
Growth management of service- and technology-based firms in sparsely populated areas

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Abstract: The aim of this study was to clarify growth management of service- and technology-based firms in sparsely populated areas (SPAs). This retrospective multiple case study reached this aim by investigating owner–managers’ experiences from the early growth process and by reflecting on these experiences through the meta-analytical management priority framework. The contextual management priorities were visited from the perspectives of service- and technology-based companies in SPAs. The owner–managers of service- and tech-based firms paid primary attention to three shared priorities: human resources, the development of services/products and organisational design, but in a different order and with context-specific characteristics. In service-based firms, owner–managers’ primary attention was on human resource management; meanwhile, the attention of owner–managers was primarily on the development and delivery of products/technology.

Keywords: growth, growth management, management priorities, service-based business, technology-based business, sparsely populated area, SPA

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1 Introduction

This study focusses on the priorities of growth management in early stage technology- and service-based enterprises located in SPAs. The management priorities can be studied by analysing what managers pay attention to and how they weight that information in solving problems (Smith et al., 1985) related to company management. The strategic management literature has addressed the issue within an attention-based perspective (Ocasio, 1997). The central argument of this approach is that firm behaviour results from how firms channel and distribute the attention of managers (Ocasio, 1997). The attention drives action – for example, the use of time, energy and effort. The decision makers actions depend on what issues they focus on and the results of these actions reveal managers' priorities (Ocasio, 1997, Smith et al., 1985).

Growth of firms is a central topic in entrepreneurship research (McKelvie and Wiklund, 2010; Shane and Venkataraman, 2000), and it is studied from multiple perspectives. A large body of research has focused on the factors leading to growth (Davidsson and Wiklund, 2006). This stream investigates many potential dependent variables that aim to explain varying rates of growth, while stages of growth studies concern the growth process (McKelvie and Wiklund, 2010).

Recent reviews, including Levie and Lichtenstein (2010); Muhos, et al. (2010) and Phelps et al. (2007), have provided detailed meta-analyses on the broad configuration

literature (or of the stages of growth literature) focusing on the process perspective. In the stages of the growth stream, growth is an independent variable, and the consequences of growth are examined (Leitch et al., 2010). These theories do not focus on what causes business growth; rather, they address how a new business adapts its internal processes to sustain its growth (Dobbs and Hamilton, 2007). This literature focused on the managerial challenges and the dominant problems faced during the growth (Davidsson and Wiklund, 2006; Dodge and Robbins, 1992; Kazanjian and Drazin, 1990; McKelvie and Wiklund, 2010). While the focus in the stages of growth literature is particularly on the problems caused by growth and their solutions, there are also positive outcomes of the growth process itself (Davidsson et al., 2010). However, we see that positive-related managerial issues have largely been ignored in the stages of growth literature.

According to the stages of growth perspective, as firms grow through stages, differing sets of problems occur and must be addressed and prioritised (Hanks, 1990). According to Coad (2007), Hanks et al. (1991); Miller and Friesen (1984) the term stage corresponds to a unique configuration of variables, such as problems and priorities the growing firm will likely face. Various growth stages require distinct management priorities (Dodge and Robbins, 1992). The managers' priorities reflect what is considered important (Smith et al., 1985). Managers' changing priorities during growth have been noted by several researchers (Carragher, 2003). While investigating priorities, authors examine what managers have emphasised and consider important during growth (Smith et al., 1985).

Technology-based firms are capital intensive and have innovative ideas and products (Miles et al., 1999). Moreover, the character of technology-based industries consists of rapid technological changes and product innovations (Karagozoglu and Lindell, 1998). Services consists of economic activities whose output is not a physical product or construction and is consumed at the time it is produced (Quinn et al., 1987; Carman and Langeard, 1980; Auzair, 2010; Homburg and Stebel, 2009). Moreover, the service sector diverges substantially from other industries regarding e.g. the nature of demand shocks, the poor ability to keep inventories and complex employee relations (Armington and Acs, 2004). The above perspectives cause context-specific challenges to the managers of service business differing substantially from the challenges faced in technology businesses. A comparison of these two contexts is therefore useful.

It is widely acknowledged the growth of firms is at least somewhat dependent on their location (Hoogstra and van Dijk, 2004; Mason and Harrison, 1985; Storey, 1994). Particularly, location plays a critical role in accessing important resources and capabilities (Freeman et al., 2012). Researchers have indicated the business constraints of a SPA (Anderson et al., 2005; Smallbone et al., 2002). In SPAs, businesses face challenges concerning market size, access to larger markets and infrastructure gaps (Siemens, 2010), and the poorer ability and capacity to innovate due to a lack of market competition (Porter, 1994). Low population density is reflected in the scarcity of potential partnerships and entrepreneurial networks (Audretsch et al., 2012) as well as research and development actors, business support agencies, educational actors, and training providers (Smallbone et al., 2002). Moreover, the small size and professional structure of labour markets may present limited channels for recruiting new employees (Smallbone et al., 2002).

Micro- and small-sized enterprises represent for 98.9% of all enterprises in the European Union. These 24.8 million enterprises represent 49,8 % of employment total (Muller et al., 2019). A micro- and small-sized enterprises are private enterprises with less than 50 employees and an annual turnover or balance sheet below €10 million (European Union Commission, 2003). Meanwhile, a great majority of service- and technology-based companies of Europe's sparsely populated regions remain non-employers (solo entrepreneurs) and/or very low or no-growth firms, the ones that succeed to grow, form an

important research object. In sparsely populated regions, micro- and small-sized enterprises form a dominant group, having more significance for the local economy than in the densely populated European growth hubs.

This study is part of a broader effort within the entrepreneurship literature to investigate what happens in managerial processes while a firm grows (McKelvie and Wiklund, 2010). There exists a need to provide more context-specific studies related to this topic. This study focusses on the growth management priorities of technology-based firms and service-based firms in sparsely populated regions. The aim of this study is to clarify the managerial priorities that owner-managers have perceived critical and paid attention to during the early business growth in SPAs. To address this aim, this study answers the following research question:

RQ1: What are growth management priorities during the early growth of technology-based and service-based companies in a SPA?

Accordingly, this article is structured as follows: In the theoretical part, the central management priorities of technology- and service-based firms are explored based on a comparison of two recently published meta-analyses. The empirical part of this study compares the growth management priorities of ten case companies located in SPAs: five technology-based and five service-based. In the discussion, the priorities recalled by the owner-managers of the case firm are described and reflected through the theoretical lens as an answer to the research question of this study, the theoretical and practical implications provided, and the limitations and pathways for the future studies discussed.

2 Central management priorities of technology- and service-based firms – synthesis of the recent literature

The management priorities of technology- and service-based firms were analysed and condensed in two detailed reviews and meta-analyses published earlier (Muhos et al., 2017; Muhos et al., 2018). The first targeted recently published and empirically based studies on service-based firms (Muhos et al., 2017). The metadata of this study consists of nine empirically based stages of growth models focused on the service business (Shim et al., 2000; Greiner and Malernee, 2005; Masurel and Van Montfort, 2006; Teeter and Whelan-Berry, 2008; Auzair, 2010; Van Tonder and McMullan, 2010; Witmeur and Fayolle, 2011; Ferreira et al., 2011; Empson, 2012). The second one was focused on technology-based firms (Muhos et al., 2018); The metadata analysed in this study consists of 14 recently published, empirically based studies focused on technology-based firms (Abetti, 2001; Garengo & Bernardi, 2007; Hanks et al., 1991, 1993; Hanks & Chandler, 1992, 1994; Kaulio, 2003; Kazanjian, 1988; Kazanjian & Drazin 1989, 1990; Mitra & Pingali, 1999; Poutziouris et al., 1999; Smith et al., 1985; Stam, 2007; Swiercz & Lydon, 2002; Van de Ven et al., 1984). In this study, we devise the main findings of these studies.

In these two in-depth meta-analyses, the main management priority themes of the service and technology businesses were condensed from the earlier empirically based literature focused on the early stages of growth in service and technology-based companies. As an interesting finding of these studies, the main growth management priorities of both the service-based firm and the technology-based business can be classified into nine main themes:

- Managerial focus
- Division of power
- Organisational structure
- Decision-making systems
- Strategic management
- Development and delivery of services (service business) or product/technology (technology business)
- Marketing management
- Human resources management
- Financial management.

However, the content of these growth management priorities seems to include differing characteristics of technology- and service-based firms. In the following theoretical part of this study, we reopened the data collected during the two separate meta-analyses of Muhos et al. (2017; service-based firm's viewpoint) and Muhos et al. (2018; technology-based firm's viewpoint) and compared the contents of these main management priority themes. The analysis is provided here starting from the first theme, focus, and ending at the ninth theme, financial management:

2.1 Managerial focus

This theme covers the changes in the manager's focus. Service business management concentrate first on the service development and delivery and market identity to ensure survival. Rules, procedures and financial controls are formalised to improve efficiency. To ensure sustainable growth, managers focus on new service generations, new business areas/locations and a uniform business culture. The managers of technology-based firms focus early on product and/or technological development, technical feasibility and, thereafter, the business development and the commercialisation. Resource generation and survival require attention. As a firm reaches market acceptance, its goals shift to market share by high-volume marketing and manufacturing. In a gradually maturing product market, the attention of managers shifts to improving the effectiveness and efficiency of the first generation and the development of following generation/s of the product/technology. Both the managers of technology- and service-based firms target early growth by building early customer base and reaching market acceptance. Moreover, growth management issues that constantly change require attention.

2.2 Division of power

This theme regarded who uses the power in growing technology and service businesses and how the power is used. In a growing service business, the company moves from owner-centric decision making to the gradual delegation of power and responsibilities. First, power is delegated to a small management team, and later, professional executives are called to support the management team, as a service business must concentrate on efficiency, rules, procedures and control in saturating its market. Finally, the team of founders is supported or replaced by experienced professional leaders to manage the growing portfolio of new services, business areas and locations and business culture. The newly established technology-based firm depends on the owner and/or a small number of partners, as it focuses on conception, development and commercialisation. Later, as market

acceptance is reached, the owner and/or partners remain central, but delegate responsibilities to a small management team. Finally, in a saturating market, competition increases, and the owner–manager(s) is supported by or replaced by a professional executive or team of executives. The models agreed that decision making was owner-centric in the beginning, as the founder/s led a small team. Moreover, both service- and technology-based firms face the need to delegate power as complexity and competition in a growing firm and in its business environment increases. First, power is delegated to a small management team and later, to experienced professional executives.

2.3 Organisational structure

This theme covers structural changes. Early in the service business, the structure is simple. As the company addresses the simultaneous development of service and market identity, owner centred, informal organisation is effective. As the company moves through market acceptance to growth and change, the structure is formalised through unavoidable task specialisation. As a market saturates, more formal tasks and roles are defined. Finally, a formal organisation with defined functions and processes is built as the company expands to new services, business areas and geographical locations. Early on, the organisation in a technology-based firm functions as a product development team because the company first addresses product and/ or technological development. When a product and/or technology is ready for commercialisation, the gradual formalisation of its structure begins with role specialisation. As the market saturates, efficiency and effectiveness are improved through structures and processes. A formal structure with defined roles is introduced, and more specialised functions and processes are added. The models agreed that firms start with a simple and owner-centric structure; however, along with commercialisation and growth, the structure is gradually formalised and defined. Specialised roles, functions and processes are added. As a market saturates, efficiency and effectiveness are improved through structures and processes.

2.4 Decision-making systems

This theme refers to the digital decision support systems needed to manage the growth of a business efficiently and effectively. Early on, when the service-based business targets parallel service and market identity development, decision-making procedures are informal and systems still absent. As company reaches market acceptance, scalable systems fit with the growing business are utilised. Later, in a saturated market, the service business introduces coded rules, strategies and policies, and sophisticated operations management system to maintain its market share and profitability. As a technology-based firm sequentially moves from product/technology development to commercialization, it already is starting to develop digital decision-making systems to build a scalable business. As market acceptance is reached, the firm introduces scalable systems. Finally, rules, strategies, and policies are coded and supported by sophisticated operations management systems in a saturated market. The models agreed that, in the beginning, decision-making procedures are informal and unsystematic and that scaling the business requires rapid development of scalable decision-making systems to cope with the rapidly growing business.

2.5 Strategic management

Strategic management refers here to the changing characteristics of long-term planning, patterns and/or ploys as the technology and service business grows. In service startup, owner-managers tend to have insufficient time for strategic planning due to handfuls of parallel tasks related to the development of services and market identity. As market acceptance is reached, central purpose of long-term planning is to ensure and sustain growth. As the company reaches mature stage, long-term planning is routinised financially supported. In the product/technology development team of a newly established technology business, the owner/s make the strategic decisions. As the company broadens its attention to the commercialisation of the product/technology, strategic decisions are made in collaboration between the owner and/or a few partners. As a company scales its product/technology strategic planning including strategies, rules, regulations and procedures is formalised and standardised. The models agreed that, in the early part of development, strategic management depends on owners' orientation to long-term planning and that, through the process of market acceptance, growth and saturation of the market, strategies should be shared, formalised and supported both financially and with human resources.

2.6 Development and delivery of services (service business) and/or product/technology (technology business)

This theme refers to how services or products/technology are developed and delivered during the early stages. The biggest structural difference between service and technology businesses is rooted in the diverse natures of a service and product. Meanwhile, a product can be produced at one time and place and consumed in another; accordingly, service production and delivery are parallel processes. Moreover, according to the models conception and development and commercialisation are separated in technology business, while in the service businesses, these are parallel processes during one startup stage. It takes time and resources before a company has something to sell. Analyses of the models showed that the service development is the primary focus and belongs to everyone in a new service start-up. As market acceptance is reached, the efficiency in delivery processes is prioritised as well as and scaling. Finally, as market saturates, innovative service development methods are introduced to remain competitive. In technology-based firm, conception and development are begun on a working technology and/or a prototype. The following commercialisation stage is characterised by early manufacturing and initial technical challenges as a company sells the new product/technology to its customers. As market acceptance is reached, the company need to scale the product. As the market saturates, the company must manufacture and distribute the product at an higher volume. New product generation(s) and profitability improvements are introduced to speed up growth and increase market share.

2.7 Marketing

This theme covers changes in the sales and marketing of a growing business. In a service startup, the central aim of marketing is to find early reference customers. As market acceptance is reached, number of customers and customer segments increase, which increases the sales and marketing workload. Later, in a mature market the marketing needs to refocus on innovation to defend its market position, to revise its business model and/or

to capture new business areas. In technology startups, the focal point of marketing activities moves in somewhat sequential order from the business idea's development, market identification and resource mobilisation (fitting conception and development) to early marketing activities (fitting the commercialisation of the product). As market acceptance is reached, the company must sell the product at an increasing volume, and new clients and new channels demand attention. As a market saturates, finding new market segments is essential for a company's renewal. The models agreed that marketing needs to be scaled with the business. As market acceptance is reached, new clients and channels require action. Moreover, in both the service and technology business, since the first growth market saturates, the identification of new markets is vitally important.

2.8 Human resources

Human resources refers here to how human resource management change during the early stages. In a new service business, the whole team is involved in everything as the company innovates new services and reaches towards recognisable identity in the market. As market acceptance is reached, it offers fast-track career development coupled with an increasing sense of hierarchy. Finally, in a saturated market, management needs to focus on employee efficiency and effectiveness. In a new technology-based firm, the organisation functions as a tech development team where the management style is creative, informal and flexible and communication is easy to manage face to face. As the company moves to the commercialisation of the product/technology, the management style remains participative and coordinative. However, as market acceptance leads to the scaling of the business, a sense of hierarchy increases. High growth may also lead to multiple types of personnel problems. Finally, as in a saturating market, efficiency and effectiveness challenges lead to task specialization, and employees may become specialised non-risk takers. The models agree that, in both service and technology businesses, the hierarchy increases, leading to a decreased sense of involvement, which may cause personnel problems.

2.9 Financial management

The theme of growth management refers to changes in financial growth management. According to the meta-analysis, a new service start-up moves often rapidly from negative cash flow to a cash flow breakeven, thanks to first customers. During take-off, market acceptance enables fast growth and positive cash flow, that boosts a virtuous circle of accelerated growth. Later, the growth of the cash flow decreases in a highly competitive and saturated market. In a technology-based firm, during the conception and development stage, cash flow falls into the red due to the lack of a product or market-ready technology. As the company has a market-ready product or technology to commercialise, the amount of negative cash flow starts to decrease. As market acceptance is reached, cash flow breakeven becomes a reality, and positive cash flow increases rapidly. Finally, in a maturing market, the growth of cash flow decreases, and a company must address efficiency and effectiveness and optimise its operations to remain competitive. One of the central differences between service- and technology-based firms is that, while the technology-based firm typically has nothing to sell in the beginning, service-based firms can start generating revenue from day one and develop services simultaneously. Death Valley is, therefore, typically deeper with technology-based firms. However, service and technology business-focused models agreed that, as a company faces cash flow breakeven and scales the business, cash flow increases rapidly. Moreover, the market saturates, and the positive cash flow starts to decrease both in service- and technology-based firms.

3 Method, data collection and research context

The research was executed as a multiple-case study (Yin, 1989; George and Bennett 2005). According to Yin (1989, p.23), “a case study is an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used”. Multiple case studies are considered robust and helpful in both generating and testing explanations (Herriott and Firestone, 1983). Theory testing and extension through a qualitative explanatory study is a useful step before conducting possibly pure theory testing of fully developed hypotheses, such as those commonly undertaken through a quantitative research design (Van Echtelt et al., 2008).

Multiple-case studies are a useful tool to create theory as they allow replication and extension among cases. Cases can be used for the independent corroboration of propositions, and this allows to perceive new patterns. Further, individual cases may add complementary aspects. By bringing together individual patterns, the researcher can complete the puzzle from a theoretical standpoint (Eisenhardt, 1991). The benefits of a multiple case study will be limited with too few or too many; a good amount of cases in a multiple case study is between four to ten (Eisenhardt, 1989; Stake, 2013). The research process of this study is presented in the following figure:

[Add here: Figure 1. The research process of this study]

Semi-structured interviews were conducted. Five product-based cases and five service-based cases in SPAs were analysed using the critical incident technique (CIT; Chell, 2004; Edvardsson and Roos, 2001; Fisher and Oulton, 1999; Flanagan, 1954) to clarify the underlying managerial priorities. A critical incident is an extreme behaviour that is either outstandingly effective or outstandingly ineffective related to the general aims of an activity (Fisher and Oulton, 1999). CIT facilitates the investigation of significant occurrences (events, incidents, processes or issues) identified by the interviewee, the way they are managed and the perceived outcomes (Chell et al., 1998).

CIT can be used to identify factors that lead to successful and unsuccessful performance in business growth, positive and negative incidents. On one hand, each case is unique. On the other, the incident types, contexts, strategies and outcomes may be applicable and therefore useful to other firms. Moreover, according to Chell (2014) CIT can be used to test and extend e.g. a conceptual framework, for which evidence can be sought in the data.

Cases were selected based on their service- or product-based focus, strong revenue growth and sparsely populated location. This study utilises the definition of a SPA described by Gløersen et al. (2006) that a SPA in Europe has a maximum population density of 12.5 inhabitants/km².

The interview frame consisted of two sections: the managers’ open-ended business growth stories and more detailed descriptions of the incidents experienced during business growth. The background characteristics of the cases are summarised in the following Table.

[Add ‘Table 1. Main characteristics of case companies.’ around here]

Interviews were conducted by the authors face-to-face and each interview was conducted within 44 minutes and 1 hour and 38 minutes. All interviews were audio-recorded and transcribed. Each transcript was read, re-read, and coded by three researchers by qualitative

data analysis software NVivo. The software was used for coding of and analysis of the interview data. Transcriptions were analysed qualitatively using a deductive approach (Crabtree and Miller, 1999). Each step was made according to a pre-defined research plan to establish a reliable chain of evidence. Finally, the data and analysis were saved to a permanent database to enable later review and analysis.

In 10 case studies, altogether 163 critical incidents were identified, most of them positive. In addition, 69 of the incidents were identified in service-based case companies (39 positive incidents, 30 negative incidents) and 94 of the incidents in technology-based companies (49 positive incidents, 45 negative incidents). Based on the analysis of the three researchers, the critical incidents were classified according to the nine main management priority categories derived from the theory. The results of the classification are presented here:

[Add 'Table 2. Critical incidents classified according to the nine main management priority categories derived from the theory.' around here]

Each incident was deductively reflected through management priority categories. If the incident included characteristics of one priority area, that management priority area was given the value 1. If one incident included characteristics of two priority categories, the more dominant priority was given the value 0.7, and the less dominant, the value 0.3 ($0.7+0.3=1$). If one incident included characteristics of three priority categories, the most dominant priority was given the value 0.5, the second dominant, 0.3, and the third one, 0.2 ($0.5+0.3+0.2=1$). No incident included characteristics from more than three management priority categories. By doing so, each incident represents the same value 1 in the classification despite characteristics from more than one management priority category.

The above-described analysis describes the quantity and distribution of the critical incidents recalled by the owner-managers of service- and technology-based firms in sparsely populated regions in Finland. The table depicts how different management priority themes are emphasised among the critical incidents experienced by owner-managers during the early development of these businesses.

4 Results

In the following sections, the case-specific content of the critical incidents recalled by managers of technology and service-based firms are discussed in detail regarding each of the management priority themes. First, in each section, the managerial perspectives of service-based cases A–E are described. Second, in each section, the managerial perspectives of technology-based firms are described. Finally, in each section, the shared experiences from both service- and technology-intensive firms are opened.

4.1 Focus

Survival, continuity (sustainable growth) and success by developing a profitable business was at the focal point of the owner-managers of the service-based firms (cases A, C, D). According to the CEO of Case A,

'Profitability has probably contributed the inspiration to continue business. Moreover, the continuity of work has occurred, and there was no such fear that this would end suddenly'. (CEO, Case A)

The profits were largely used in the company for ensuring continuity and growth. Proven profitability brought a good reputation and credibility in the market. The owner–managers of these service businesses needed to focus on procurement processes of their public and private sector customers. Cases A and B relied heavily on regulated public sector customers, which required continuous follow-up of the changes and agile reaction to the changes in the customer’s procurement processes and the legislation related to these processes. The public procurement processes were found bureaucratic, required substantial work and often led to disappointments. The service business operating in a sparsely populated region with low entrance barriers must take care of its competitiveness. The competition with large businesses from densely populated cities and metropolitan areas was considered a threat by the owner–manager of Case A:

‘In this race, you must be awake. This system works elsewhere, so big companies are coming from the big growth centres. Those can expand if desired, even to small localities.’ (CEO, Case A)

Technology-based companies had to develop their product or technological capabilities before being able to commercialise. It takes time and resources before there is anything to sell. However, at that point, finding good reference customers is vitally important and was the focal point of owner–managers. According to Case H:

‘With claws and teeth, we caught our references.’ (CEO, Case H)

With a proven technology in hand, the entrepreneurs understood the need to invest in sales and to get proven customers:

‘We have such good products that we are now seriously going to sell.’ (CEO, Case H)

The owner–managers of both the service- and technology-based firms concentrated on persistent self-development, especially related to management skills, and described it as having a positive influence on the growth of the company. The owner–managers of cases A and B related that constant and persistent self-development, especially related to management skills, improved the growth of the company. Similarly, the owner–managers of the technology-based companies highlighted the importance of the assertive development of one’s management skills during the early development of the business.

4.2 Power

Critical experiences related to power emerged only moderately from the data. Among service-based companies, the centralisation of executive power to the owner–manager during growth was perceived positively in Case B, where a major positive milestone was that one of the founders was hired as the full-time CEO of the company. This enabled the investment of significant time into business development.

In technology-based companies, positive incidents occurred as the business knowledge of the owner was strengthened through courses (Case G). Respecting power, positive developments progressed gradually as systematic management teamwork began in Case H. Moreover, power sharing was perceived positively in Case J, where two new shareholders increased human and financial capital. Negative incidents occurred when the entrepreneur’s personal life influenced his resources, and he could not focus on the business in Case I, which caused a power vacuum and uncertainty in the organisation.

Responsibility for power is vital; its absence may lead to negative experiences, as in Case J, in which the entrepreneur felt that he did not get assistance from the board in the face of adversities.

4.3 Structure

Company A has kept its thin organisational structure, and leaders of the teams make managerial tasks. In company B, an internal ownership arrangement turned out to be a good decision. The owner–manager *'wanted the majority of this company'* and bought out minority shareholders. Meanwhile, more new shareholders were obtained, resulting in a flat organisation and ownership-oriented business. Companies A and C had difficulties with the management of the growth and decentralising its team functions. Remote management is a challenging task when the operation starts. Virtual tools do not replace face-to-face meetings since:

'It is not the same thing as being physically present'. (CEO, Case C)

After acquisition, company D faces challenges in introducing its business policies and practices in an acquired part of the business. Owners' disagreements on how to grow led to the change in the possession of the company as well as organisational changes. These changes had a negative effect on the turnover of the company.

Company G established its board of managers at an early stage of the company's lifecycle. Company H shares ownership to commit key persons. A professional sales manager was hired, and a sales process, implemented. The organisational structure was clarified, and the decision making was simplified. In company J, employees took on more responsibility. ICT risks materialised in company F due to a system malfunction at the beginning of the entrepreneurship. The long-time overload caused by work stress dropped the entrepreneur's (company G) turnaround time for offers. Company H conducted the organisational rearrangement which had required heavy resources. Company's operations were distributed between two locations. In Case I, the entrepreneur felt stress due to shouldering the full responsibility and solitary decision making. Company J has challenges in its sales process, which did not work systematically.

The owner–managers of both the service- and technology-based firms have many types of ownership and resource management challenges because of their personal problems. The development of an organisational structure needs constant monitoring and fine tuning.

4.4 Decision-making systems

In service-based firms, the systems and their benefits are related to quality, especially quality development. Systems and solutions are concrete. For instance, according to Case A, the use of digital tools has improved an interaction between team members:

'Electronic tablet-based distribution books have been good things. Those have facilitated, accelerated and ensured quality'. (CEO, Case A)

Conversely, general digitalisation has been highlighted. Digitalisation and electronic systems have seen the step that everyone must take, like an intrinsic value or *'a top priority'* (Case A). One example of that is an electronic accounting system, which has been implemented by the company. For instance, Case C brings up how:

'It also allows [us] to tackle management issues'. (CEO, Case C)

Service-based companies also emphasised cultural/operational aspects for decision-making systems, not just concrete digital or electronic systems. Like in case B, the entrepreneur mentions an open culture in his or her company, implying non-hierarchical decision-making systems, where power is shared widely and solutions are sought together. This all results from a successful decision-making system.

The driving force behind the new decision-making systems in technology-based companies are the growing number of customers and production or challenges in the market (cases G, F, H, I and J). Decision-making systems are needed especially to respond to market changes and increasing customers. Like in Case H, an entrepreneur mentioned the turning point in the acquisition of an enterprise resource planning (ERP) system. In turn, the introduction of systems also presents challenges. Case H describes how the lack of understanding a system led to decision-making difficulties. The lack of systems has also led to higher production costs: Growing orders caused production problems. Production was inefficient, and the costs were too high (Case J). In summary, decision-making systems challenge first and foremost issues regarding products, their prices and their customers.

There are some differences between service-based and technology-based companies. Service-based companies emphasise the quality of work and interaction between team members in the company. Owner–managers speak about simple developing steps but very important and concrete development decisions for service-based firms. In contrast, technology-based firms mention decision-making systems with product and customer management (Case H). These perspectives are less apparent in service-based firms. However, in both types of firms, the importance of digital tool and decision-making systems seems clear. As micro- and small-sized enterprises, they do not have much experience with decision-making systems.

4.5 Strategic management

In service-based cases A and D, the owner–manager highlighted the strategic importance of scalability. The early strategic design of scalability to the core service enables the fast response to rising demand and rapid moves to new customer segments, markets and geographic regions. Finding the right time for scaling may take longer than expected, but a well-thought-out strategy enables the utilisation of the true window of opportunity. For example, Case D started strategic geographic expansion as late as seven years after its establishment, with positive results, while Case B was still considering and described remaining in its original geographic location (far from its main customer base) as a challenge. In Case D, strategic management was considered an iterative and experimental process in which the company continuously redefines its core assumption based on experimentation with real customers until it finds the geographically scalable service business model. According to Case D, small failures must be accepted as a natural part of this learning process. The owner–manager of Case B highlighted the importance of external support in building a financially sustainable strategy.

In technology-based firms, building a scalable product from day one was considered an important survival and growth strategy. Case H needed to pivot its strategy, as it noticed that it could not sell its products fast enough; it was unprepared for scaling. The owner–manager of Case H pointed out that the new technology-based firm must be prepared for scaling starting from its values, culture and strategy. These must be in line with scaling the business. Case E reported challenges with the abovementioned and could not move the company forward as fast as planned.

In all cases, strategic management was described as an owner-dependent process. The owner–managers of both the service- and the technology-based firms highlighted the strategic importance of a scalable business model (See cases A, B, D and H). Moreover, in both service- and technology-based firms, the implementation of a strategy for scaling was found challenging in practice.

4.6 *Development and delivery*

In service-based companies (See, e.g., cases B and C), large public sector projects and assignments provided opportunities for rapid service development. Moreover, the success of large projects with well-known customers increased the credibility of the company (cases B and C). Sales growth provided additional resources for further service development (Case D). Improved expertise and equipment enabled the development of an extended, diversified service concept. In Case E, specialized service teams were formed to enable simultaneous service delivery in multiple customer sites, which increased efficiency. However, Case C tried the parallel development of multiple new service segments which, due to limited resources, was an ineffective approach in a highly competitive market.

In technology-based companies, improvements in the production processes and quality of products were highlighted. Companies needed to invest in the improvement of a product development process, and methods evolved, for example due to the rapid growth of market demand (Case I) and through industry-specific requirements (standardisation, Case G). As one concrete example, the modular design of parts and products was implemented to enable scaling to multiple products and product families. Resource-intensive pilot projects in the right environment turned out to be a successful way of development, as in Case H. In Case J, development- focused packaging and production was ramped up through the acquisition of the first big customer.

The development and delivery of complex services and products is time critical. Both service- and technology-based firms faced challenges and failures in delivering complex services (e.g. Case B) and/or products (e.g. Case F and J) on time to reference customers. The failure at critical moments led to economic challenges (Case B) and the loss of a promising key customer (Case J).

4.7 *Marketing*

Getting profitable reference customer cases was found difficult for the service-based Case A, as the new service firms had limited negotiation power.

'Negotiations with significant [Customer identity removed] presented a critical challenge. When [Customer's market] is falling, they are so lazy about negotiating

price increases with us. Rather, they talk about price discounts, and so, we have also faced that price discounts must be realised'. (CEO, Case A)

In Case B, the whole new service business concept was new to the suppliers upstream the value chain, leading to challenges in getting the necessary inputs. As one of the key challenges, new service-based firms lacked both human and financial resources necessary for effective marketing (Case C).

In technology-based cases F and I, switching to e-commerce was found to be the key factor of successful business development and scaling. It was a big investment for a newly established enterprise, but it paid back through its scalability potential. Moreover, in Case H, collaborative marketing efforts with strong technology partners was found effective. In Case G, an industry-specific standardisation certificate boosted rapid sales growth.

Both service firms and technology firms (A, B, C, F, G, H, I) had limited resources for marketing. Therefore, marketing, especially mass marketing, was found expensive in both service- and technology-based firms. In both service-based firms (cases A and D) and technology-based firms (Case I), some owner-managers highlighted the importance of reference customers for increasing customer awareness in the beginning. Building credibility was found an important and challenging task both up and downstream the value chain (cases A and B).

4.8 Human resources

As a special characteristic of service-based companies (cases A and B), owner-managers highlighted that the division of responsibilities according to employees' own motivation and strengths supported positively responsible action and the self-direction of employees.

As a special characteristic of technology-based companies (cases F and H), owner-managers emphasised the importance of systematic training, both from the perspective of employee commitment and the development of highly specialised skill sets:

'Sales expertise was increased by training. The sales team was established. Training and consulting were acquired. Systematic processes simplified recruitment and orientation [of employees]'. (CEO, Case F)

In both service- and technology-based firms, personnel were perceived as a key enabler of the growth of the business (all cases). Success in the recruitment of the right people (cases B, D, H and I) with an entrepreneurial attitude and skills necessary for growing businesses was described as key. Case D underscored the importance of an entrepreneurial attitude the following way:

'All [recent recruits] have entrepreneurial backgrounds...and because they all have been financially responsible for their own work, it feels that they understand better than someone who has always been in paid work'. (CEO, Case D)

Keeping the key persons committed to the growing business was found challenging in many of the case companies (cases A, C, E, F, G and J), as losing a key person caused the sudden loss of, for example tacit knowledge, training, expertise, a network and/or experience. In Case E, as an example, a key person continued a competing activity at

another company. As the number of employees increases, owner–managers must cope with a growing number of human resource management issues (cases A, C, D, E and H), including such issues as working time, task division, payroll, holidays, summer deputies, sick leaves, absence from work, work motivation, well-being, legal issues, childcare issues and family issues. It gradually becomes necessary to develop a specialised human resource management capability and function. Finally, in a rapidly growing company, owner–managers should take care of their own managerial competence and well-being in an increasingly challenging task-time setting (cases A, C, D and I). According to the owner–manager of Case I,

‘The whole time, I was expanding my own limits. It was sometimes unclear whether the business is in control or not. It’s stressful’. (CEO, Case I)

4.9 Financial management

As a special trait of a service-based firm functioning in a public-driven market (Case A), it was important to develop the capability to participate and win public tendering processes. It was only possible to grow in this market through proven success cases.

As a specific characteristic of growing technology-intensive firms, companies (cases G, H and J) needed external funding for product and/or technology development. According to the owner–managers of cases H and J, external funding was a necessity for survival. Furthermore, according to the owner–manager of Case J, in Finland, exportation is a must, as the home market is too small; the company eagerly sought external funding for boosting international growth.

Many owner–managers of both service- and technology-based firms described a proven track record and reputation as a cornerstone of their sustainable growth management (cases A, C, D, G and F). Reputation, within the Finnish context, is built through proven customer cases, which may take a long time, as described by the owner–manager of case C:

‘It took a couple of years before we in some way pushed ourselves to the market. Customers began to believe in us. It was such a positive message that our professionalism was so good that the market approved it and the customers started coming in’. (CEO, Case C)

The same applies to credibility, as described by Case E:

‘The lack of a track record presented a critical challenge at the inception. It was really difficult to buy stuff first when they wanted to see all the history information and stuff. So, we had a credibility problem’. (CEO, Case E)

5 Discussion

The aim of this study is to clarify the managerial priorities that owner–managers have considered critical and paid attention to during the growth of technology and service-based businesses in SPAs. To address this aim, this study answers the research question: *What are growth management priorities during the early growth of technology-based and service-based companies in a SPA?*

Based on the analysis presented in detail in Section 4, Table 2, among the studied cases, there were more critical incidents concerning some management priority themes than others. Moreover, when the service- and technology-based cases are compared, the distribution of the incidents along management priority themes is different in the studied cases. In the following table, management priorities are presented and compared based on the distribution of critical incidents.

[Add 'Table 3. The order of nine main management priorities based on the recurrence of related critical incidents during the early growth of technology and service-based enterprises in sparsely populated regions' around here]

The management priorities of service and technology businesses were in a different order than the service- and technology-based firms based on this analysis. The highest management priority of the service-based firm is human resource management, followed by managerial focus, organisational structure and the development and delivery of services. The top priority of technology-based firms was the development and delivery of a product/technology followed by human resource management, decision-making systems and organisational structure. The shared themes among the top four were human resource management, the development and delivery of services or products/services, and organisational structure.

The content analysis of critical incidents revealed more contextual differences as service- and technology-based firms were compared. The condensed results of the analysis are presented in the following table:

[Add 'Table 4. Management priorities of technology- and service-based firms in SPAs.' around here]

The main findings from the cases were in line with findings condensed from the earlier stages of growth (also labelled *configurations*) literature addressed the growth process. Both the managers of service- and technology-based firms invested time during the early growth process in the establishment of an early customer base and reaching market acceptance; growth management issues required attention. The same applies to separate theory-based descriptions of service- and technology- driven contexts. The studied service-based cases revealed several context-specific perspectives about the focus of owner–managers. First, the procurement processes of public- and private-sector customers required owner–managers' attention. On one hand, procurement processes (especially in the public sector) were bureaucratic, required substantial work and often led to disappointments. On the other hand, a good procurement process ensures transparent, fair competition and the effective use of a buyer's resources. Second, public procurement processes, guided by European legislation, require specific attention and, often, time. In Finland's sparsely populated context, the relative importance of public sector customers is higher than in cities. Third, the service business, operating in a sparsely populated region with low entrance barriers, must take constant care of competitiveness to cope with potential competition from cities and metropolitan areas. A technology- driven growth strategy, often found in technology-based firms, but especially typical to the Finnish context, was highlighted by some owner–managers. According to some owner–managers, the product must be ready before presenting it to the customers. This approach contains a high risk of developing a technology the customer does not want. Involving potential

customers in technology development processes starting from day one lowers the risk of wasting time and resources for developing unnecessary products.

The two management priorities most frequently recalled in service- and technology-based firms are (1) human resource management and (2) service or product/technology development (See Table 2). In the service-based firm, human resource management was the most often recalled priority; in technology-based firms, it was the development and delivery of products/technology.

From the perspective of human resource management, in service businesses, task sharing according to strengths and motivation leads to responsible action and self-direction, while technology-based firms invested in systematic training to support the commitment and development of highly specialised skill sets. In a tech-based firm, losing a key person risks the sudden loss of, for example tacit knowledge, training, expertise, a network and/or experience. Recruiting and committing people with entrepreneurial attitudes and skills was found critical in both service- and technology-based firms. Both found it necessary to introduce specialised HR functions along a growing number of human resource issues, including working time, task division, payroll, holidays, summer deputies, sick leaves, absence from work, work motivation, well-being, legal issues, childcare issues and family issues. In early stage service and technology firms, an owner–manager’s competence and well-being needed attention, as the number of staff increases rapidly. As contradictory aspects related to the theory, owner–managers of the studied businesses reported they want to keep a small power distance from their employees. The case companies seemed to succeed in their approach. Some owner–managers further highlighted the importance and advantages of owner–managers’ trust in employees’ motivation, self-direction and responsible action. These can be considered context-specific traits with roots in Finland’s culture. Finland, as a culture, resembles most other Nordic countries concerning its cultural roots—it is an individualistic culture with small power distance (Hofstede, 1980, 2003).

From the perspective of development and delivery, in service businesses, leading public and private reference customers enabled rapid service development and provided credibility. In technology-based businesses, investments were made in the product development process and methods to respond to demand and industry-specific standards. Both service- and tech-based firms faced challenges in delivering complex services and/or products to reference customers on time. Case studies supported the assumption that, in a technology business, development and commercialisation are sequential stages, while in service businesses, these are parallel processes. Therefore, service businesses were able to experiment with services from day one with real, paying customers. Proven customers enabled further investments into the efficiency of the service. Product/technology development takes time and resources; meanwhile, a company has nothing to sell, which was confirmed through these cases. However, even though these companies were clearly characterised as service or technology businesses, some case companies from both categories included some elements from the other. These hybrid characteristics, services as part of a product/technology firm’s portfolio and additional physical products/technology as part of the service firm’s portfolio require further attention.

The third shared key management priority in both service and technology businesses was organisational design. Findings are in line with the theory that companies start with a simple, owner-centric structure. The structure will change when the growth of the company materialises. The change will come among other more specialised job roles, formal functions and defined processes. Moreover, time management is a burning challenge and an obstacle to owner–managers. They need to balance strategic business planning and daily

business operation. Keeping a flat organisation requires constant fine tuning and endurance from the owner–managers.

Interestingly, the management priorities among the least frequently mentioned were, starting from the least frequently mentioned, division of power, strategic management, marketing management and financial management. First, these case companies did not face many dramatic power issues during their early growth. Concerning power, the main findings are in the line with the theory that decision making is owner-centric in the beginning, as the owner–manager or team of owner–managers leads only a small group of employees. In a growing business, the owner shares operational decision making and responsibilities with others. Second, strategic management was not often mentioned, either. Nonetheless, it was highlighted that, in scaling, strategies need to be shared, formalised and supported by adequate financial and/or human resources. Building a scalable business was considered a strategic decision – the culture, values and strategy for scaling should be built starting from day one. Third, all cases provided support for a theory-based assumption, that marketing needs to be scaled alongside business growth. Digital marketing methods provide a cost-efficient, fast track for scaling for early-stage businesses with limited resources. In line with the theory, the early marketing effort in service-based firms targets attracting early customers from day one, while the marketing effort of a technology-based firm moves more sequentially from market identification and resource mobilisation (fitting conception and development) to early marketing activities (fitting the commercialisation of the product). As market acceptance was reached, new customers and market channels require constant attention both in service and technology-based firms. Fourth and finally, compared to the growth management priorities derived from theory, owner–managers of both service- and technology-based firms described a proven track record and reputation as a cornerstone of sustainable growth management. Reputation, within the Finnish context, is built through proven customer cases, and therefore, it may take a long time to reach considerable market acceptance. Early references are important. From the perspective of growth management, Finnish technology-based firms had extensive funding sources for technology development but only limited funding options for commercialisation. Moreover, the tendency to value a proven track record with a low risk–reward ratio over highly promising technological breakthrough ideas with a high risk–reward ratio seems to limit rapid scaling and international growth.

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Figures and tables

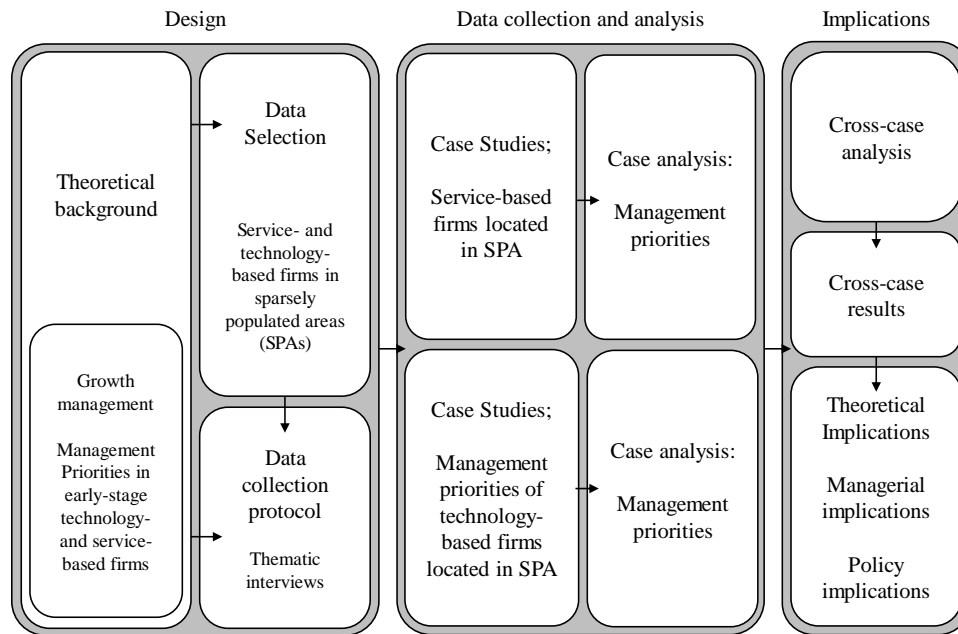


Figure 1. The research process of this study

Table 1. Main characteristics of case companies.

Case	Founded (year)	Number of employees	Revenues (€)	Service description
<i>Service-based companies</i>				
Case A	2009	12	1,400,000	Logistics company focused on early morning deliveries
Case B	2003	2	950,000	Bioenergy production services
Case C	2010	7	450,000	Construction consultancy and engineering office
Case D	2009	4	900,000	Imports and sells industry products and supplies
Case E	2012	5	670,000	Fireplace construction services
<i>Technology-based companies</i>				
Case F	2003	5	335,000	Plant propagation technology

Case G	2007	3	260,000	Steel product manufacturing for site preparation
Case H	2008	17	1,200,000	Mechanical and process engineering design
Case I	2009	1	209,000	Design and manufacture of accessories for motor vehicles
Case J	2010	8	440,000	Manufacture of wood and products of wood

Table 2. Critical incidents classified according to the nine main management priority categories derived from the theory.

Number of critical incidents related to management priorities (MPs)										
<i>Service-based case companies</i>										
Case	MP1	MP2	MP3	MP4	MP5	MP6	MP7	MP8	MP9	Total
A	4.5	0.0	3.0	2.0	2.0	0.0	1.0	3.0	1.5	17.0
B	3.0	0.5	1.5	2.0	1.5	4.0	0.5	3.0	1.0	17.0
C	1.5	0.0	1.0	1.0	1.0	1.5	1.0	6.5	1.5	15.0
D	1.0	0.0	3.0	0.0	2.0	1.5	1.0	2.0	1.5	12.0
E	0.5	0.0	0.5	0.0	0.0	1.5	0.0	3.5	2.0	8.0
Total	10.5	0.5	9.0	5.0	6.5	8.5	3.5	18.0	7.5	69
<i>Technology-based case companies</i>										
Case	MP1	MP2	MP3	MP4	MP5	MP6	MP7	MP8	MP9	Total
F	1.9	0.2	1.3	1.8	0.6	5.6	0.9	3.7	1.0	17.0
G	1.9	1.3	2.0	1.1	0.9	1.7	1.5	1.9	1.7	14.0
H	4.0	1.0	5.4	6.3	1.7	4.0	1.0	7.6	1.0	32.0
I	0.0	1.0	1.3	1.0	0.0	4.5	3.5	4.7	0.0	16.0
J	0.3	1.7	2.6	3.6	0.7	3.4	0.0	0.7	2.0	15.0
Total	8.1	5.2	12.6	13.8	3.9	19.2	6.9	18.6	5.7	94
All cases										
Total	18.6	5.7	21.6	18.8	10.4	27.7	10.4	36.6	13.2	163

Table 3. The order of nine main management priorities based on the recurrence of related critical incidents during the early growth of technology and service-based enterprises in sparsely populated regions

Management priorities in service-based firms	Management priorities in technology-based firms
1 Human resources management	1 Development and delivery of a product/technology
2 Managerial focus	2 Human resources management
3 Organisational structure	3 Decision-making systems
4 Development and delivery of services	4 Organisational structure
5 Financial management	5 Managerial focus
6 Strategic management	6 Marketing management
7 Decision-making systems	7 Financial management
8 Marketing management	8 Division of power
9 Division of power	9 Strategic management

Table 4. Management priorities of technology- and service-based firms in SPAs.

Service business characteristics	Tech business characteristics	Common characteristics
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Managerial focus	Survival, continuity and profitability. Public and private procurement.	Sequentially from proven product/tech to proven customers and volume sales.	Persistent self-development of management skills and capabilities.
Division of power	Owner-centric division of power. From part-time to full-time leadership.	Systematic power sharing through teamwork and added shareholders.	<i>No shared characteristics.</i>
Organisational structure	Flat organisational structure was maintained, supporting a participative team management.	Flat organisation was maintained and supported by external board and new active owners.	Keeping a flat organisation required endurance from the owners and constant fine tuning.
Decision-making systems	Decision-making systems were added to improve the quality of work, interaction operations, culture and service.	Decision-making systems were added to manage growing number of customers and volume production.	Digital decision-making systems enabled scaling with limited resources and a flat organisation.
Strategic management	Strategic scalability of service to new customer segments, markets and geographic regions.	The values, the culture and the strategy scale the product, starting from day one.	Strategic management as owner-dependent process. Strategic importance of scalable business model.
Development and delivery	Leading public and private reference customers enabled rapid service development and provided credibility.	Investments in the product development process and methods to respond to demand and industry-specific standards.	Challenges in delivering complex services and/or products to reference customers on time.
Marketing management	Hard-to-find profitable reference customers due to the limited negotiation power of a new service business.	E-commerce was found as the key factor of successful business development and scaling in new tech businesses.	Limited human and financial resources for effective marketing. Importance of reference customers.
Human resources management (HR)	Task sharing according to strengths and motivation led to responsible action and self-direction.	Systematic training support commitment and development of highly specialised skill sets.	Recruiting and committing people with entrepreneurial attitudes and skill sets is critical. Specialisation of HR. Owner-manager's competence and well-being need attention.
Financial management	Proven success cases and financial growth by participating in and winning public and private service tenders.	External funding needed for product and/or technology development. It was considered a necessity for survival.	Credibility through proven customers. Proven track record and reputation as a cornerstone of sustainable growth management.