa 2010), a bureau with similar action as the U.S. Small Business Administration.

As part of a new perception of the social and economic importance of SME and the high mortality rate they face, researchers started to focus on the leading factors to closure of SME (Frese et al. 2002; Hall 1994; Keeble and Walker 1994; Lussier 1996). These studies began to provide the knowledge for an effective management by small business owner-manager, but also to assist governments, public and private institutions to improve SME understanding (Morrison et al. 2003; O'Neill et al. 1987).

The term 'failure' covers several meanings as death, exit, bankruptcy, foreclosure, insolvency and interruption (Arasti et al. 2014; Everett and Watson 1998; Sten 1998). Different meanings makes it harder to codify reasons that leads SME to failure; much often this reasons relies on the meaning used by researchers (Everett and Watson 1998; Watson and Everett 1996). Regarding on this paper we did not try to codify meanings of failure, but to explore and elucidate the failure factors presented in the literature.

Two main mortality factors appears in the literature: the first one focused on internal and external aspects and the second related to the small business owner-manager, the SME itself and environmental aspects (Arasti et al. 2014; Bruderl et al. 1992; Bumgardner et al. 2011; Carter and Van Auken 2006; Franco-Ángel and Pulido 2010; Garcia-Posada and Mora-Sanguinetti 2013; Machado and Espinha 2005, 2007, 2010; Rogoff et al. 2004; Santini et al. 2015; Sten, Sten 1998; Zacharakis et al. 1999). By similarities among the factors the classifying can be done according to three categories: (i.) small business owner-manager, (ii.) SME and size and (iii.) business environment. This research paper focuses on the small business owner-manager category.

However, the systematization of closure and also success factors of SME related to the work of small business owner-manager is still an unsatisfactory task (Rogoff et al. 2004) with further researches needed (Blackburn and Kovalainen 2009; Strotmann 2007). There is no integrated theory of mortality factors related to the work of small business owner-manager. Besides the lack of consensus by researchers, no rare the studies ignore the specificities of SME, described by Torrès and Julien (2005), as well as the life cycle stages by the time of closure.

Not so long ago it was believed that management of SME should be the same as big and bureaucratic enterprises; from the late 1970s and beginning of 1980 decade studies started to suggest that SME needs a different approach and its own theory (Dandridge 1979; Welsh and White 1981) supported by specificities of the SME wich makes them different from big enterprises (Julien 1997; Torrès 2004; Torrès and Julien 2005).

Organizational life cycle (OLC) studies also helps to distinguish SME from big enterprises, even thought the OLC research tradition is not focused in early stages of business. Nevertheless, the research tradition is very rich (Galbraith 1982; Greiner 1998; Miller and Friesen 1984; Quinn and Cameron 1983). By Albuquerque et al. (2016)) we

can assume that these studies on OLC can clarify some aspects of small business management and also related to the SME mortality factors.

Given the established importance of SME for economy (Blackburn and Kovalainen 2009; Bruce et al. 2009; Torres and Watson 2013; Stone 2011) the aim of this paper is twofold. First, describing the mortality factors related to the small business owner-manager. Second, on the basis of literature and conducted multiple case study, identifying the changes in the importance of mortality factors throughout the life cycle stages of the SME. An attempt has been made in this research paper to respond a main question: How the mortality factors appear and influences throughout the SME life cycle stages?

This research paper is divided in four sections: (1) background, (2) methods, (3) results, and (4) Discussion and conclusion.

What is the state of the art on mortality factors and the relation with small business owner-manager? A systematic mapping study was conducted to obtain a ‘big picture’ of the literature, identifying possible gaps for our research based on previous recent researches.

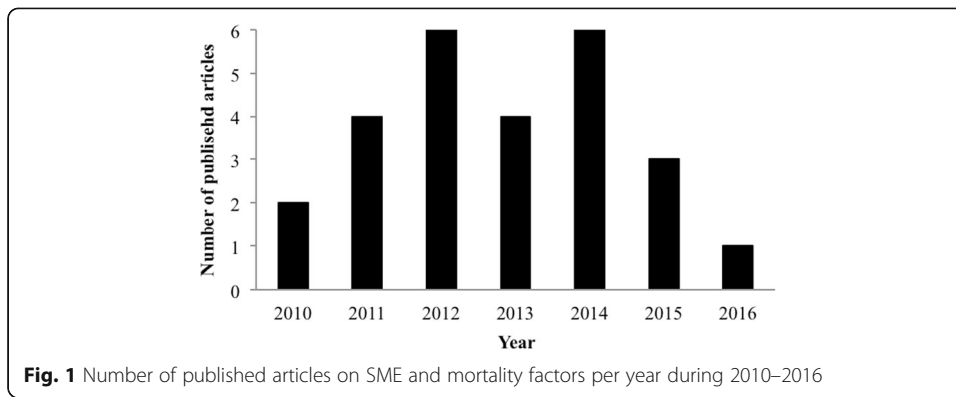
A systematic review is a method that enables the evaluation and interpretation of accessible and relevant research to a subject matter (Kitchenham et al. 2007). Based on Kitchenham’s protocol (Kitchenham 2004) two sets of search string was designed, using Boolean (OR/AND) as a connection part for both. One string focused on the SME and usual related terms and the other string focused on failure and usual and synonym terms. The Thomson Reuters Web of Science™ platform was chosen. Wildcard characters were used to enhance the systematic mapping, as shown in Table 1.

The first phase of systematic mapping study shows 131 published studies. Refine tools were combined in order to capture studies on social sciences (reduced to 89 studies), only article type (reduced to 69 studies) and focusing on business/economics (reduced to 62 studies). Hawthorn¹ is the oldest study of our database focused on relation between failure of SME and small business owner-manager. The second phase had two sub-phases: (i) reading of the 62 abstracts to identify those with high relation with the aim of this paper and (ii.) complete reading of all 14 articles identified, in the first sub-phase, as high relation.

The theme began to get more attraction from researchers after 1990s decade and especially after year 2000. From 1935 to 1999 only 14 articles discussing the theme were published. Eight of them published during 1994–1998 period. From 2010 to 2016² it was published 26 articles discussing SME and mortality factors. It represents 42% of systematic mapping study database. Fig. 1 shows the pattern of published articles per year during 2010–2016 period, representing, in this paper, the state of the art. These articles are part of literature review and supported our findings, such as Bumgardner et al. (2011), Collett et al. (2014) and EL Kalak and Hudson (2016)

Table 1 Search strings for systematic mapping study

Search strings	<p>["small business" OR "small compan*" OR "small enterprise?" OR "small firm*" OR "sme?"]</p> <p>AND</p> <p>("failur*" OR "mortalit*" OR "bankruptc*" or "exit*" OR "dead" OR "death*" OR "clos*" OR "closure" OR "declin*")]</p>
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The journals represent a very wide array of areas of systematic mapping study database. Just two journals had five or more publications of a total of 26 journals, with at least one published article. Fig. 2 shows the pattern. A somewhat obvious conclusion can be drawn from this is that there is a clearly growing interest by researchers and an effort towards understanding the relation between SME mortality factors and the work of small business owner-manager.

Researches on small business owner-manager as main theme study, researchers commonly highlight SME mortality factors with personal characteristics. Albuquerque and Escrivão Filho (2011) and Albuquerque et al. (2016) summarize 11 personal characteristics of small business owner-manager described in literature, present here in order of most cited: (1) individual aspects and characteristics, (2) managerial experience in the business sector, (3) managerial skills, (4) educational level, (5) social relationships and bounds, (6) age of owner-manager, (7) management knowledge, (8) personal values, (9) voluntary decision, (10) motivation for starting the business and (11) gender.

It is also important to visualize each mortality factor at the time of closure of SME throughout the life cycle stages and their typical characteristics. Therefore, this research paper describes the SME’s life cycle stages as divided into four stages, shown in Table 2 (Adizes 1990, 1997, 1998; Churchill and Lewis 1983; Galbraith 1982; Greiner 1998;

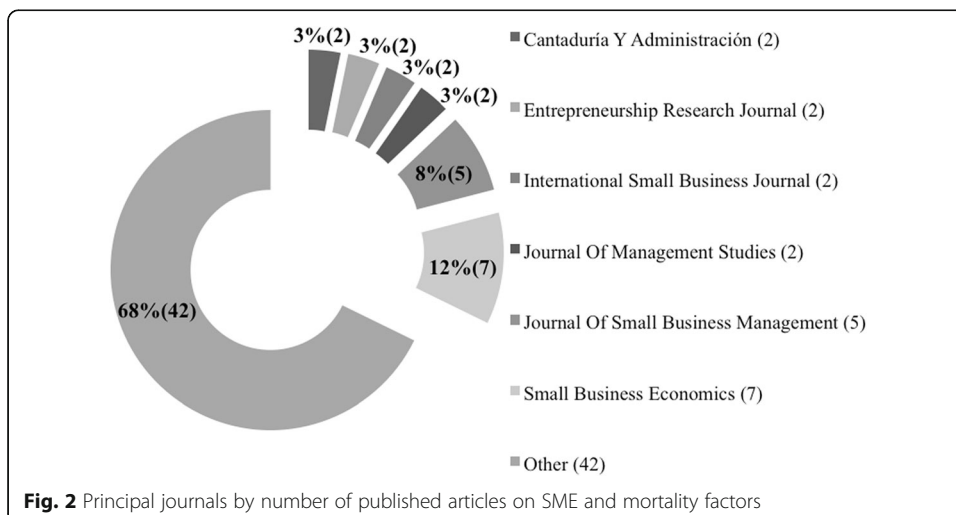


Table 2 SME's life cycle stages

Stage	Description
Genesis (0)	Preliminary preparation for starting the business. It is an aspiration of the owner-manager who has a business idea and sees the possibility to satisfy a personal need and/or a gap in a visualized target-market.
Existence (1)	Beginning of the struggle for consumers and results of the business. It is a market test for the offered product of the SME. The owner-manager seeks a market share to reaches positive results for business.
Survival (2)	SME's economic viability with satisfied customers and positive cash flow. At this stage the owner-manager has to make an important decision: remain at this survival stage without greater investments in personal dedication and capital or seeks to grow in size and profitability, reaching the next stage.
Growth (3)	Profitability increase (3a) or size increase (3b). At stage 3a the SME has achieved economic and competitive success (earn regular profits or above average) and can remain at this stage indefinitely. At stage 3b the SME consolidates and transfer resources for business growth. The main objective is to keep current profitability and positive cash flow finding new business opportunities to improve growth.

Miller and Friesen 1984; O'Neill et al. 1987; Quinn and Cameron 1983; Scott and Bruce 1987; Steinmetz 1969).

Methods

In order to enlighten the debate, this paper presents a multiple case study of seven Brazilian SME. All of the SME are from retail clothing sector and located in Brazil, restricted to São Paulo – the most industrialized State of Brazil. Data were collected through interviews and documents and analysed using inductive content analysis technique.

During previous identification of possible samples the authors of this paper had assistance of a middle manager of Brazilian Support Service for Small Business, including taking part in several workshops and lectures of the bureau to get to know small business owner-managers. This research paper is also part of conducted studies by the Group of Organizational Studies of Small Business (in Brazil called *Grupo de Estudos Organizacionais da Pequena Empresa* – Geope), where researchers from different universities of Brazil develop studies focused in SME.³

Selection of cases proceeded according to Stake (2011): maximizing what can be learned from study; balance and variety, typical and not usual; and easy access and interest by participants and interviewed.

Each sample SME from case study is identified as two combined letters: enterprise plus letter from one to seven in alphabetical order (EA to EG). Three samples are still in business: EA with five stores and in business within 32 years, EB also with five stores and in business within 20 years and EC with just one store and in business within 20 years. Four enterprises from sample ended activities: ED, EE and EF by poverty of resources and EG by willing of owner-manager – exit choice after 24 years in business – described by Bates (2005) as a successful closure. The ED and EE stayed in business for four years and ED for 14 years. Sample with also activity businesses was designed according to literature that indicates that critical success factors and failure should be studied together and combined (Machado and Espinha 2005; Lussier and Halabi 2010; Rogoff et al. 2004).

The ‘field phase process’ of the research included three major steps: (i.) selection of SME, (ii.) data collection and (iii.) data analysis. Table 3 shows the matrix of steps and sub-steps taken.

The data collection technique was procedure as suggested by Stake (2003): recording interviews and reading different sources and types of documents (press papers, magazine articles, and websites). It was drawn from a six step process: (i.) contact with small businesses owner-managers, (ii.) getting signature approval and (iii.) filling up the questionnaire with information from small business owner-manager and his/her enterprise, (iv.) interviews, (v.) transcribing interviews, (vi.) and submission and approval of each small business owner-manager from the transcribed conducted interview.

Twelve different people were interviewed, with at least one from each sample SME – the small business owner-manager itself – and a total of nineteen interviews. Of EB, for example, a former manager and the small business owner-manager’s husband were also interviewed; of EA and ED the managers were also interviewed. The data collect phase resulted in 18 h05’ of recorded interviews (the shortest with 1 h35’ and the longest with 5 h37’), and consumed 194 h20’ of listening and transcribing all interviews. This final document, with transcribed interviews, has 239 pages.

Rigor in case study research was incorporated as proposed by Ketokivi and Choi (2014). This qualitative approach examines concepts of small business owner-manager’s meanings and interpretations related to mortality factors and the life cycle stage.

Inductive content analysis technique is highly recommended for exploratory studies (Andersson et al. 2015; Sandström et al. 2015), providing techniques for inferences from documents about sources of study followed by a structured questionnaire administered by researchers (Schamber 2000). Inductive content analysis technique is useful to capture cognitive behaviours and describes perceptions in different situational contexts (Graneheim and Lundman 2004; Schamber 2000).

The data analysis were conducted by one of the authors of this research paper, the same one in charge of collecting data, maintaining a unique flow in order to minimize interpretation of conflicting opinions and unsolved issues regarding meanings of

Table 3 Research design of field step

Research steps	Sub-steps and description
(1) Selection of SME	1.1 contacted 19 small business owner-manager from 19 different SME. Seven acceptance for participation received
(2) Data collection	2.1 establishing contact with seven small business owner-managers that accepted the invitation for research 2.2 signing the agreement term for research 2.3 answering the questionnaire 2.4 interviews 2.5 transcription of the interviews 2.6 submission and approval of the interview by the small business owner-managers sample
(3) Data analysis*	3.1 identifying meaning unit 3.2 condensed meaning unit 3.3 developing codes from meanings units 3.4 developing categories from previous sub-steps 3.5 developing themes 3.6 describing the specificities of SME throughout life cycle stages 3.7 describing the mortality factors or maintenance factors of SME in each life cycle stage

* Sub-steps from 3.1 to 3.5 according to Graneheim and Lundman (2004)

owner-managers and use of concepts. A five points technique of procedures and interpretation, presented by Graneheim and Lundman (2004), were used. Throughout Graneheim and Lundman (2004) technique it was possible to conduct an interpretation in light of the qualitative content analysis, achieving necessary trustworthiness for the discussion and evaluation presented in this paper.

Results

The results presented in this research paper are important as they provide a clear understanding of the relation between the mortality factors and the small business owner-manager.

Grounded within the content analysis technique (Graneheim and Lundman 2004) through a case study research (Ketokivi and Choi 2014) we address the gap by exploring small business owner-manager perceptions and activities with life cycle stages and mortality factors, presented in 4.1 and 4.2 sub-sections.

Life cycle stages

Early life cycle stages are close related to SME (Greiner 1998; Miller and Friesen 1984; Scott and Bruce 1987). Nevertheless during interviews with small business owner-managers from sample more stages were described than showed in literature (genesis, existence, survival and growth shown in Table 2).

Churchill and Lewis (1983) warn that dominant organizational literature discusses superficially the SME’s life cycle stages, neglecting the importance of early life cycle stages. Table 4 shows identified stage of SME from sample.

Although all SME sample have reached economic viability (stage 2), the process and path taken of life cycle stage were different. Two SME (ED and EE) confirmed the tendency of closure in the first years of activity, as part of disadvantages of youth (Storey 2011; Strotmann 2007). One SME (EF) operated for 14 years before closure, confirming Lussier and Pfeifer (2001) findings: SME bankrupt around fifteenth year of operation.

Three SME (ED, EE and EF) achieved the stage 1, forming a portfolio of clients and showing good financial results for their survival. By the time they reached stage 2 all changed and a number of factors contributed to failure: inexperience in the business sector, part-time dedication of the owner-managers, lack of purchase ability and negotiating with suppliers.

Table 4 Life cycle stages of SME sample according to literature

Sample	Activity	Time	Stage				
			0	1	2	3	
						a	b
EA	yes	32					X
EB	yes	20					X
EC	yes	20				X	
ED	no	4			X		
EE	no	4			X		
EF	no	14			X		
EG	no	24				X	

The SME sample EG ended activity after 24 years – exit choice as discussed by Alberti (2013) and VAN Teeffelen and Uhlaner (2013). EG did not face poverty of financial resources. The prudence on investments and management of financial resources, among other factors, contributed to the performance of the SME. The reason for the shutdown was not by an economic or financial nature. The owner-manager’s exit choice demonstrates the importance of non-financial measures to understand the success of a small business as suggested by Walker and Brown (2004).

Mortality factors and the small business owner-manager

This research paper identifies mortality factors related to small business owner-manager such as individual characteristics, industry sector experience, abilities and social ties. Factors such as educational level, age and gender were not mentioned in interviews. Table 5 shows the summarized mortality factors related to small business owner-manager that requires high attention in each life cycle stage to guarantee survival of the SME (stages 0, 1 and 2 – genesis, existence and survival) – findings from our case study.

The mortality factor individual characteristics (a) appear in this research paper through a variety of features. Two individual characteristics were identified in the literature but not mentioned by the small business owner-manager from case studies: creativity and initiative. Five individual characteristics from literature were mentioned:

Table 5 Mortality factors required attention by the SME owner-manager

Small business owner-manager		Stages		
		0	1	2
(a) Individual characteristics	Vision	X	X	X
	Dedication		X	X
	Liveliness		X	X
	Persistence		X	X
	Risk taken			X
	Discipline			X
(b) Experience	Industry sector	X	X	X
	Managerial			X
(c) Managerial knowledge	Finance		X	X
	Marketing and organizational structure			X
(d) Abilities	Technical	Purchase	X	X
		Negotiation		X
		Finance, IT and sells		X
	Human			X
(e) Attitudes	Conceptual	X	X	X
	Sense of opportunity	X	X	X
	Family motivation	X	X	X
	Values	X	X	X
(f) Social ties	Financial support	X	X	X
	Managerial support			X
	Moral support	X		
	Operational support		X	

vision, (Duchesneau and Gartner 1990; Morrison et al. 2003; Zacharakis et al. 1999), full time dedication (Machado and Espinha 2005; Rogoff et al. 2004), liveliness for managerial and operational activities (Adizes, 1997; Greiner 1998; Rogoff et al. 2004), persistence (Machado and Espinha 2005; MIZUMOTO et al. 2008), risk taken and discipline (Duchesneau and Gartner 1990; Everett and Watson 1998; Machado and Espinha 2005; Radas and Bozic 2012).

The importance of vision was mentioned by three owner-managers from EA, EB and EF. The lack of vision can jeopardize existence of SME, leading to closure (Duchesneau and Gartner 1990; Morrison et al. 2003; Zacharakis et al. 1999). A well-defined vision guided these SME sample. The EB owner-manager seemed to have a clear vision of business since genesis stage, thought her statement: '(...) and then when I moved, I came to open a store, my dream was this, I used to stay there in Brasilia DC, going to the *Conjunto Nacional* mall where there were boutiques, I used to keep staring and thinking that's what I want, this was my dream'.

Regarding liveliness to managerial and operational activities, the EG owner-managers performed both. In genesis stage their concern focused on the preparations for opening, such as the store building and furniture design, purchase and legal documents for business. At stage 1, after starting the business, the amount of operational activities grows: selling, purchasing, cleaning the store, visiting suppliers and customer relationships are just a part of daily routine. Planning, controlling and checking stock also fulfill the activities. One owner-manager of EG described: 'I did it all; buying, selling, negotiating with bank; we never saw ourselves just as owners; I like to sell clothes but to sell we had to purchase and this is a headache; the best part of clothing sector is that you have to do it all'. At stage 2 managerial activities increase. Training, setting sales goals for employees, analysing reports and planning start to appear in the routine of small business owner-manager.

The persistence identified in the literature (Machado and Espinha 2005; Mizumoto et al. 2008) appeared as obstinacy and tenacity in interviews and highlighted by all owner-managers still in activity (EA, EB and EC) as a key to the survival and growth.

Risk taken, as an important part of individual characteristics, was mentioned by just one owner-manager (EB) during interviews. Although fear was part of decision-making when it comes to expand the business (reaching out stage 2) this owner-manager felt secure because of the financial support of her physician husband. Risk taken is inherent in business activity (Duchesneau and Gartner 1990; EL Kalak and Hudson 2016; Seppa 2014), but it has to come along with a financial backup, as said by EB owner-manager.

The EF owner-manager mentioned discipline as an important part of individual characteristics, although not appeared in literature review. The absent of discipline by this owner-manager, at stage 2, led the SME to closure. She did not follow payment schedules and also diverted enterprise cash flow to pay personal accounts and debts. Delays in supplier's payment started to grow and became frequent.

Mortality factor experience in industry sector and managerial work (b) influences the performance of SME and confirms the literature review (Duchesneau and Gartner 1990; Lussier 1996; Lussier and Pfeifer 2001; Lussier and Halabi 2010; Radas and Bozic 2012; Franco-Ángel and Pulido 2010) and it is also an important part of SME contemporary studies (Collett et al. 2014; Fillion 1996; Franco-Ángel and Pulido 2010; Loane et al. 2014; de Oliveira et al. 2015). Sample shows that experience in the industry sector is

important at all stages (0, 1 and 2) and managerial experience in stage 2, as the SME grows and the owner-manager begins to step away from operational activities.

Managerial knowledge (c), as an administrative tool to manage effectively and efficiently the resources of the company (Ferreira et al. 2008) was mentioned only by one owner-manager (EA) in reference as a mortality factor; especially in stage 3 of SME.

At stages 1 and 2, the managerial knowledge was restricted mainly to learning about financial management. It was this competence that made the difference in these stages: understanding cash flows and accountability. At stage 2, the EA owner-manager learned about marketing strategies and improved the relationship with customers, resulting in increasing profit of the business. He also realizes that it was the time for changes in the organizational structure and start delegation responsibilities to employees.

Regarding the owner-manager's management abilities (d) results of this paper are similar to those identified in the literature, especially the importance in OLC (Churchill and Lewis 1983; Greiner 1998; Headd and Kirchoff 2009; Hernández-Fernández, 2007; Steinmetz 1969). Nevertheless differs somewhat from importance of the technical abilities to survival of the SME. Besides purchase abilities (Steinmetz 1969) and selling abilities (Churchill and Lewis 1983; Greiner 1998) three other abilities emerged during analysis technique: finance, negotiation and IT.

The purchase ability was the most mentioned by the sample owner-managers, from all of the stages (0, 1 and 2). Even after establishment of an organizational structure and delegation of responsibilities the purchase is still held by owner-managers, with special attention in development this ability. Interviews implies that a person with no ability to purchase do not know about fashion trends, do not understand the needs of customers and can not match fashion (abstraction field) with business (concrete field). For EB owner-manager the purchase activity is the most important part of work and takes effort and spending time to do well this activity. The lack of this ability also tends to lead to a purchase beyond the demand. This problem was observed in ED, resulting in closure.

EA and EB owner-managers mentioned importance of human ability during stage 2 (survival) and stage 3 (growth) as they started to step away from operational activities through commitment with employees in achieving SME's goals. This finding is also found in literature (Banfield et al. 1996; Lussier 1996; Rogoff et al. 2004).

Conceptual ability, translated by an ability to understand the SME as an open system, was mentioned by EA, EB and EF owner-managers and supported by Filion (1996)). A visionary process is part of SME and concerns strategic issues from genesis stage (Filion 1991).

The mortality factor attitudes (e) refer to the opportunity, personal and family meanings and values evolved in starting the business. This array of attitudes influences the performance and survival of SME. Identifying opportunity and personal reasons meanings are mentioned in the literature and was also mentioned by sample owner-managers.

Personal meanings and reasons were the most frequently mentioned from mortality factor attitudes, showing no clear intertwine with the pursuit of profit (Bates 2005). Owner-managers of EB, ED, EF and EG did not depend exclusively from business to survive, resulting in an advance for the early stages. The business were started for several reasons: financial independency from husband/wife (EA, ED, EF and EG), hobby

(EG), personal meaning and satisfaction (EB and EF), see oneself as an successful entrepreneur (EB), no perspective in previous career (EE), flexible hours of work (ED) and for investment (EG). These mentioned reasons, or paradox, were also identified by Bates (2005) and Walker and Brown (2004): there are non-financial reasons to justify the opening of a SME or measure success. They must be seen as complementary to financial and cash flow measures.

The family motivation did not appear in literature as a mortality factor of SME. However this paper shows that it is an important part for the owner-manager. Offer a better life to the family (EF), dresses their children (ED and EG), illness of relatives (EF) or take on a family business through succession (EE) must also be considered for researchers.

Although personal values (f) are mentioned in the literature as important part of SME survival or success (Scott and Bruce 1987), seven values mentioned by two small business owner-managers from sample were not identified in literature: commitment, decency, honesty, humble (EA), aversion to risk and debt, frugality and prudence (EG). All of these values were important for the success of both SME.

The commitment is to customers, employees and suppliers. Decency is related to the behaviour with customers. Honesty strengthens the relationship with the customers, resulting in bounds between SME and costumers. Being humble is not forgetting where business-owner came from. Pride diverts the focus and underestimates competitors. Aversion to risk and debt was important in maintaining suppliers. Frugality inhibited the excesses and making possible cost cuttings. The expression keep the feet on the ground symbolizes prudence. Analyzed data shows that small business owner-managers from closure SME (ED, EE and EF) did not kept feet on the ground.

The latest mortality factor related to the owner-manager that influenced the performance of sample SME was the family support, described in the literature (Vale and Guimarães, L. de O 2010) as strong social ties (f). The support was financial, managerial, moral and operational nature.

Financial support was crucial at all cycle stages and identified as angel money – EB, ED, EF and EG used resources from relatives to start the business. The managerial support was identified at stage 1 (existence) and improved at stage 2 (survival) in EB, ED and EG through: discontinue operation decision, acquisition of a software, development of spreadsheets for financial control and performance indicators of employees. Moral support was identified only in EG and before starting the business by relatives. Operational support was identified in purchasing and selling activities (EF and EG) or construction of a customer portfolio, especially during stage 1 (EB).

Successful (EA, EB and EG) and closure (ED, EE and EF) small business owner-managers sample received financial, managerial or operational support at some point of life cycle stage. From the results of interviews with owner-managers strong social ties varies through life cycle stages, excepted at genesis stage and decision making of starting a business (Mizumoto et al. 2008; Vale and Guimarães, L. de O 2010), decreasing mortality or extending operation (as shown in EF, for example).

Discussion and conclusion

The financial and emotional costs of mortality of small businesses are high, both for country economics and owner-managers. A better understanding of mortality factor

through a managerial perspective will allow academic and practitioners to better assess the SME. Formal bridging of success and failure of SME should be emphasized as conduits for provides guidance towards mortality factors that should be considered by the small business owner-managers throughout the life cycle stages of SME.

The results of the research paper also raise a debate about the effectiveness of training efforts for SME. The needs of a start-up are different from the needs at genesis life cycle stage and even different from the needs at existence, survival or growth stages. Business programs show more good will than an actual diagnosis and knowledge of SME mortality factors. Business, economy or engineering education do not seem to prepare students for practical implications of the life cycle stages of SME, for example. The lack of fundamental abilities and formal educational in entrepreneurship contribute to SME closure (Arasti et al. 2014). These fit a theoretical prediction of Dandridge (1979) and Welsh and White (1981) that small businesses are not 'little big business'.

The research paper does not intend to be definitive about the subject, but to instigate. Small business owner-managers did not cite some 'sacred cows' of business literature even once, over more than 18 h of interviews, such as creativity and initiative, for example.

Life cycle stages highlight the specificities of small business at each stage. Typical problems in each stage are identified and, consequently, the factors that may or not may contribute to its survival. Therefore enables a better understanding of the factors that contribute to the continuity or mortality of small businesses. The importance of the factor varies from one stage to another.

In this research paper, based in the literature review and case studies, we empirically show that:

- individual characteristics (vision, full-time dedication, liveliness to managerial and operational activities, persistence and risk taken), experience, managerial knowledge, abilities (technical – specially in purchasing – human and conceptual) and strong social ties confirmed previous studies;
- individual characteristics (creativity and initiative), formal education, age and gender of owner-manager cited in previous studies was not identified in case studies; and
- individual characteristics (discipline), abilities (finance, IT and negotiation), attitudes (commitment, decency, honesty, humble, aversion to risk and debt, frugality and prudence) and strong social ties (family motivation) provides another mortality factors until now not discussed in previous studies.

The case studies from successful and failure SME provide important evidence for a better understanding of mortality factor through a managerial perspective by demonstrating that successful small business owner-managers shows individual characteristics (vision, full-time dedication, liveliness to managerial and operational activities, persistence, risk taken and discipline), abilities (purchasing, sells, negotiation, IT and finance), attitudes and strong social ties.

Findings of this research paper opens a number of potential avenues for future studies about SME mortality factors related to the owner-manager by examining each relevant factor at each life cycle stage of SME. Similarly future studies could be extended

to examine and formulate proper training and guidance to small business owner-managers focused in typical problems of each life cycle stage. This would help to further advance the case for development of SME.

However, this research paper, like most studies also suffers from limitations. The most obvious is that the sample, while heterogeneous, cannot be used to generalize to the overall population of small business owner-managers. The research paper explored just the clothing sector in Brazil, assuming from the start that each industry sector and national culture in each country has its own particularities, posing significant challenges to extrapolate the results.

Endnotes

¹The title of the article is “Business failures and the small-business man”, by Robert B. Hawthorn, published by *Journal of Accountancy* in 1935. The authors of this paper did not have access to the entire article.

²The systematic mapping study was conducted in February, 2016.

³All of the authors of this paper are members of the Group of Organizational Studies of Small Business. The Group has 18 years of experience and over the years more than 80 researchers conducted studies related to small business, from undergraduate students to PhD, postdoctorate and professors. The official website is <<http://www.geope.prod.eesc.usp.br/>>.

Authors' contributions

A.F.A., E.E.F., M.S.N. and L.A.P.J. designed this study, analyzed the data, and wrote the paper. The authors declare that all authors have read and approved the final manuscript.

Competing interests

A.F.A., E.E.F., J.O. and M.S.N. prepared the background. A.F.A., E.E.F. and M.S.N. designed the methods. A.F.A., E.E.F., M.S.N. and L.A.P.J. carried out analysis of results and discussion. M.S.N. and L.A.P.J. prepared the conclusions and the manuscript. A.F.A., E.E.F., M.S.N., J.O. and L.A.P.J. give final approval of the version to be submitted and any revised version. The authors declare that they have no competing interests.

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