Department of Management Studies

Strategic human resource management in small service firms

Timo Rinne

Aalto University

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Abstract

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Abstract

This dissertation examines how entrepreneurial service firms can develop and deploy their human resources to enable efficient opportunity implementation processes and to manage daily operations simultaneously. The main research question is supported by specific sub-questions that analyse special requirements of the service business, development of organisations and individuals to fulfil these requirements, how to apply resource orchestration processes in entrepreneurial service firms during implementation of new opportunities, and how to apply organisational ambidexterity during new service development processes. Interpretative research methodology is applied with using semi-structured interviews and participant observation as the main data collection methods. Empirical data is collected from the service development projects from 12 Finnish and international service firms in the IT and security business fields.

The structure of this dissertation consists of an introduction chapter followed by three distinct essays. The research is based on qualitative methods, with each essay providing multiple case-studies. The first essay evaluates differences between the product business and the service business, specifically the skills and competencies required from service firm employees. It also examines how entrepreneurial service firm managers can further develop these service-specific skills. The second essay examines how the concept of resource orchestration is implemented among the case firms and their respective human resource management practices. Finally, the third essay focuses on organisational ambidexterity and its usability in the process of new service development.

The results of this dissertation argue that small service firms need to recruit and educate multi-skilled employees who are willing and capable to engage in ambidextrous behaviour. The main value and competitive advantage for the service firms is based on the people and their knowledge and skills, which are exclusive to the service business itself. This dissertation extends the existing theoretical frameworks by introducing models how ambidextrous behaviour and different leadership styles can be implemented at different stages during new service development projects.

Keywords Strategic human resource management, entrepreneurship, service business, organisational ambidexterity, opportunity development

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Tiivistelmä

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Tiivistelmä

Tässä väitöskirjassa tarkastellaan, miten pienet palveluyritykset voivat ohjata ja kehittää henkilöresurssejaan siten, että uusien liiketoimintamahdollisuuksien kehittäminen ja päivittäisen liiketoiminnan ylläpitäminen on mahdollista rinnakkain samoilla henkilöresursseilla. Tutkimuskysymystä käsitellään väitöskirjan johdanto-osiossa sekä kolmessa esseessä laadullisen tapaustutkimuksen avulla. Ensimmäinen essee käsittelee palveluliiketoiminnan erityispiirteitä ja vaatimuksia henkilöstön osaamiselle sekä käytäntöjä miten yritysten johto voi tukea ja kehittää henkilöstönsä palveluliiketoimintaan liittyvää osaamista. Toinen essee tutkii strategisen yrittäjyyden henkilöstöjohtamisen konseptia ja sen soveltuvuutta pienten palveluyritysten toimintaan. Kolmas essee tutkii organisaatio- ja yksilötasolla niin sanottua ambidekstriaa eli kehitys- ja tehokkuustoimintojen välisiä suhteita uusien palvelukonseptien kehittämisen eri vaiheissa sekä miten yrityksen johto voi optimoida näiden toimintojen välisiä suhteita.

Tutkimusmenetelmänä on käytetty laadullista ja tulkitsevaa tapaustutkimusta. Empiirinen tutkimusmateriaali on kerätty yhteensä 12 suomalaisen ja kansainvälisen IT- ja turvallisuusalan palveluyritysten kehitysprojekteista. Tutkimusmateriaali on kerätty pääasiassa puolistrukturoitujen haastattelujen sekä osallistuvan havainnoinnin avulla.

Tutkimuksen keskeinen havainto on, että voidakseen samanaikaisesti kehittää uusia palvelukonsepteja ja ylläpitää päivittäistä liiketoimintaa rajallisilla henkilöresursseilla, pienten palveluyritysten tulee rekrytoida ja kouluttaa moniosaajia, joilla on kyky omaksua palveluliiketoiminnan erityisvaatimukset. Näillä henkilöillä tulee olla kyky ja motivaatio sekä palvelutuotantoon että -kehitykseen liittyvään toimintaan. Tutkimus laajentaa nykyisiä teoreettisia viitekehyksiä esittämällä toimintamalleja, joiden avulla henkilöresursseja voidaan ohjata ja kehittää palvelukehitysprojektien eri vaiheissa optimaalisella tavalla sekä motivoida henkilöstö hetkelliseen ylikuormitukseen ja itsensä kehittämiseen uusien kehityshankkeiden aikana.

Avainsanat Strateginen henkilöstöjohtaminen, yrittäjyys, palveluliiketoiminta, liiketoimintamahdollisuuksien toteuttaminen

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Since I started my working career about 30 years ago, I have studied something along the work almost all these years. Studying projects have followed each other and it has sometimes been challenging to synchronise them with the other areas of life, but most of the time I have enjoyed and had fun. Now I have arrived at the final destination of my doctoral journey. However, even though this milestone has been the most challenging for me so far, I hope that my ever-lasting curiosity and passion to learn something new does not stop here.

I started the doctoral studies in entrepreneurship and small business management in 2010. In the beginning of my studies professor Markku Virtanen introduced me the concept of strategic entrepreneurship. At that time I was working with small service firms from the IT service sector in different roles. I found the concept very interesting to be used as a theoretical framework to examine business development activities in those firms. I was lucky to be able to use these firms as case studies in my research. The final topic of research evolved during the years to focus on how the firms could manage situations where they needed to maintain daily business to survive, and to implement new opportunities to grow, simultaneously. The focus was narrowed further after getting familiar with another interesting concept, organisational ambidexterity. Insights to these theoretical concepts have given me some explanations to my personal behavior as well.

Professor Markku Virtanen was my first dissertation supervisor, and he has been the greatest source of inspiration for me during this journey. I want to thank Markku for his encouragement and support during the first years of my studies. Later on several persons have supervised and supported my work; professor Arto Lahti, professor Paula Kyrö, doctor Gregory O'Shea, professor Teemu Kautonen, professor Chris Ivory and professor Arne Kröger. I want to thank all of you for your support in developing and finalising my dissertation at required academic level. I also want to thank pre-examiners professor Henri Hakala and professor Simon Down for ensuring compliance of this dissertation with academic requirements, but also pointing me areas for further improvement. I am also grateful to the owners and managers of the case firms, who gave me an opportunity to get deep insight into the operations of these firms, and to use them as sources of empirical research data. I am grateful for

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Vihti, 21 July 2019
Timo Rinne

Contents

List of figures and tables

List of essays

This doctoral dissertation consists of a summary and of the following publications which are referred to in the text by their numerals

1. Rinne, Timo. (2015). "Strategic resource management in the service sector". In Developing, Shaping and Growing Entrepreneurship. Fayolle, A., Kyrö, P., Liñan, F. eds. Edward Elgar Publishing.

2. Rinne, Timo. (2014). "Human resource orchestration for the implementation of entrepreneurial opportunities". Journal of Entrepreneurship and Organization Management, 4(1), 1-7.

3. Rinne, Timo. "Organisational ambidexterity in entrepreneurial opportunity process – Case: new service development". Unpublished manuscript.

1. Introduction

This dissertation examines the ever-lasting challenge of small entrepreneurial firms, investigating how scarce resources are used for daily business operations and, at the same time, new business opportunities are sought and implemented. Both of those activities are required to survive in modern, dynamic business environments. In the early stages of a firm's life-cycle, the firms must dedicate their time and energy to existing business operations and ensure positive cash flow to survive. On the other hand, these entrepreneurial firms also need to find and implement new business opportunities to ensure future success.

The service business sets specific requirements for organisations and employees that differ from those of product or manufacturing businesses. For example, organisations support development of tacit knowledge, which is required to create competitive advantages in service businesses. These specific skills and competencies are related to communication and understanding of both the customer requirements and the firm's capabilities. The goal of this study is to examine how scarce resources in small service firms can be developed and deployed successfully, both simultaneously in daily operations and in opportunity implementation processes.

1.1 Background

Over the past two decades, there has been a strong movement from the product business to the service business (Lee et al., 2007; VTT, 2009; Penttinen, 2007). Service businesses have been recognised as more profitable than product businesses. Moreover, research has indicated that service businesses grow more easily than product businesses (Penttinen, 2007). The skills and competencies required within services businesses are different than those needed for product businesses. Thus, in order to use human resources efficiently, resources must be managed differently than in the product business (Parasuraman et al., 1985; Parasuraman, 2010; Cruz-Ros, 2009; Othman, 1999). The skills and competencies needed in service businesses are based on tacit knowledge. For example, in the service business it is important to communicate with the customer, understand their needs, be creative to formulate a solution which solves the customer's problem, and also understand operational and technical limitations of the service provider (Kannan & Proenca, 2010). As a result, strategic entrepreneurship (SE) offers an appropriate concept to manage human resources within service firms that generally explore new business opportunities while maintaining daily operations to guarantee the firm's positive cash flow. By focusing on developing and maintaining an entrepreneurial management culture, SE supports the same personal characteristics required by service businesses. An entrepreneurial mindset identifies new business opportunities while fostering creativity, innovativeness, tolerance for failures and continuous questioning of existing dominant logic, which are key areas in entrepreneurial culture (Ireland et al., 2003).

However, limited research has been conducted regarding the relationship between SE management culture and service-specific characteristics, skills and competencies. Although several studies investigate entrepreneurship and service businesses as such by considering, for example, the impact of entrepreneurial orientation on the performance of the service business (Lee & Lim, 2009), and personal entrepreneurial competences between entrepreneurs and CEOs in the service sector (Garzón, 2009), there is lack of research examining the usefulness of SE management culture for service-specific skill and competency development.

However, entrepreneurial literature does provide resource orchestration as a concept which describes how different resources are used to develop a firm's competitive advantage (Sirmon et al., 2011). The process of resource orchestration includes phases of structuring, bundling and firm resource leveraging. Each of these phases is divided into three sub-processes (Barney et al., 2011; Sirmon et al., 2011; Hitt et al., 2011). Overall, resource orchestration offers a useful framework for entrepreneurial service firms to manage human resources during opportunity implementation. In fact, resource orchestration research has suggested that the firms may focus on different phases and sub-processes of the concept in different stages of the firm life-cycle (Hitt et al., 2011). Regardless, research regarding how certain business fields such as service businesses, and specifically small entrepreneurial service firms, utilise resource orchestration in strategic human resource management is still lacking.

The term organisational ambidexterity (OA) has been utilised to describe an organisation's ability to perform two different activities simultaneously. In business contexts, these activities are exploitative, where business is conducted based on existing technologies, markets and capabilities, and explorative, where businesses are based on new technologies, markets and capabilities (Tushman & O'Reilly, 1996; O'Reilly & Tushman, 2013). Several studies have revealed that OA has a positive impact on firm growth (O'Reilly & Tushman, 2013; Raisch et al., 2009). However, few studies have argued that OA can negatively impact a firm if it pursues exploitation and exploration simultaneously

(Parida et al., 2016). In addition, some studies have proposed that OA should be applied only in certain circumstances or situations, where the success is based on a context in which OA has been applied in business activities (Junni et al., 2013; Gibson & Birkinshaw, 2004; Parida et al.2016). However, limited research has been conducted which examines if exploitative or explorative behaviour should be applied in the development of innovations and new services (Fischer et al., 2010; Kindström et al., 2013; den Hertog et al., 2010). In fact, existing research has often investigated the linkage between human resource management and development of innovations and new services through other theoretical lenses such as, for example, the concept of dynamic capabilities. Thus, the perspective of OA is missing.

The concept of new service development (NSD) includes four stages which are necessary to implement new business opportunities for service businesses. These stages include: 1) design, 2) analysis, 3) development and 4) full launch (Johnson et al., 2000). By examining these stages and the capabilities needed at each stage in more detail, we can conclude that OA is a useful framework for managers in the process of new opportunity implementation. However, there is a lack of research considering how OA should be applied in the NSD process and its different stages.

The present dissertation contends that for entrepreneurial service firms, managing and operating existing business concepts based on existing technologies, markets and capabilities while simultaneously seeking for new opportunities and implementing them successfully is indeed challenging. Effective development and deployment of human resources is critical for simultaneous operations management and opportunity implementation. Therefore, the dissertation proposes that with the help of entrepreneurial culture and the development of service-specific skills and competencies, it is possible to be successful in the dynamic service business markets. Both organisational ambidexterity and the resource orchestration process offer appropriate frameworks for managers if, as valuable tools, they are used correctly.

1.2 Research questions and gaps

The main research question that drives this dissertation is as follows: How can entrepreneurial service firms develop and deploy their human resources to simultaneously enable efficient opportunity implementation processes and daily operations management? This question is addressed from two different perspectives. First, the dissertation analyses product business and service business differences, specifically considering the skills and competencies required in the field of the service business. Furthermore, it also examines how entrepreneurial service firm managers can develop these service-specific skills. Second, the dissertation determines the usability of theoretical frameworks for simultaneous management of existing business operations and new opportunity implementation. Both resource orchestration (Sirmon et al., 2011) and organisational ambidexterity (Tushman & O'Reilly, 1996; O'Reilly & Tushman, 2013) are frameworks used in this dissertation. In addition, this dissertation investigates the process of opportunity implementation through traditional entrepreneurial literature (Ardichvili et al., 2003; Baron, 2006; Buenstorf, 2007; Holcombe, 2003; Sarasvathy et al., 2003) and specific concepts for service businesses, such as NSD (Johnson et al., 2000).

In order to understand strategic human resource management within entrepreneurial service firms, the following sub-questions and research objectives are developed. The first sub-question asks, what are the special requirements of service businesses, and how can organisations and individuals be developed to fulfil these requirements? This question is examined in the first essay by identifying special service business characteristics, skills and competencies required of employees working in the service field. Previous research has indicated that the service business differs from manufacturing businesses as special requirements can be set for the service business, both at the organisational and individual levels (Othman, 1999; Penttinen, 2007; Hyötyläinen, 2010; Peris-Ortiz & Rueda-Armengot, 2010).

However, knowledge is limited concerning how requirements influence entrepreneurial service firms, whose strategy upholds the continuous search for new business opportunities. This gap has been addressed through theoretical lenses of SE and its practices for developing entrepreneurial culture and human resource management. The first essay examines this gap with both interpretive and constructive research methods, supported by empirical data from top managers across five IT service SMEs. The first essay provides new knowledge in the field since previous SE research dealt with general concepts and did not provide links to specific types of businesses, such as the service business. This research objective forms the basis for later research within the dissertation, focusing on usability of management frameworks for human resource management in the context of service business opportunity implementation.

In this dissertation I examine entrepreneurial and management literature of resource management frameworks and analyse the usability of these frameworks for human resource management during implementation of new business opportunities. A considerable portion of research activities in human resource management employ older theoretical frameworks such as the resource-based view and dynamic capabilities. The motivation to choose specific theoretical perspectives for this dissertation was to identify and test recently developed resource management frameworks that address both the dynamic nature of modern business environments and the need for simultaneous activity.

With this motivation in mind, two main frameworks are selected for analysis: resource orchestration (Sirmon et al., 2011) and organisational ambidexterity (Tushman & O'Reilly , 1996; O'Reilly & Tushman, 2013). To begin, the second essay examines resource orchestration framework, which is part of entrepreneurial literature, that is specifically connected to strategic entrepreneurship (Barney et al., 2011; Sirmon et al., 2011; Hitt et al., 2011). In a contemporary dynamic business environment new opportunities may arise quickly, and it is challenging to prepare the organisation and its members for implementation under the required schedule. The challenge is two-fold: both the quantity of resources and the new knowledge required to implement the opportunity must be considered. In small entrepreneurial service firms, human resources are scarce; as a result, it is difficult to release employees from existing operations to new development activities. On the other hand, new business opportunities are often based on new knowledge, whether it be new technologies, new markets or new customer segments which the firms do not know beforehand. This new, necessary knowledge must be created before or during the opportunity implementation process. In service businesses, however, the topic of managing resources in this kind of situation is limited; more specifically the usage of the resource orchestration concept during opportunity implementation process in the service business has yet to be studied.

To address this gap, the second essay also investigates the manners in which five small service firms have applied the concept of resource orchestration. The second sub-question to address this perspective follows, how are resource orchestration processes applied in entrepreneurial service firms during the implementation of new opportunities? An interpretive research method is used to build a holistic view of social problems in this area. Multiple case studies are developed by using semi-structured interviews from the two top managers of each case study firm, totalling ten interviews. The interviews are complemented with secondary data, in the form of researcher observation memos, meeting memos and other confidential documents directly received from the firms. Through a theoretical lens, this question examines resource orchestration, including the stages of structuring, bundling, and leveraging resources. Emphasis is placed on understanding how the sub-processes of these stages are utilised in the case firms and if any sub-processes are found more usable than the others. As a result, the second essay proposes an extended model of resource orchestration concept for service businesses.

The second theoretical framework that analyses usability in the context of human resource management is organisational ambidexterity (OA). The OA framework has been recognised as a positive factor for the performance and growth of a firm (O´Reilly & Tushman, 2013; Cao et al., 2009). However, certain studies have indicated that OA is beneficial only in certain contexts and situations (Jansen et al., 2009; Clerq et al., 2014; Junni et al., 2013). In fact, OA can be implemented in several ways within an organisation. In structural OA, for example, explorative and exploitative activities are organised in separate teams or units with dedicated employees working with each activity. In sequential OA, explorative and exploitative activities are performed by the same teams and workers, although the activities are performed in sequences (O'Reilly & Tushman, 2013). In contextual OA, however, both explorative and exploitative activities are performed based on contextual factors in business environments (Gibson & Birkinshaw, 2004). While OA research has in fact increased popularity in recent years, knowledge is limited regarding how OA can be used during opportunity implementation. Specifically, for the context of service businesses, OA usability is an under researched topic.

To address this OA research gap, the third essay investigates the process of opportunity implementation by using the specific model developed for the service business by Johnson et al. (2000), new service development, NSD. The third essay also analyses how OA can be applied to each of four stages of NSD; design, analysis, development and full launch. The NSD model was chosen as a theoretical framework for opportunity implementation, because it covers specific characteristics of the service business more appropriately than traditional opportunity implementation frameworks in entrepreneurial literature. However, to enrich the theoretical perspective of the first process stages, which are focused on new opportunity identification, this essay engages traditional entrepreneurial literature from the field. In addition, to have a comprehensive view of the NSD process from a resource management perspective, the NSD framework is complemented with findings provided by Froehle and Roth (2007) regarding relevant tasks and resources used at different stages in the NSD process. Given this perspective, the third sub-question investigates, how is organisational ambidexterity applied during new service development processes? This research question is examined by using case studies of three IT service firms. Participant observation and semi-structured interviews are utilised for empirical data collection within the third essay.

In its entirety, this dissertation creates new knowledge regarding opportunity development processes in the context of service businesses. In particular, this dissertation sheds light on the intersection between special characteristics in service businesses and specific requirements for organisations and personnel within this field. The managerial perspective is thoroughly analysed and connections between areas of entrepreneurial leadership and the development of service–specific requirements are identified. As such, this dissertation offers theoretical and managerial contribution by revising existing theoretical frameworks and developing practical human resource management concepts for managers. I investigate the usability of two theoretical frameworks for human resource development and management, resource orchestration and organisational ambidexterity, and engage these two frameworks in the process of opportunity implementation and, specifically, the context of service business. Thus, this dissertation extends the both theoretical frameworks with service specific analyses, developing more practical tools and guidance for managers.

Above all, this dissertation offers a contemporary view into practical problems that firms and their managers presently experience. Since the world economy is shifting from manufacturing and product businesses towards service businesses, and the competitive environment is growing more dynamic each day, those firms that can simultaneously operate their daily business and implement new business opportunities will succeed. From this point of view, this dissertation is indeed topical, addressing important questions not only for today but also for the future. Figure 1 below summarises research questions, methods and the essays included in this dissertation.

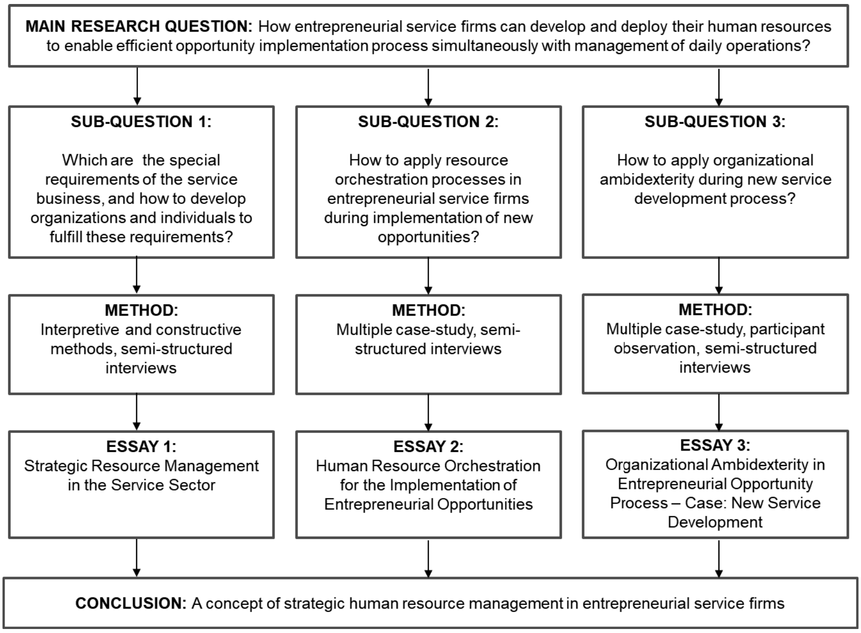

Figure 1. Research questions, methods and essays of this dissertation

1.3 Dissertation structure

This dissertation is structured in two main parts. The first part includes the introduction, theoretical background and frameworks description, methodology description, conclusions, limitations and directions for future research. The second part is constituted by a collection of three solo-authored essays. Essay 1 is published as a chapter in a book Developing, Shaping and Growing Entrepreneurship (Rinne, 2015). Essay 2 is published as an article in the open-access, blind-reviewed Journal of Entrepreneurship and Organization Management (Rinne, 2014). Essay 3 is an unpublished manuscript.

2. Strategic human resource management in small firms

Strategic human resource management (strategic HRM) is a broad research field containing special characteristics and viewpoints. As the chosen viewpoint, this thesis addresses the strategic management and development of human resources to enable the successful implementation of entrepreneurial opportunities in small service firms. Strategic HRM has strong links to other disciplines as well, such as psychology, sociology and education (Nolan & Garavan, 2015; Armstrong & Taylor, 2014), but to maintain focus on the research problem at hand, the chosen viewpoint has been selected as a basis for research.

Two major factors in human resource management influence successful opportunity implementation in small firms. First, new opportunities may be based on novel processes or technologies, which may require employees to adapt new knowledge and learn new skills. In this situation, the HR development perspective is emphasised: how to support employees in learning new capabilities and skills to further develop their competencies. Second, in small firms, the amount of resources is usually low, and human resources may have to work more hours than previously agreed during opportunity implementation. In this situation, the HR management perspective is emphasised: how to manage and co-ordinate scarce resources for higher performance while accounting for dynamic changes in the business environment. In this chapter, past research activities in strategic HRM in small firms are introduced. At the end of this chapter, the role of strategic HRM in this thesis is discussed. Selected research papers on strategic HRM in small firms are presented in Table 1.

Authors	Content
Chirico et al. (2011)	Synchronisation of resource orchestration activities in family firms
Duran et al. (2016)	The role of resource orchestration in the innovation process of family firms
Fu et al. (2015)	Positive influence of combined HPWS and organisational ambidexterity for higher performance in Chinese professional service firms
Garavan et al. (2016)	Positive influence of strategic HRM practices for leadership development in small firms
Jack et al. (2006)	Importance of formal HR practices for small entrepreneurial ventures
Kroon et al. (2013)	Implementation of HPWS in small firms
Lai et al. (2017)	Positive relationship between the use of formalized HR practices and financial performance and organisational commitment in UK SMEs
Messersmith & Wales (2011)	Positive impact of combined HPWS and entrepreneurial orientation for sales growth in small high-tech firms
Nolan & Garavan (2015, 2016)	Systematic and critical literature reviews of HRD in small firms
Patel et al. (2013)	Positive impact of combined HPWS and organisational ambidexterity for firm performance in high-tech SMEs
Patel & Concklin (2012)	Positive impact of HPWS in increasing employee retention and productivity in small firms
Sheehan (2014)	Causal relationship between HRM practices and small firm performance
Sirmon & Hitt (2003)	Positive influence of resource orchestration in developing competitive advantages in family firms
Úbeda-García et al. (2018)	Positive mediating impact by organisational ambidexterity and human resource flexibility to HPWS and performance in Spanish hotel business
Way (2002)	Positive impact of HPWS to firm performance within the US Small Business Sector

Table 1. A summary of research publications of strategic HRM in small firms

2.1 HR development in small firms

Strategic HRM is a sub-field of the larger HRM context, including 'all aspects of how people are employed and managed in organizations' (Armstrong & Taylor, 2014, p. 7). In addition to strategic HRM, other HRM activities cover, for example, resourcing, knowledge management, HR development (HRD), learning, organisational development, performance and reward management and the provision of employee services (Armstrong & Taylor, 2014; Ruona et al., 2004). Strategic HRM has been recognised as a primary source for gaining competitive advantage, especially for firms in knowledge-intensive business fields. Research in strategic HRM has traditionally focused on larger organisations and firms (Armstrong & Taylor, 2014; Nolan & Garavan, 2015). During the last two decades, research in strategic HRM has also considered smaller firms and organisations (Sheehan, 2014; Nolan & Garavan, 2015; Nolan & Garavan, 2016; Jack et al., 2006; Lai et al., 2017) as well as younger firms (Messersmith & Wales, 2011).

Strategic HRM, as a term, connects human resource management and a firm's strategy. Boxall (1996) defines strategic HRM as an interface between strategic management and HRM. In other words, human resources must be managed to support the firm in the implementation of its chosen strategy. Armstrong and Taylor (2014) define strategic HRM as 'a general notion of how integration or "fit" between HR and business strategies is achieved, the benefits of taking a longer-term view of where HR should be going and how to get there, and how coherent and mutually supporting HR strategies should be developed and implemented' (Armstrong & Taylor, 2014,. p.16). Similarly, any activity in a firm that is called *strategic* should be integrated into the firm's business strategy, and the activity should be managed to help the firm to achieve its strategic business objectives. For example, strategic entrepreneurship means being *strategically entrepreneurial*, or supporting the firm's strategy to actively identify and implement entrepreneurial opportunities (Ireland et al., 2003).

In this dissertation, one objective is to understand how entrepreneurial behaviour can be managed and developed in small service organisations. Entrepreneurial behaviour, in this context, refers to the capability to identify and implement new business opportunities. Both in entrepreneurial and strategic literature, the resource-based view (RBV) has been a dominant theoretical framework in research on HRM. The primary idea of RBV is that by developing and managing human resources strategically, a unique competitive advantage can be achieved that is difficult for competitors to copy (Barney, 1991). In addition to RBV, one field of scholarship that has studied strategic HRM in the context of small firms is human resource development (HRD) in small and medium-sized enterprises (SMEs). Even though HRD can be considered more focused on learning and the development of HR, than on the management of HR (Armstrong & Taylor, 2014), HRD can be included under the broad umbrella of HR, together with HRM and organisational development (Ruona et al., 2004). Because several researchers in the HRD literature have specifically addressed the SME context, a review of literature in this field provides a useful overview of recent research activities regarding HR in small organisations.

Nolan and Garavan (2015) present a synthesis of recent research on HRD in SMEs in their systematic literature review. In total, 177 studies published in peer-reviewed academic journal articles between 1995–2014 were analysed. From a theoretical perspective, they found that the majority of the research articles were based on different concepts from strategic management and organisational theory. At a more detailed level, the studies have utilised the RBV either as a single theoretical lens or in combination with frameworks of institutional theory, learning and design theory, and human capital theory. By utilising these theoretical frameworks, the studies have analysed the relationship between firm strategy and HRD methods, formal and informal learning and development activities, analysed how training needs can be identified and explained the roles of different skills and competencies (Nolan & Garavan, 2015).

This literature review supports the findings of this dissertation providing evidence of the importance of context-specificity in HRD activities. A common finding is that job-specific skills, which are learnt either through formal HRD activities such as training or informal methods such as on-the-job learning, are the most critical skills for individuals due to their context-specific nature (Nolan & Garavan, 2015). The studies also demonstrated that employee motivation, self-confidence, organisational commitment and job satisfaction are important factors in the development of job-specific skills, and investments in HRD practices have a positive impact on these individual-level factors (Nolan & Garavan, 2015).

From recent research we can identify few studies covering relationship between HRD and organisational ambidexterity. For example, Patel et al. (2013), Sheehan et al. (2013) and Jackson et al. (2017) consider the influence of organisational ambidexterity to be critical in both the management and the development of HR, specifically when the innovation process is concerned. Patel et al. (2013) have studied the HR practices of discipline, stretch, trust and support, and proposed that these activities would be combined as a single, high-performance work system (HPWS). A strong bilateral relationship was discovered between HPWS and organisational ambidexterity, each one having a mediating influence in developing the other. Sheehan et al. (2013) state that organisational ambidexterity is a crucial component of an innovative firm culture, but HR interventions must also be regularly undertaken to keep employees engaged and to channel spill-overs of engagement into innovative behaviour. Jackson et al. (2017) have studied organisational ambidexterity as part of the working career and discovered that organisational ambidexterity is central to both organisational performance and long-term career development.

2.2 HR management in small firms

The management of small firms is a significant part of the entrepreneurship literature. Traditionally, this literature has focused on entrepreneurial opportunities: how opportunities can be identified and developed into viable business plans. The concept of strategic entrepreneurship combines strategic management and entrepreneurship, and in this concept, more attention is also paid to HRM. The concept of strategic entrepreneurship examines how a firm can simultaneously seek for new opportunities and develop a competitive advantage (Sirmon et al., 2007; Ireland et al., 2003; Kuratko & Audretsch, 2009). In this concept, HRM is very much based on RBV (Sirmon et al., 2007; Ireland et al., 2003; Foss et al., 2008). However, several researchers have suggested also utilising other theories to understand HRM in small firms and in a modern, dynamic business environment. About 20 years ago, Teece et al. (1997) introduced the concept of dynamic capability, or a firm's ability to achieve new forms of competitive advantages by constantly developing new capabilities or competencies according to the requirements of changes in a dynamic business environment (Teece et al.., 1997; Wright et al., 2001). Later, the framework of dynamic capabilities evolved into a new scholar, dynamic capability view (Vogel & Güttel, 2013; Lin & Wu, 2014).

In the field of strategic entrepreneurship, further additional concepts for HRM and the co-ordination of human resources have been developed. Resource orchestration is a three-stage process explaining how to structure a resource portfolio, bundle resources to build capabilities and leverage these capabilities for value creation (Hitt et al., 2011; Sirmon et al., 2007; Sirmon et al., 2011). The synchronisation of various resource management activities is necessary to guarantee the availability of appropriate resources in a particular situation (Hitt et al., 2011; Holcomb et al., 2009). Wales et al. (2013) have studied the mediating role of resource orchestration capabilities on small firm performance and they found positive relationship between these two factors. Resource orchestration activities are managed by the leaders and managers of a firm, and therefore successful orchestration is highly dependent on managerial capabilities (Chadwick et al., 2015).

In an SME context, the usage of resource orchestration processes has been primarily studied in family businesses. Although this term does not guarantee that the study involves only small firms, in many studies, the samples have been less than 100 employees. Chirico et al. (2011) have studied the sub-processes of the resource orchestration concept – mobilisation and co-ordination – and how these sub-processes must be synchronised to enable higher performance. Duran et al. (2016) have studied the role of resource orchestration in family firms in analysing the relationship between innovation input and output. They found that resource orchestration is a useful framework for HRM in family firms because the owner-managers have direct access to resources. Similarly, when owner-managers have direct access to innovation projects, the relationship between innovation ideas and implemented innovations is stronger than in non-family firms (Duran et al., 2016). Sirmon and Hitt (2003) have studied HRM in family firms and discovered that the process of resource orchestration can help small family firms to develop their competitive advantages.

When organisations are willing to increase performance in any area of firm operations, high-performance work systems (HPWS) are often considered part of human resource practices. During the last 20 years, HPWS has evolved into a considerable field of HRM research, and academic work in this field traverses labour economics, industrial relations, organisational behaviour and operations management (Boxall & Macky, 2009). HPWS is also considered as an important part of strategic HRM (Combs et al., 2006; Fu et al., 2015) and it can be understood as a bundle of practices that positively affect financial performance, retention, productivity, efficiency, flexibility and employee commitment in a firm (Fu et al., 2015). The practice of HPWS is also considered an important antecedent of organisational ambidexterity (Chang, 2015; Fu et al., 2015). It has been studied primarily in the context of large firms, but research within small firms and organisations also exists.

Kroon et al. (2013) have found that a subset of HPWS practices exists in small organisations. However, implementation of these practices requires resources that are normally scarce in small firms, and therefore the usability of HPWS as a concept can be considered more useful for larger firms (Kroon et al., 2013). A study by Patel and Conklin (2012) displays similar results; HPWS may be too costly for small firms because the implementation of its practices requires dedicated resources. However, if firm culture is supportive of HPWS practices, HPWS may be beneficial for smaller firms as well (Patel & Conklin, 2012). A decade before Patel and Conklin (2012), a study from Way (2002) amongst small US-based firms displayed similar results, indicating difficulties for smaller firms to implement HPWS in a cost-efficient manner.

Few studies have been published about the relationship between HPWS and organisational ambidexterity in small firms in recent years. In general, the research is limited to explaining how HPWS can accelerate the growth of small firms (Coder et al., 2017). However, in the identified studies, a positive relationship is found between HPWS and organisational ambidexterity in various contexts. Previously mentioned research by Patel et al. (2013) has found that selected HR practices, such as a single HR system (HPWS) and organisational ambidexterity, have a strengthening influence on each other in high-tech SMEs. Fu et al. (2015) have studied firm-level performance in Chinese accounting firms. They found that organisational ambidexterity, linked to HPWS, is a key capability for firms seeking for higher performance in the context of Chinese professional service firms (Fu et al., 2015). A recent study by Úbeda-García et al. (2018) amongst Spanish hotel firms found that the relationship between HPWS and performance is mediated by organisational ambidexterity and human resource flexibility. It is notable that the identified studies are all quantitative, and qualitative research in the context of small firms is lacking.

2.3 The role of strategic HRM in this dissertation

Strategic HRM has a central role in this dissertation, and it forms the platform for the research questions. In this dissertation, I attempt to understand how human resources are managed in small service firms during the process of opportunity implementation. I examine the implementation of strategic HRM; however, I have attempted to find theoretical frameworks that have not been extensively utilised in previous research in connection with entrepreneurial opportunity implementation processes. In addition, as the case firms in this dissertation have all chosen entrepreneurial behaviour as part of their strategy, it is necessary to study the research questions in close proximity with entrepreneurial theories.

In the first essay, strategic HRM in small service firms was studied by identifying the links and relationships between the primary characteristics of the service business, and managerial behaviour and practices in the concept of strategic entrepreneurship. It was discovered that several domains of SE can be linked either to an employee's competence in the service business or to managerial skills in a service organisation. Based on these findings, a new model for strategic human resource management in small service organisations was introduced. The second essay analysed the concept of resource orchestration and its usability during new opportunity implementation. It was discovered that in small service firms, selected sub-processes of resource orchestration hold significant value and importance for the opportunity implementation process. Based on these findings, a revised model for human resource orchestration for the process of entrepreneurial opportunity implementation was introduced. The third essay examined ambidextrous behaviour both with the leaders of the firms and in the organisational level, and how organisational ambidexterity is used in the opportunity implementation process. The analysis was performed during the process of new service development (NSD), and it was found that organisational ambidexterity has different roles and influences in opportunity implementation in different stages of the NSD process.

3. Theoretical frameworks

In this chapter, I present the relevant theoretical frameworks used both as a backbone of this dissertation and as a source of inspiration in the three essays. The following criteria are used to select the frameworks. First, theoretical frameworks support the research questions and research setup. The main research question examines how entrepreneurial service firms can develop and manage their human resources to enable efficient opportunity implementation process. In this research question, I have identified certain relevant theoretical research fields: 1) service business, 2) entrepreneurship, 3) human resource management and 4) new opportunity implementation process. Second, the empirical setup in the context of case firms is compatible with the selected frameworks. The case firms are chosen from service businesses and are relatively small, employing less than 30 individuals each. All case firms are managed by entrepreneurs who established the firms and are the main shareholders. The strategic decision for all case firms is to actively seek new business opportunities in order to differentiate themselves from their competition. Third, theoretical frameworks and empirical context form an interesting research setup which has not been previously studied. As a result, it can produce new knowledge in the form of theoretical and managerial contributions.

Entrepreneurship, human resource management and new opportunity implementation processes are traditionally intertwined topics in entrepreneurial literature. In this field, a considerable amount of research has been conducted using older theoretical frameworks such as the resource-based view and dynamic capabilities (Ireland et al., 2003; Foss et al., 2008). One of the main motivations for choosing the theoretical perspectives for this dissertation was to use recently developed resource management frameworks which address both the dynamic nature of modern business environments, and the need for a firm's simultaneous activity management. Even though the selected frameworks are partly based on older theoretical frameworks, the selected theoretical lenses more appropriately address the competitive nature of modern business environments.

While the service business being a specific field of research itself, limited research exists also regarding the other topics in this study. The mixture of theoretical frameworks connected with empirical contexts forms a unique research setup, resulting in the theoretical and managerial contributions of this dissertation. The theoretical frameworks and their role in this dissertation are discussed in this chapter as follows: 1) service business, 2) strategic entrepreneurship, 3) human resource orchestration, 4) new service development, and 5) organisational ambidexterity. A summary of the theoretical frameworks, researchers and their main findings as relevant for this dissertation are presented in Table 2.

Theoretical framework	Researchers	Main findings for dissertation
Service business	Parasuraman et al. (1985, 2010) Othman (1999), Chase (1978) Cruz-Ros (2009) Kannan and Proenca (2010)	People-based services vs equipment-based services Characteristics of services Required skills from an employee High-contact elements and low-contact elements in service operation
Strategic Entrepreneurship	Ireland et al. (2003) Schindehutte and Morris (2009), Kuratko and Audretsch (2009) Hitt et al. (2001, 2011)	Continuous opportunity-seeking and advantage seeking behaviour Dimensions: 1) entrepreneurial mindset, 2) entrepreneurial culture and leadership, 3) strategic resource management, 4) creativity and innovation Connection between the service business and SE dimensions
Resource Orchestration	Sirmon et al. (2007, 2011) Hitt et al. (2011)	Resource orchestration process: 1) structuring, 2) bundling and 3) leveraging resources How to apply resource orchestration process in the service business
New Service Development	Johnson et al. (2000) Froehle and Roth (2007)	The process for developing new services Tasks in different stages of the process
Organisational Ambidexterity	Tushman & O'Reilly (1996), O'Reilly & Tushman (2013) Raisch & Birkinshaw (2008), Parida et al. (2016), Turner et al. (2013) Kauppila & Tempelaar (2016), Rosing et al. (2011), Zacher et al. (2016) Gibson & Birkinshaw (2004)	Simultaneous explorative and exploitative behaviour in individual level and organisation level Sequential, structural and contextual ambidexterity Ambidextrous/paradoxical leadership, opening/closing leadership Mediating role of organizational ambidexterity

Table 2. Theoretical frameworks used in the dissertation

3.1 The service business

The service business is a large field of research which includes several perspectives on the topic. Indeed, there are journals dedicated exclusively to service research, for example the Journal of Service Research, Journal of Service Management, Journal of Service Science, Service Business, International Journal of Quality and Service Sciences, Managing Service Quality, Journal of Services Marketing and Service Industries Journal (Christophe et al., 2011). In addition to the journals focusing on the service business as such, there are numerous journals focused on specific fields of the service business, such as finance, health care, retail, social services and food industry (Christophe et al., 2011). During the first decade of this century, service research attracted attention due to research findings which indicated higher growth and profitability for service firms than manufacturing firms (Penttinen, 2007; Ostrom et al., 2010).

In this dissertation, I focus on analysing the differences between product businesses and service businesses, aiming to understand the organisational and individual requirements that the service business sets for entrepreneurial service firms and its employees. Othman (1999) has identified four characteristics that differentiate services from manufacturing and products. First, products are tangible objects and services are intangible objects, more similar to experiences than goods. Second, the services are often delivered and consumed in tandem. Third, the service is bound by time and location, whereby the service is delivered to the customer location at the moment when the customer needs it. Lastly, the service quality is measured at the time of delivery, and the product quality is measured immediately after the product is finished before delivery to the customer (Othman, 1999).

Different forms of services are identified inside the concept of the service business. Chase (1978) has proposed a categorisation model for different types of services based on the level of direct contact with customers. This model includes two high level categories of people-based services and equipment-based services, which can be further divided into four categories: 1) pure services, 2) mixed services, 3) quasi-manufacturing services and 4) manufacturing services. Each of these categories includes high-contact elements (environment) and low-contact elements (environment) based on the level of direct contact with the customer (Chase, 1978). The case firms in this dissertation represent the quasi-manufacturing category, wherein the service concept is developed in a high-contact environment with deep customer involvement, and is then delivered using IT systems in a low-contact environment, with no need for intense customer communication.

Specific characteristics of service businesses influence the skills and competences required from the service provider's organisation and personnel. Intangibility is one of the most important characteristics of services when compared to products, and it signals that customers cannot see or experience the service before it is delivered. Selling intangible goods is different from selling tangible goods, because the customer cannot see or feel the deliverable beforehand. The ability to convince the customer of the service quality and content is an important skill in the service business (Hyötyläinen, 2010; Cruz-Ros, 2009). Communication skills, in this case with customers, are important for both convincing the customer and executing service sales. In addition, communication skills are important to understand the customer's requirements. These requirements can be taken into account in the NSD process as a source for new opportunities as well as in the configuration of existing services (Johnson et al., 2000). Strong communication skills are further needed inside the service provider's organisation in order to correctly transfer customer requirements to the organisation and the individuals who create and deliver the service concept (Parasuraman et al., 1985; Parasuraman, 2010).

Creativity and innovativeness are important personal characteristics in many areas of the service business. These two qualities, for example, are needed to identify and create new business opportunities, understand the customer requirements and manage variability in service production (Parasuraman, 2010; Cruz-Ros, 2009; Kannan & Proenca, 2010). Creativity and innovativeness are also important skills for business leaders in order to manage and develop their organisations to be successful in the service business (Dahlgaard-Park & Dahlgaard, 2010). These types of characteristics and skills are examples of tacit knowledge, which is the dominant phenomenon in an entrepreneurial organisation (Hitt et al., 2001; Ireland et al., 2003).

3.2 Strategic entrepreneurship

Strategic entrepreneurship, a concept which connects entrepreneurship and strategic management (Kuratko & Audretsch, 2009), is part of the firm's strategy which emphasizes entrepreneurial action, or the continuous search for entrepreneurial opportunities (Ireland et al., 2003; Schindehutte & Morris, 2009; Kuratko & Audretsch, 2009). As a relevant concept for firms that have managed to survive the first years in the business, strategic entrepreneurship ensures that firms which are mature enough and which have decent financial stability, can consider future strategy to differentiate themselves from their competition.

Continuous opportunity-seeking and advantage-seeking behaviour are the foundations of strategic entrepreneurship. Opportunity-seeking behaviour refers to the ability to identify opportunities whereas advantage-seeking behaviour refers to turning opportunities into competitive advantages, which is necessary to implement profitable businesses (Hitt et al., 2001; Ireland et al., 2003). Ireland et al. (2003) have conceptualized strategic entrepreneurship as a four-dimension model to develop a firm's competitive advantage. The model consists of the following dimensions: 1) entrepreneurial mindset, 2) entrepreneurial culture and leadership, 3) strategic resource management, and 4) creativity and innovation.

An entrepreneurial mindset consists of alertness, real option reasoning and opportunity recognition (Hitt et al., 2011). A person with an entrepreneurial mindset has a greater ability to recognise entrepreneurial opportunities (Shane & Venkatamaran, 2000). Alertness helps to identify opportunities which are commonly overlooked and not recognisable by others (Hitt et al., 2011). Real option logic helps entrepreneurs to evaluate the risks involved in opportunities. The external environment and factors that increase or decrease the risk of an opportunity at a certain moment, may influence the resources that an entrepreneur is ready to allocate in order to implement a certain opportunity (Ireland et al., 2003; Hitt et al., 2011; McGrath, 1999). Following the logic of real options, when external factors that influence the opportunity indicate an opportunity's low risk and high confidence level, a firm may initially allocate more resources to the opportunity implementation. In contrast, when the risk of external factors is high, a firm may allocate less initial resources, or financial investment, and only increase the resources gradually when the external environment is more positive and has a lower risk. The ability to recognise opportunities is a foundation of the entrepreneurial mindset and is based on factors such as personal characteristics, creativity and alertness. Various situations, including developments in technology, demographic changes, social changes and changes in regulations create opportunities which a person with an entrepreneurial mindset can recognise better than the majority of other people (Ireland et al., 2003).

Then, entrepreneurial culture is identified as an organisational system where the system members share the same values (Ireland et al., 2003). In entrepreneurial culture, values are based on promoting new ideas, creativity and risk taking. Continuous change, tolerance of failure, and the promotion of learning and innovativeness are important aspects of entrepreneurial culture (Ireland et al., 2003). An entrepreneurial leader promotes, encourages and nourishes the values of entrepreneurial culture while also creating a vision for a firm and facilitating opportunity-seeking and advantage-seeking behaviour (Hitt et al., 2011). Furthermore, entrepreneurial leaders must be effective in establishing and developing new organisations since these are necessary to implement new opportunities (Hitt et al., 2011).

Open communication within an organisation is required for entrepreneurial leadership. Entrepreneurial leaders share information about firm operations and future plans with employees as much as possible. As a result, employees are involved in the organisation's strategy development process. Moreover, entrepreneurial leaders are able to describe the benefits of new opportunities and innovations, even if the innovations may threaten the current business models. Ultimately, entrepreneurial leaders are responsible for linking strategy and entrepreneurial behaviour and, through these actions, also for implementing an entrepreneurial culture in a firm (Ireland et al., 2003).

Strategic resource management within the concept of strategic entrepreneurship is originally based on the resource-based view (RBV) (Ireland et al., 2003; Kraus & Kauranen, 2009; Foss et al., 2008). The RBV focuses on a firm's competitive advantages, which build upon the strategic deployment of firm resources with a purpose of implementing the firm's product market strategy (Wernerfelt, 1984). Competitive advantages in service firms are generally rooted in the tacit knowledge of employees. As such, developing, sustaining, and transferring tacit knowledge within an organisation are key activities for creating a firm's competitive advantage. Because competitive advantages based on tacit knowledge are difficult to copy by competitors, it is important to transfer this knowledge person-to-person within a service firm (Hansen, 1999).

According to Ireland et al. (2003, p. 973), 'resources are managed strategically when their deployment facilitates the simultaneous and integrated use of opportunity- and advantage-seeking behaviours'. Both tangible resources, financial and capital, and intangible resources, human and social, are included when strategic resource management is discussed in the context of strategic entrepreneurship. In this dissertation, I focus on human resource management; thus, financial and social resources are not covered in this context. Sirmon et al. (2007) have originated a specific concept of resource management which has a strong connection to strategic entrepreneurship, and the idea of managing resources to enable simultaneous opportunity-seeking and advantage-seeking behaviours. The resource orchestration concept is focused on the leader's perspective for effective resource management. Leaders must take actions to structure the firm's resource portfolio, bundle resources into capabilities and leverage those capabilities. The resource orchestration process creates value for customers, and, as a result, helps to achieve a competitive advantage (Hitt et al., 2011).

Creativity and innovativeness are important elements for strategic entrepreneurship and these are necessary in simultaneous opportunity-seeking and advantage-seeking behaviour. Since the early days of entrepreneurship research, entrepreneurial activities have been based on creativity and innovativeness (Mueller & Thomas, 2000). Already Schumpeter (1934) argued that creativity and innovativeness are important factors when carrying out new combinations as either new products or new processes, which replace the old products and business models. Innovation and opportunity are strongly linked, largely because innovations are considered as the main source of entrepreneurial opportunity (Buenstorf, 2007). Innovativeness is further considered to be a primary motive for starting one's own business (Mueller & Thomas, 2000) and a main source of competitive advantage (Companys & McMullen, 2007).

Similarly, creativity is closely linked to entrepreneurial alertness and is considered as a crucial personal characteristic of an entrepreneur (Ardichvili et al., 2003; Baron, 2006; Buenstorf, 2007). Creativity is an underlying element for innovativeness, which is in fact a part of entrepreneurial culture that encourages employees' creativity (Ireland et al., 2003). In heterogeneous organisations, creativity helps innovative ideas materialise into products and allows further creative approaches to be more easily accepted (Hitt et al., 2011). Moreover, creativity often exists in conjunction with optimism, another important part of the entrepreneurial mindset (Ardichvili et al., 2003; Baron, 2006).

3.3 Human resource orchestration

In the second essay, I examine the concept of resource orchestration and analyse how it is implemented in small service firms during the opportunity process. As discussed earlier, resource management in entrepreneurial contexts is based on the RBV theory (Ireland et al., 2003; Foss et al., 2008). In the context of resource management, both tangible resources such as financial capital, land or machines, and intangible resources, including human resources or social connections, are considered (Wernerfelt, 1984; Ireland et al., 2003; Barney, 1991). Intangible resources differ from tangible resources as they create unique resource positions and competitive advantages more effectively than tangible resources. Intangible resources are often rare, tacit, and socially complex; for this reason, they are more difficult to copy (Hitt et al., 2001; Hitt et al., 2011; Barney, 1991).

At the end of the 1990s, RBV was criticised for not taking into account the significant influence of the rapidly changing business environment (Teece et al., 1997). Then, the concept of dynamic capabilities was introduced to address the business environment perspective (Teece et al., 1997). Dynamic capabilities are managerial and organisational routines for reconfiguring and developing the competences of a firm. Routines for competency reconfiguration and development are strongly linked with a firm's strategy process, with the purpose to influence the future position and success of the firm (Teece et al., 1997; Teece, 2007; Borch et al., 1999).

Strategic resource management is a core component of strategic entrepreneurship. As previously discussed, strategic entrepreneurship connects entrepreneurship to strategic management, enabling opportunity-seeking and advantage-seeking behaviour within the same organisation. Dynamic capabilities and RBV were not versatile enough as resource management foundations to evolve concepts of entrepreneurship. Therefore, more process-oriented approaches were developed, for example, as in the work of Sirmon et al. (2007). Resource orchestration is a process which integrates two concepts, resource management and asset orchestration (Sirmon et al., 2007; Sirmon et al., 2011;

Hitt et al., 2011). Specifically, resource management entails 'the comprehensive process of structuring the firm's resource portfolio, bundling the resources to build capabilities, and leveraging those capabilities with the purpose of creating and maintaining value for customers and owners' (Sirmon et al., 2007, p. 273).

The resource orchestration framework includes three components: structuring, bundling, and leveraging resources (Sirmon et al., 2007, 2011). Furthermore, structuring includes the sub-processes of acquisition, accumulation and divestment (Sirmon et al., 2007, 2011; Chadwick et al. 2015). Human resources can be acquired from different sources, such as open labour markets, universities and competitors. Then, acquired resources form a resource portfolio which becomes part of the firm's strategic assets. Different resources within the portfolio may have varying statuses and levels of readiness to serve the firm and its activities. In terms of human resources, employees may or may not have the skills needed for the firm's operations and development projects.

Therefore, the resources must be accumulated. This is to say that firms must develop persons internally to match the skill and competence requirements in the firm. New employees can be trained as to their duties through formal education or collaborating with other more experienced, skilled employees. Although after this internal development, employees may have needed skills to support the firm's activities, the skill set remains valid only for limited time. New developments or rapid changes in the business environment will require a reconfiguration of the skill set, thus necessitating further resource development. For this reason, leaders must continuously evaluate whether unproductive resources could be reconfigured to support a new strategy and new objectives of the firm, or if the existing resources would need to be replaced by new resources to create a better match with the firm's future strategy. This part of the process is known as divestment. For firm employees, divestment can include training and relocation of personnel, or, for example, in the case of cost-cutting in an uncertain economic environment, laying off the unproductive human resources.

Bundling resources consists of three sub-processes: stabilisation, enrichment, and pioneering (Sirmon et al., 2007, 2011). During bundling, the acquired, accumulated and divested resources of the portfolio are integrated to produce new capabilities for a firm (Sirmon et al., 2007, 2011; Wright et al., 2012). The purpose of stabilisation is to preserve the resource portfolio or develop it further, with minor incremental improvements, for example, through the help of internal training programs. In the enrichment process, resources are extended by new competences which are added to the firm's existing capabilities. Extension can occur by teaching new skills to an existing resource bundle or by adding new resources from the portfolio to the existing bundle. Pioneering involves learning new skills or knowledge which are outside of the current strategic scope. As such, pioneering is an explorative activity in its purest form; thus, it is most beneficial in dynamic environments (Sirmon et al., 2007).

As with bundling, leveraging resources has also three sub-processes: mobilisation, coordination, and deployment of resources (Sirmon et al., 2007, 2011). The purpose of the leveraging process is to use acquired and developed resources to exploit identified opportunities and create value for the customers (Sirmon et al., 2007, 2011; Chadwick, 2015). In addition, leveraging aims to match internal resources with challenges from the external business environment. During mobilisation, a firm identifies the capabilities needed to exploit certain opportunities and plan the usage of existing capabilities for exploitation process, such as planning the leveraging strategy (Chirico et al, 2011). A leveraging strategy may be based on superior competitive advantages (resource advantage strategy), available market opportunities (market opportunity strategy) or creation of business opportunities (entrepreneurial strategy).

During coordination, however, capabilities are integrated to form required capability configurations. A firm's strong internal social capital is necessary for effective coordination, specifically to facilitate sharing of tacit knowledge and experience. In addition, effective cross-divisional communication supports the development of social capital. Then, the final step in the leveraging process, deployment, involves the usage of capability configurations for the chosen leveraging strategy. During deployment, the usage of the firm's capabilities creates superior value for the customer. Deployment is also an important part of maintaining competitive advantage; thus, it should be implemented in a way which is difficult to copy by competitors (Chadwick et al., 2015).

3.4 New service development

Since the 1980s, specific models for the identification and implementation of business opportunities have been developed for the service sector. In the service sector, these models have been termed NSD, New Service Development (Scheuing & Johnson, 1989; Edvardsson & Olsson, 1996). While several NSD models have been developed, the model by Johnson et al. (2000) has maintained its status as the most dominant model in the service sector to date (Johnson et al., 2000; Yu & Sangiorgi, 2017; Tsai 2016). The model developed by Johnson et al. (2000) represents a process-based approach to NSD, consisting of four stages: 1) design, 2) analysis, 3) development and 4) full launch (Johnson et al., 2000). Another example of an NSD approach is the resource-process framework provided by Froehle and Roth (2007). Their model accounts for both the process and resource approach. In the model of Froehle and Roth (2007), resources are examined in three categories, intellectual, organisational and physical resources, each supporting the NSD process.

In essay 3, the process-based model of Johnson et al. (2000) as a theoretical core is used, with support from the resource-process framework of Froehle and Roth (2007). The main reason for using the model of Johnson et al. (2000) is that it clearly separates the stages needed for entrepreneurial opportunity implementation. Because this dissertation focuses on the management of human resources, a link to the resource-process framework is established to offer deeper insight into the required managerial capabilities during opportunity processes (Froehle & Roth, 2007; Hydle et al., 2016).

Thus, the design stage focuses on searching for and identifying new ideas and formulating those ideas into service objectives (Johnson et al., 2000). Here, the customer has an important role in finding or creating new service innovations. Moreover, concept development and testing are necessary activities to understand the usability and potential customer acceptance for a new service concept (Yu & Sangiorgi, 2017). The NSD model of Johnson et al. (2000) includes high-level analysis of how opportunities exist, for example, during the *new-to-market* or *new-to-industry* situations during the design stage. However, their model, and NSD models in general, does not examine in detail the theories and micro-foundations of how opportunities can be identified. For this reason, in the third essay this aspect of the process is strengthened by engaging theories of opportunity identification and discovery from traditional entrepreneurial literature (Alvarez & Barney, 2013; Ardichvili et al., 2003; Sarasvathy et al., 2003).

After an opportunity is identified or discovered, and formatted as a service concept, it proceeds to the analysis stage for feasibility evaluation and project authorisation (Johnson et al., 2000). The feasibility analysis includes thorough evaluation of the concept from strategic, financial and market-performance perspectives (Froehle & Roth, 2007). From a strategic point of view, the new service concept should align with the existing portfolio and organisational strategy. A financial perspective is justified when the concept is profitable and ROI forecasts meet the requirements. Finally, a market-performance analysis entails evaluation of potential client segments, industry attractiveness and fit-for-market (Barringer & Ireland, 2012). Additionally, the availability of tangible and intangible resources is evaluated. However, specific attention should be given to the quality and quantity of available human resources. Regardless, at the end of the analysis phase, the project is authorised by management to start a development project (Johnson et al., 2000).

During the development stage, the opportunity is implemented as a service concept ready to be delivered to the customer (Johnson et al., 2000). Different elements of the service are designed, implemented and integrated. The concept elements may be people, tools, logistics or environmental factors. During the development stage, training is provided for personnel and the full-service delivery process is designed. An end-to-end testing is also part of the development stage. For example, testing may include a pilot or prototype to be offered to chosen customers before the full launch (Froehle & Roth, 2007). In addition to functional and technical testing, other processes and activities such as marketing need to be tested as well (Johnson et al., 2000). The development stage is normally managed as a project wherein functional and non-functional requirements are defined in the beginning of the work. A time schedule with major milestones and resource planning is an important part of the project.

Different project management methods can be used for managing development projects. For example, a linear waterfall model or non-linear project management models such as prototyping are often used in service development projects (Bullinger et al., 2003). Non-linear project management models have the advantage of creating interim results, which can be tested by customers during the development stage (Bullinger et al., 2003). Furthermore, lean and agile models from the software industry have gained popularity in different business sectors, also in service development (Conforto et al., 2014).

The last stage in the NSD model, full launch, includes the service launch to the market. In addition to the launch itself, post-launch activity enables service quality monitoring after the launch (Johnson et al., 2000). At this stage, formalised promotions and advertising are prepared, and customer training is conducted (Froehle & Roth, 2007). The full launch may also include feedback loops to earlier stages for further iteration of the concept before the full launch is realised (Froehle & Roth, 2007).

3.5 Organisational ambidexterity

An exact and literal meaning for ambidexterity is the ability to use both hands equally well (Zacher et al., 2016). In organisational contexts, then, ambidexterity describes the ability to implement incremental and revolutionary changes simultaneously (Tushman & O'Reilly, 1996). Incremental change is needed for short-term development and improvement of existing processes. Incremental improvement is based on existing knowledge and skills as well as usage of current products or service portfolios. Revolutionary change is necessary for long-term success, where new business opportunities are actively searched for and implemented as part of the firm's product or service portfolio. Often, revolutionary change requires new skills and knowledge which must be acquired in the form of new resources or development of existing resources.

Based on the nature of change, whether incremental or revolutionary, organisations behave in exploitative or explorative manners. And, exploitative behaviour is required for incremental change whereas explorative behaviour is for revolutionary change. In 1991, March published an article about the importance of simultaneous exploitation and exploration in a firm (March, 1991). The article generated increasing interest around research of organisational ambidexterity in different literature streams (Raisch & Birkinshaw, 2008).

Several researchers have demonstrated that organisational ambidexterity has a positive impact on the financial performance and growth of a firm (Raisch & Birkinshaw, 2008; Tushman & O'Reilly, 1996; O´Reilly & Tushman, 2013; He & Wong, 2004; Cao et al., 2009). In fact, a strong consensus of the positive impact of organisational ambidexterity has remained for several years. However, in recent years, scholars have launched criticism concerning the benefits of organisational ambidexterity. Moreover, results opposite of earlier findings have been published. For example, Parida et al. (2016) have argued that for small entrepreneurial firms, simultaneous explorative and exploitative behaviour is not beneficial, asserting that instead these types of firms should focus either on exploitation or exploration. In their study of small Swedish firms younger than 10 years, Parida et al. (2016) concluded that these types of firms should focus either on exploration or exploitation in order to achieve higher financial stability and performance in dynamic environments (Parida et al., 2016).

If a firm decides that organisational ambidexterity is part of their strategy, they can choose different methods for achieving and maintaining the desired level of ambidexterity. As such, sequential ambidexterity involves changing an organisation's behaviour between exploitation and exploration depending on environmental changes (Turner et al., 2013; Tushman & O'Reilly, 1996). In sequential ambidexterity, a firm implements explorative or exploitative behaviour in fairly long sequences. The type of behaviour chosen is largely determined by changes in external environment. For example, radical changes in regulation, technology or geopolitics can create new business opportunities and pressure firms to change their strategies and to find new business opportunities. Start-up firms are established based on new innovations and can penetrate markets, effectively challenging older, larger firms. In this case, explorative behaviour is necessary if mature firms want to maintain their positions in the market and be successful in the future. In contrast, when there are no radical changes in the business environment, exploitative behaviour is needed to improve existing products, services and internal processes. Therefore, sequential ambidexterity is considered most suitable for large, matured firms (Cao et al., 2009).

To follow, structural ambidexterity thus enables explorative and exploitative behaviour simultaneously. Various structural mechanisms can be used to enable ambidextrous behaviour in a firm. For example, the most common approach to structural ambidexterity in the literature is the spatial separation of explorative and exploitative activities (Raisch & Birkinshaw, 2008). Spatial separation can be implemented among different teams or units with persons dedicated for each activity (Turner et al., 2013; Pellegrini et al., 2015). Spatial separation helps organisations to develop and maintain different competencies for each activity (Raisch & Birkinshaw, 2008). Moreover, to further enable ambidexterity, firms can organise exploitation and exploration in parallel structures. In this mechanism, employees are members of an exploitative team such as the production team, but they can be assigned for a fixed period to project teams which design and implement innovations (Raisch & Birkinshaw, 2008).

While sequential and structural ambidexterity exist purely at the organisational level, contextual ambidexterity is focused at the individual level (Gibson & Birkinshaw, 2004; O'Reilly & Tushman, 2013). In contextual ambidexterity, the individual is authorised to make their own judgment regarding how to allocate available working time between exploratory and exploitative activities (O'Reilly & Tushman, 2013). Contextual ambidexterity exists on the top of organisational culture, which encourages its members to engage in ambidextrous behaviour at the individual level. Organisational culture, systems and processes must promote 'stretch, discipline, and trust' (O'Reilly & Tushman, 2013, p. 329).

For an individual, ambidextrous behaviour can be challenging and difficult. Ambidextrous individuals must have the knowledge and competency for both explorative and exploitative activities, be able to alternate between these two behaviours, and be able to handle different requirements and expectations of explorative and exploitative activities (Kauppila & Tempelaar, 2016). Ambidexterity at the individual level is a challenging and paradoxical behaviour; and indeed, not all individuals are able to adapt to such contextual ambidexterity.

The organisation's leader is the main enabler for organisational ambidexterity, and leadership processes are the main antecedents for organisational ambidexterity (O'Reilly & Tushman, 2008). Organisational culture, which also serves an important role in enabling organisational ambidexterity, is created and implemented by the firm leaders (Ireland et al., 2003). Rosing et al. (2011) have introduced the concept of ambidextrous leadership through two types of behaviour, opening and closing leadership. Opening leadership manages explorative activities where the opening leader creates a culture for employees to engage in risk taking and experimentation (Rosing et al., 2011; Zacher et al., 2016). In contrast, closing leadership manages exploitative activities. A closing leader monitors and controls given tasks, creates routines and takes corrective actions as necessary (Rosing et al., 2011; Zacher et al., 2016).

An ambidextrous leader is expected to switch his or her behaviour between closing and opening leadership styles as appropriate for different situations. Such ambidextrous leadership has also been called paradoxical leadership (Kauppila & Tempelaar, 2016). Thus, for the concept of paradoxical leadership, there are two components: the task and support aspects. The task aspect involves setting high expectations for exploitative tasks while the support aspect includes showing strong support on behalf of the employees' explorative activities (Kauppila & Tempelaar, 2016). Kauppila and Tempelaar (2016) have also asserted that a paradoxical leadership style can accelerate individual's ambidextrous behaviour.

4. Research methodologies

This dissertation uses a qualitative research approach in each of its three research papers. More specifically, an interpretive research method is applied to understand the case firms' organisational processes and experiences and craft a holistic view of the social problems and phenomena being researched (Leich et al., 2010). A constructive approach is also used to develop different theoretical models based on the study results. At large, this dissertation is a qualitative study of organisational capabilities and individual competencies that, if instituted, help small service firms attain success in dynamic business environments. The dissertation also examines potential frameworks that can help firm leaders to develop required capabilities and competencies.

The level of analysis in this dissertation is both organisational and individual. The dissertation evaluates organisation level capabilities and phenomenon such as resource orchestration, knowledge development and organisational ambidexterity. Furthermore, this dissertation studies individual-level capabilities and behaviour from entrepreneurial and managerial perspectives. The primary managerial contribution of this study comes from individual-level analysis wherein questions are answered regarding how a manager can lead his or her organisation in different situations when human resources are scarce and new business opportunities need to be implemented. For each of the three essays included in this dissertation, a thorough literature review is conducted and theoretical frameworks are identified. Moreover, the frameworks are used as theoretical lenses into the research question intricacies. Likewise, empirical data is collected from the case firms and then the data is analysed interactively through the data collection process.

Research methodologies of the essays are discussed in detail in each paper. This chapter presents an overview to research methodologies used in this dissertation. This chapter is divided into six sub-chapters. The first, the second and the third sub-chapters discuss about the main data collection methods, semi-structured interviews and participant observation, and data analysis. Each essay and its research methodology is discussed in dedicated sub-chapters.

4.1 Semi-structured interviews

In total, 12 case firms constitute the empirical data source used in this dissertation. Therefore, each case firm fulfils the same characteristics: 1) a service firm from the IT field, 2) less than 30 employees, 3) in the market for more than two years while demonstrating sufficient financial stability and 4) apply continuous opportunity seeking process as part of the firm strategy. The case firms are located in Finland, Estonia, Latvia, Poland, Spain and Colombia. In addition to the firm characteristics discussed above, the selection of the case firms is based on personal access to the case firms' operations. Specifically, the researcher played a role as a team or board member in the firms at the time of data collection. The geographical diversity of case firms location is a result of the researcher's business activities and personal relationships with the case firms and their owners. Semi-structured interviews and participant observation are the primary data collection methods. The interviewees include CEOs and other key persons in the firms, such as CTOs and senior sales and technical managers. The list of interviews is presented below in Table 3.

		Person	**Date**	**Place**	**Length**
Essay 1	**Case firm 1**	CEO	11.10.2011	Warsaw, Poland	55 min
		Sales director	8.11.2012	Paris, France	15 min
	Case firm 2	Sales director and project manager	23.11.2011	Riga, Latvia	52 min
	Case firm 3	Board member	28.1.2012	Medellin, Colombia	39 min
		Sales manager	8.4.2012	Medellin, Colombia	28 min
	Case firm 4	CEO and project manager	20.11.2012	Vantaa, Finland	27 min
	Case firm 5	CEO and technical manager	7.2.2013	Madrid, Spain	29 min
Essay 2	**Case firm 1**	CEO and sales manager	11.4.2013	Helsinki, Finland	43 min
	Case firm 2	CEO and CTO	2.5.2013	Vantaa, Finland	30 min
	Case firm 3	CEO and technical manager	18.2.2013	Tallinn, Estonia	44 min
	Case firm 4	CEO and sales manager	23.10.2012	Riga, Latvia	30 min
	Case firm 5	CEO and technical manager	15.11.2012	Madrid, Spain	33 min
Essay 3	**Case firm 1**	CEO	8.4.2015	Oulu, Finland	31 min
		Head of development	8.4.2015	Oulu, Finland	29 min
		CTO	8.4.2015	Oulu, Finland	30 min
		Head of sales	9.4.2015	Oulu, Finland	28 min
		Senior developer	9.4.2015	Oulu, Finland	18 min
		Senior developer	9.4.2015	Oulu, Finland	27 min
	Case firm 2	Head of sales	28.3.2014	Madrid, Spain	50 min
		CEO	14.11.2014	Madrid, Spain	34 min
	Case firm 3	CEO	9.10.2015	Vantaa, Finland	49 min
		CTO and sales manager	10.4.2015	Helsinki, Finland	42 min

Table 3. Semi-structured interview list

All semi-structured interviews were recorded and transcribed for analysis. In transcription documents the themes of the interviews were identified and marked for further data analysis. Data analysis was performed interactively in parallel with data collection. Interactive process of data collection and data analysis enables researcher to adjust data collection methods if there is a risk that reliability of the data will suffer, or there is need for increased efficiency or flexibility for the collection process (Eisenhardt, 1989).

Data analysis was performed in two phases following the case-study approach by Eisenhardt (1989). During the first phase the researcher acquired detailed knowledge of the case firms using a within-case analysis approach. The researcher studied the processes and practices of the case firms for planning further data collection activities. The second phase was cross-case analysis, which was performed in synchronisation with the process of within-case analysis. In the cross-case analysis, the purpose was to classify data by their source (interviews, observation data, and secondary data like company documents) and in this way to identify similar patterns and behaviours between the cases.

4.2 Participant observation

Participant observation is a research method which belongs under the umbrellas of qualitative and ethnographic research methods (Iacono et al., 2009). Ethnographic methods are not commonly used in research of strategic HR development in small firms (Nolan & Garavan, 2015). Participant observation is a useful research method to develop a holistic understanding of the phenomena being researched (Kawulich, 2005; DeWalt & DeWalt, 2010). Participant observation is a suitable research method in case study research strategy, where attention is paid to contextual conditions of studied phenomenon (Iacono et al., 2009). Becker (1958) describes participant observer as a person who 'gathers data by participating in the daily life of the group or organisation he studies' (Becker, 1958, p.652).

The researcher participated actively in the operations of the case firms from few months up to three years. During these periods it was possible to get deeply familiar with the processes and practices in the firms, characteristics of the social situations, and also people and their activities. The scope of observations developed during the project, following the model by Spradley (2016). In the beginning of the project, general and broad descriptive observations were made and recorded. This level of observations in the case firms were for example employees' personal characteristics, their position in the firm and links to relevant other people within the organisation and external links to relevant stakeholders. After the first analysis cycle the scope was narrowed to make focused observations. This level of observations were related to key processes in the research, employees' roles in the processes, their competencies and personal opinions how to manage and develop the processes. Further on it was possible to narrow the scope again to make selective observations. These observations were directly related to service development or opportunity exploitation projects, and how these projects are managed or should be managed. Each of the levels in the observation focus were linked to ethnographic questions made during the project. Finally, observations at all levels were made and manually recorded, which helped to develop holistic understanding of the case firms.

Participation took place mainly in the workplace but also during the business trips and several times also in informal situations like sport events, family meetings or dinners. These informal situations helped researcher to understand the social environment and behaviour of the people, and business issues were very seldom discussed in these situations. Descriptive and focused observations were made and recorded in these situations, but the main focus of data collection was based on situations at work and agreed project meetings, where selective observations were made and recorded

Researcher was able to access the case firms due to personal relationship with the managers of the firms. Researcher was either a member of the board and/or project team working in the service development projects as a technical specialist or advisor. In these roles it was possible to gain insight into the opportunity process of the case firms. All project team members were informed of the researcher's dual-position, both as an active member of the project team and as a researcher collecting data for an academic study. Active participation in the work processes as a member of the working community is categorised as complete participation (DeWalt & DeWalt, 2010). This type of observation method allowed intensive and longitudinal interaction between the researcher and the informants in order to understand daily routines of the organisations and study informant experience and behaviour (Waddington, 2004).

Field notes of selective observations were taken manually, attempting to express the main points and decisions discussed and made during the meetings. Descriptive and focused observations were also recorded manually in the notebook, by writing short sentences or drawing diagrams. Verbatim recording principle was followed when the situation allowed to take notes on the spot. In case it was not possible to take notes immediately on the spot, condensed field notes were taken as soon as possible after the event, or the field notes were amended using condensed account methodology. The key observations and findings were transcribed from manually written text to typed notes in a text file. In addition, researcher's own perceptions of the events and situations were recorded for further analysis.

4.3 Data analysis

Empirical data including semi-structured interviews and observation notes were analysed in parallel with collection, interpretation and reporting, which is a typical process in qualitative research, and enables iterative development of the research process (Iacono et al., 2009). Thematic analysis method was used to analyse the data. Initial collection of data during semi-structured interviews was based on pre-defined conversation topics which were discussed during the interviews. These conversation topics were derived from the research questions. For example, in order to understand how the case firms developed new business ideas, this topic was discussed with the informants during the interviews.

During the interviews and observational situations, it was possible to identify certain themes and patterns from the conversation topics. Using previous example of business idea development, a theme with joint business development with the customers could be identified. Under this theme, it was possible to recognise three patterns; 1) informal meetings and discussions with the customers, for example during lunch, 2) introduction of “a teaser” idea during sales presentations, and 3) organising dedicated workshops with the customers to brainstorm and develop new service concepts.

When the themes and patterns were identified, interview and observation data was coded accordingly. Because the process of collection and analysis was iterative, sometimes new themes came up and already identified themes were modified or removed if new evidence supported removal or modification. Cross-case analysis technique was used to verify if similar themes and patterns could be identified from the other case firms. Finally, it was ensured that the coded data is relevant to the research questions and irrelevant data was not taken into account or coded. Details how the coding structure was developed and used, is presented in the third essay. Following thematic analysis process by Aronson (1994), feedback for identified themes and patterns were asked from the informants. For example, at the end of the interview or during the following observational situation, the informant was asked feedback if researcher had understood the themes and patterns correctly.

4.4 Strategic resource management in the service sector

The first essay begins as a theoretical analysis of the service business and its requirements for management of organisations and its members in small entrepreneurial service firms. Initially, a literature review of service business characteristics and the strategic entrepreneurship concept is conducted. The main purpose is to determine if management practices in strategic entrepreneurship could be used to develop personal skills, competencies and organisational practices in service businesses. Several connections between these two fields are identified, which are tested empirically through five case firms from the IT services field.

Both interpretive and constructive research methods are used in the first essay. To begin, an interpretive method is applied in order to understand how case firms and their organisations are presently managed. Second, a constructive method is assumed so as to develop a new model for small service firm strategic resource management. The level of analysis remains with the entrepreneur or firm manager; therefore, a subjectivist analysis method is used. The subjectivist approach is based on analysing an individual's thoughts and activities, which is useful here when collecting data and analysing interviews of entrepreneurs and management team members.

Nine top managers from five IT service SMEs were interviewed between 2011–12. Each case firm provides IT services primarily for banks and other financial institutions. The services are processed by IT systems, wherein service concept content and functionality is designed, planned and implemented in co-operation with the customer. At the time of service production, customers do not have the possibility of influencing the service content. This type of service concept is termed a quasi-manufacturing service (Chase, 1978). A multiple-case study method is chosen because the use of multiple cases helps to improve validity of the study and can result in a deeper understanding of the research problem (Eisenhardt, 1989; Diaz, 2009; Piekkari et al., 2009). In addition, multiple-case studies enable a view to multiple realities and different standpoints, which helps to avoid accepting simple models or answers (Piekkari et al., 2009).

All interviews were recorded and transcribed for further analysis. Cross-case analysis tactics were used to identify themes discussed during the interviews and to find similarities between the case firms and their patterns. Finally, empirical findings were analysed in the contexts of theoretical frameworks of the service business and strategic entrepreneurship. As a result, a model of human resource management for small service firms is developed by using a constructive research approach.

4.5 Human resource orchestration for the implementation of entrepreneurial opportunities

The second essay examines the theoretical framework of resource orchestration, focusing on its usability for small service firm human resource management, specifically in the process of new opportunity implementation. The multiple case-study method with an interpretive research perspective is also used in the second essay. Five case firms were selected from the IT services field and two key persons from each firm, generally the CEO and one technical person, were interviewed through semi-structured techniques. Furthermore, some interviewees were also minority shareholders of their firms. The interviews took place between 2012–13. All interviews were recorded and transcribed for further analysis.

In this study, observation is used as an additional data source and collection method. Because the researcher has access to the case firms through membership on management boards or as an advisor in project teams, it is feasible to follow case firms' operations and daily activities. Observation is considered a useful research method for the interpretive research approach since a researcher is allowed to interact closely with actors, which provides opportunity for deeper insight into the research problems (Diaz, 2009). For the present study, the researcher's role is an outside observer, being involved with development teams but not having direct influence on the work they perform. Observation data is written and then stored in internal digital calendar systems within the case firms in order to be used for further thematic analysis. The secondary data sources include meeting memos and confidential documents received from the firms. The secondary data complements and supports findings from the primary data sources.

Data analysis was performed in conjunction with data collection, both as interactive processes. Interactive data collection and analysis allows a researcher to make adjustments to data collection methods if improvement is needed for reliability, efficiency or flexibility (Eisenhardt, 1989). In the present case, data analysis was performed in two phases. In the first phase, a within-case analysis approach was used to attain detailed knowledge and familiarity of the case firms. All data from each case firm and its process of opportunity implementation was gathered and analysed. In the second phase, a cross-case analysis was used, assuming tight coupling with the process of within-case analysis. The cross-case analysis tactic classifies data by their source, whether interviews, observation data and secondary data such as company documents, and identifies similarities between cases and their patterns. The purpose of this approach is to acquire deep knowledge of each case and its unique patterns and then analyse the data through diverse lenses. This approach enables a stronger fit between data and theory while increasing the likelihood of capturing novel findings from the data (Eisenhardt, 1989).

4.6 Organisational ambidexterity in entrepreneurial opportunity process – case: new service development

The third essay again focuses on analysing the entrepreneurial opportunity process; however, it does so by using the specific framework of service businesses, NSD (Johnson et al., 2000). This essay examines how organisational ambidexterity can be used in different stages of the process and determines which aspects should be addressed from organisational and managerial perspectives. An interpretive research approach is used to understand how the case firms apply organisational ambidexterity in their respective processes of new opportunity implementation. An interpretive research approach is suitable for research situations where the researcher aims to understand the activities and experiences of people and develop a holistic view of social problems and phenomena (Leich et al., 2010).

Empirical data was collected from three case firms in the IT services field, where the researcher had a special access as a member of management boards or a member of development teams. Although three firms is a low number for a multiple-case study, since the researcher has a deep level of access to the firms, the target is then to achieve a balance between the richness that single-case studies provide and the level of generalisability that multiple-case studies offer (Eisenhardt, 1989; Eisenhardt & Graebner, 2007).

Empirical data collection took place between 2014–16 and observation was the main source for this data. In the study, participant observation method was used as the researcher had worked as a specialist in the development teams and had been involved in both the decisions and the work itself as a technical specialist. The participant observation method allows intensive and longitudinal interaction between researcher and informants, which helps to understand the daily routines of organisations and study informant experience and behaviour (Waddington, 2004). The observation data was transcribed in a notebook and it is based upon 77 project meetings and other informal meetings. In addition to participant observation, semi-structured interviews from eight persons in the case firms were also used as a primary data source. Interviews from CEOs, CTOs, sales managers and senior engineers were recorded and transcribed. Manual notes are supported by secondary data, which constitute of official notes from the project meetings and emails that were exchanged during the project.

In this data analysis, the same interactive practices were followed as in the second essay. Initially, observation data analysis was performed in conjunction with data collection. Interactive data collection and analysis enables the researcher to adjust data collection methods, for example, if during the analysis the data collection practices need to be improved for greater reliability or efficiency (Eisenhardt, 1989). The second data analysis step was performed using cross-case comparison techniques (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Finally, the two primary data sources, observation notes and interview transcripts, were analysed to find common themes from each case firm and the secondary data, emails and official meeting notes were reviewed to complement the primary data source findings.

5. Results

This section provides a summary of the findings and results in three essays. In addition, with carefully selected perspectives concerning the main result of this dissertation, it introduces a concept for strategic human resource management in entrepreneurial firms. The concept and its dimensions are presented in Figure 2.

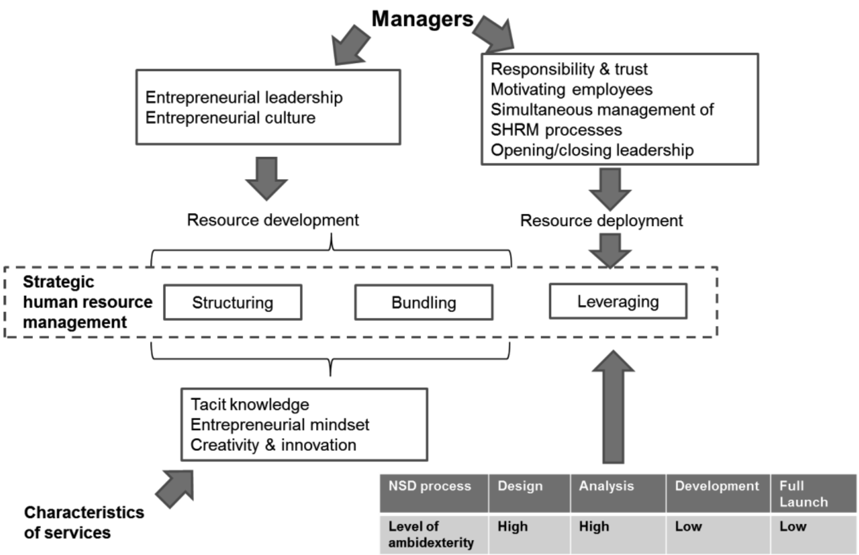

Figure 2. The concept of strategic human resource management in entrepreneurial service firms

Strategic human resource management in entrepreneurial service firms has several specific perspectives. As such, human resource management includes managerial activities for the selection, development and deployment of human resources. These activities may include for example compensation and rewarding, team-based job designs, quality improvement, employee empowerment and development of the talent (Huselid et al., 1997). What makes human resource management practices strategic is the connection between resources and firm strategy. Since human resources are considered strategically important for a firm, the focus of resource management practices is to implement firm strategy (Huselid et al., 1997). In entrepreneurial literature, strategic human resource management is connected to the implementation of entrepreneurial opportunities, where 'resources are managed strategically when their deployment facilitates the simultaneous and integrated use of opportunity- and advantage-seeking behaviours' (Ireland et al., 2003, p. 970).

Two factors differentiate entrepreneurial service firms from the other firms. First, the these firms are entrepreneurial, meaning that they are continuously seeking for new business opportunities as part of their strategy. These opportunities are needed to differentiate themselves from competitors and enable growth and creation of wealth. However, firms cannot solely focus on seeking opportunities, they must also manage daily routines and operations to guarantee positive cash flow and firm survival. In the literature of organisational research and ambidexterity, the search for new opportunities has been considered as explorative behaviour whereas managing daily routines and operations has been deemed as exploitative behaviour.

Second, the service business has special characteristics that allow it to differ from product businesses. Services are intangible objects which are not used but consumed, often simultaneously with the production of services. Services are specific to delivery time and customer location; and, due to unique nature of service experience, service quality can be measured only during or after consumption of the service (Othman, 1999). Services set specific requirements for a firm's employees, their personal characteristics and skills. In fact, a significant portion of ideas for new opportunities come from their customers. Therefore, it is important to have strong communication skills. Furthermore, strong communication skills are needed to convince the customer of the service value as the customer cannot experience the service before it is delivered. Creativity and innovativeness are part of the entrepreneurial mindset. They are required to understand customer's requirements and both recognise and further process ideas for opportunities. The skills required for service businesses are primarily tacit knowledge. This is to say that the skills cannot be codified and they are difficult to copy.

Strategic human resource management in entrepreneurial service firms is divided, at a high level, to resource development and deployment. Based on the concept of resource orchestration, development includes processes of structuring and bundling resources. Then, structuring and bundling processes each include three sub-processes. More specifically, the sub-processes that are important for entrepreneurial service firms include resource acquisition and enrichment. Resource development begins with recruiting the appropriate employees who possess suitable personal characteristics for the service business, or a sub-process of acquisition, and continue until new employees are trained and integrated into the organisation, or a sub-process of enrichment. Thus, resource development is a continuous process. It must be maintained as long as employees work for the firm. If new opportunities appear with short notice, resources must demonstrate capabilities for different activities and examine new opportunities quickly as with, for example, new technologies. Resources must also be creative enough to understand how to develop new service concepts based on new opportunities.

This dissertation asserts that the purpose of resource development is to have multi-skilled employees in a firm who are willing and capable to engage ambidextrous behaviour. Ambidextrous behaviour is specifically needed in situations where daily operations are managed simultaneously with new opportunity implementation. Using the NSD process as a framework for service development, the two first stages – design and analysis – include tasks that are both exploitative and explorative and require ambidextrous behaviour. Typically, sales people and managers participate in exploitative activities, including selling existing services and managing the day-to-day operations of a firm. Explorative activities of sales people and managers are related to communication of new ideas and service concepts with the customers.

Furthermore this dissertation argues that managers should use practices and methods from the concept of strategic entrepreneurship to achieve the desired level of ambidexterity in the organisation. These practices and methods build upon entrepreneurial leadership, which encourages employees to create and promote innovations, questions the dominant logic of existing business and is ready to take risks. Entrepreneurial leader's activities foster entrepreneurial culture, where 'new ideas and creativity are expected, risk taking is encouraged, failure is tolerated, learning is promoted, product, process and administrative innovations are championed, and continuous change is viewed as a conveyor of opportunities' (Ireland et al., 2003, p. 970).

A multi-skilled and ambidextrous pool of resources is ideal for both managing daily operations and implementing of new opportunities. With multiple skillsets and a capability and willingness to engage in exploitative and explorative activities, a firm maintains high efficiency and existing service quality while also implementing and integrating new opportunities into an existing service portfolio. For the concept of resource orchestration, resource deployment includes the process of leveraging resources. Leveraging resources also involves three sub-processes: mobilisation, coordination, and deployment of resources. The purpose of the leveraging process is to use acquired and developed resources for any firm activity, albeit placing emphasis on implementation of identified opportunities. During the leveraging process, suitable resources are allocated to NSD processes, which create new service concepts for the firm.

This dissertation argues that ambidextrous behaviour is required for successful NSD processes while maintaining daily operations in a firm. However, it contends that ambidexterity is needed only in the beginning of the NSD process – for the stages of design and analysis – while ambidexterity is not needed during the latter stages, development and full launch. I propose that managers can use several methods and practices from entrepreneurial leadership to successfully administer the deployment of resources. By providing employees with the responsibility of and independence to manage their own work, it is possible to establish a trusted relationship between a manager and an employee. When managers trust their employees without quantitative control mechanisms, both individual and organisational performance are likely to improve (Spreitzer & Mishra, 1999).

The simultaneous management of resource orchestration processes, such as acquisition, bundling, and leveraging, is an important managerial capability. Generally, there are no slack resources in small entrepreneurial firms. Thus, in this type of situation acquisition, development and deployment of employees must occur in parallel. In ambidextrous situations, for example, when daily operations must be managed and new opportunities must be implemented simultaneously, employees are often required to work more hours than outlined in their working agreements. Moreover, employees experience mental pressure when they must work in unknown fields and develop new knowledge in a given field. Those who are capable of working in such situations must foster ambidextrous behaviour while also having a high morale and an open attitude to face new challenges.

In these situations, managers must pay special attention to employee motivation. One aspect of motivation includes traditional practices such as reward and bonus systems, flexible working hours and fringe benefits. Indeed, these tangible benefits are important; however, this research argues that the behaviour of entrepreneurial leader is even more important for employee motivation than the aforementioned tangible benefits. Both open and clear communication of a high level vision of the project in hand, and sharing a leader's passion for goal achievement are the most significant motivating factors in situations which require ambidextrous behaviour and temporary overload in physical working hours and intellectual performance.

Different leadership approaches are necessary to manage ambidextrous and non-ambidextrous teams and explorative and exploitative activities. An opening leadership approach is similar to entrepreneurial leadership through factors such as encouragement for risk-taking, experimentation of different ideas and allowance of errors in different experiments (Rosing et al., 2011). Opening leadership should be used in the design and analysis stages of the NSD process. Closing leadership, in contrast, includes monitoring and controlling task accomplishment, creating routines and taking corrective actions when necessary (Rosing et al., 2011). A closing leadership approach is more suitable for the development and full launch stages of the NSD process, where given schedules and quality requirements are more important success factors than the generation of new, explorative ideas.

Finally, this dissertation proposes that different types of leaders are allocated to manage explorative and exploitative activities. For example, the explorative stages of design and analysis can be supervised by general firm managers whereas the most exploitative stages, development and full launch, should be handled by project and production managers. All managers who assume responsibility for an activity should implement opening or closing leadership styles depending on the level of exploitation or exploration within their teams.

6. Discussions and conclusions

In this section, the conclusions of the dissertation are presented. The purpose and the main questions of the dissertation are revisited and then explained how the questions were approached. Next, the theoretical and managerial contributions of the dissertation are outlined, followed by the limitations identified in the dissertation and its selected research methods. Finally, recommendations for future research are outlined.

The main purpose of this dissertation studies how entrepreneurial service firms can develop and deploy their human resources to enable efficient opportunity implementation process simultaneously with management of daily operations. This research question sheds light into a problem with which numerous young service firms presently struggle. In small entrepreneurial firms, human resources are scarce due to a lack of skilled employees and high employment costs. As today’s competitive business environment is dynamic, one business idea cannot necessarily guarantee long-term success for a firm. Therefore, a firm must continuously identify and implement new business opportunities. When new opportunities are identified, it is challenging to develop and deploy existing human resources to manage both existing business operations and new opportunities. This dissertation provides new ideas for managers of small service firms concerning how to develop and deploy human resources for future success in the service sector.

In order to find explanations for this query, two perspectives are used to approach the main research question. First, differences between product businesses and service businesses are analysed. Special skills and competencies required in the field of service business are identified, and how managers in entrepreneurial service firms can develop service-specific skills is examined. Second, the usability of different theoretical frameworks for simultaneous management of existing business operations and implementation of new opportunities is analysed with the help of case studies and empirical research data.

6.1 Theoretical contributions

This dissertation fills several theoretical gaps that are identified in previous research. Research on strategic HRM and specifically on small entrepreneurial firms has been dominated by RBV (Ireland et al., 2003; Foss et al., 2008; Nolan & Garavan, 2015). This dissertation combines several theoretical frameworks in a unique manner that has not been studied before. The research is designed to span selected theoretical frameworks in the fields of entrepreneurship and strategic human resource management and analyse the usability of identified frameworks in the context of service businesses. In the case of the present dissertation, more recently developed resource management frameworks are selected in order to address the dynamic nature of modern business environments. By combining the frameworks of strategic entrepreneurship, resource orchestration and organisational ambidexterity, this dissertation offers a unique perspective for strategic human resource management in service businesses. This theoretical design also responds to recommendations for future research by offering richer usage of other theoretical frameworks than RBV, which are more suitable in the context of SMEs (Nolan & Garavan, 2015).

Even some recent studies have analysed relationship between HRD and organisational ambidexterity in small firms (Patel et al. 2013, Sheehan et al. 2013, Jackson et al. 2017), research on this topic is still very limited and this dissertation sheds light on this specific sector of HR management. This study contributes also to the literature of organisational ambidexterity by analysing usability of ambidexterity in situational and environmental contexts. Situational context in this dissertation is the process of opportunity implementation and environmental context is entrepreneurial service firms. By approaching organisational ambidexterity in a given situational and environmental context, we can create firm-specific answers to these questions, which are needed to understand better usability and applicability of organisational ambidexterity (Markides, 2013).

Because quantitative research methodologies and data collection methods have dominated research in strategic HRM (Nolan & Garavan, 2015), this dissertation contributes to theory from methodological perspective as well. Interpretative and constructive research methods are used and majority of the data is collected with semi-structured interviews and participant observation. Stronger use of qualitative research approach and ethnographic methods, particularly observational and participative research have been encouraged in future research (Nolan & Garavan, 2015). In addition, by approaching the questions in strategic HRM during the process of opportunity implementation, the request to study HRM in situational contexts is fulfilled.

In the first essay, personal characteristics and skills needed in the service business are identified and how managers can further develop those skills is examined. The essay contends that the specific domains of strategic entrepreneurship can be linked either to an employee's competence in the service business or to the managerial skills in a service organisation. The results of these findings are formulated as a conceptual model for strategic resource management in service organisations. Thus, the main theoretical contribution in this essay is the link of strategic entrepreneurship concept to service businesses. More broadly, this dissertation is the first to use strategic entrepreneurship as a theoretical lens for analysing strategic human resource management in service businesses. As a result, a conceptual model for strategic resource management in a service organisation is proposed based on the links identified between the service business and strategic entrepreneurship.

The second essay examines the resource orchestration framework usability for entrepreneurial service firms during the implementation of new business opportunities. Existing research is limited in terms of examining the use of resource orchestration framework as a theoretical lens in service businesses. However, selected sub-processes in resource orchestration framework are more important than the others, while some sub-processes are not relevant in the context of the study. Yet, several sub-processes need to be managed simultaneously, which poses challenging requirements for managerial ability. As a result, the main theoretical contribution, as proposed in the second essay, is a revised human resource orchestration model for the process of entrepreneurial opportunity implementation.

Next, the third essay offers an innovative theoretical research design by examining how organisational ambidexterity can be applied in small service firms during the implementation of entrepreneurial opportunities. The NSD concept is used as a framework in the implementation process. More specifically, classical literature from entrepreneurial opportunities is used to strengthen the first steps of the implementation process, which are focused on identification of opportunities. In this essay, the research design is unique, offering theoretical insight into the challenge of strategic human resource management. Since previous research that connects the process of NSD with organisational ambidexterity is lacking, this essay contributes new theoretical knowledge to the field.

As a result of the third essay, a conceptual model of the usage of organisational ambidexterity is developed. This model integrates various types and levels of organisational ambidexterity with the NSD process. Both structural and contextual ambidexterity are addressed in this model, requiring the level of organisational ambidexterity to be linked to different stages of the NSD process such as design, analysis, development and full launch. In addition, different ambidextrous leadership styles, such as open and closed, are positioned in this model together with employees and teams, which influence certain stages of the NSD process. This synthesis is unique among the literature of entrepreneurship and organisational ambidexterity and offers a remarkable contribution to theoretical discussion.

In this dissertation, results from the three essays are summarised as one conceptual model for strategic human resource management in entrepreneurial service firms. Special characteristics of service businesses have an influence on the personal characteristics which are required for the service business. Both leadership style and the development of entrepreneurial culture can be used to develop and deploy human resources in an optimal manner for entrepreneurial opportunity implementation. The resource orchestration concept can be used for long-term development and deployment of human resources. Lastly, the concept includes the NSD process for implementation of entrepreneurial opportunities, applying a level of organisational ambidexterity to different stages of the development process. The final conceptual model for strategic human resource management in entrepreneurial service firms extends and integrates existing theoretical frameworks and generates new knowledge within the field.

6.2 Managerial contributions

The research topic and questions of this dissertation are related to the firm leader's management practices. In product businesses, the value of a firm and its competitive advantage is often based on tangible products, features and intellectual property rights. In contrast, for service firms the competitive advantage is often intangible, located in aspects such as employee knowledge and skills. For this reason, it is important to understand what types of employees service firms should recruit and how human resources can be developed to achieve the best possible competitive advantage for a firm.

The main research question of this dissertation touches upon one of the most difficult challenges in small firm management. After the first stages of a firm's life-cycle and initial funding, a firm must generate positive cash flow in order to survive its first years as a firm and to establish a stable market position. After this point, a firm's position in dynamic markets is still threatened every day. A high level of competition pressures a firm to seek new business opportunities in order to differentiate itself from competition and generate new businesses as old concepts get matured, sales margins decrease, and, finally, old service concepts reach expire and are abandoned. Although large firms may have dedicated teams for seeking and implementing new opportunities, small firms must survive by using the same teams for daily operations and new opportunity implementation.

From a managerial perspective, the first essay examines the types of skills and personal characteristics needed in service firms. These findings assist managers to recruit the appropriate employees and form efficient, skilled teams within their firms. The essay introduces a conceptual model for strategic resource management in service SMEs, which also has pragmatic applications.

The model offers practical guidance and methods for managers to lead their human resources in the service sector.

The second essay analyses the resource orchestration concept and its usability for small service firm's human resource management. The managerial focus is maintained when studying the implementation of new business opportunities and considering how human resources are managed during this process. The results of this essay reveal that managers must trust their employees by providing them certain levels of freedom and responsibility, using specific tools to foster employee motivation for working outside their normal limits and learning to manage resource orchestration processes simultaneously. By highlighting these important elements in human resource management, managers gain practical methods for developing and deploying human resources.

The principal focus of the third essay, from the managerial perspective, is to evaluate the methods to achieve and apply organisational ambidexterity during new opportunity implementation processes. Previous research has emphasized the importance of organisational ambidexterity in a firm's operations and activities, with some critical opinions emerging as a result of this research as well. However, the third essay contributes to practice by illustrating the type of organisational ambidexterity and the level at which it must be implemented in the NSD process to provide the most efficient result for a firm. In addition, leadership styles are discussed in the third essay, specifically regarding how to deploy various styles during the NSD processes. From a leadership perspective, in contrast, this essay offers practical advice for managers to lead their teams during the NSD processes.

6.3 Study limitations

Despite its theoretical and managerial contributions, this dissertation has limitations. Indeed, the dissertation was designed to examine the research questions by primarily using case studies as empirical data sources. The essays utilised the multiple case study method for a specific service business field, IT services for the financial industry. Yet, this field only represents a narrow portion of the whole service business sector. As a result, more research is needed in other service business sectors as well as on types of services other than quasi-manufacturing services, which were emphasized in this dissertation. Specifically, people-based services would shed more light into the problem of human resource management because all activities are based on the knowledge and skills of employees for these services (Chase, 1978).

The case firms were selected due to personal access the researcher had to the firms at the time of empirical data collection. The researcher was either working with these firms through joint projects or was in a management team position. With this access in mind, a random selection process for the case firms would have improved the validity of results in this research. From a geographical perspective, the case selection process could have been more systematic. The case firms were generally located in Finland, although some were in based in other European countries with one being on another continent. Case firm selection could have emphasised choosing firms only from one country or cultural territory in order to avoid cultural bias when examining a firm's working methods and management practices.

In some situations, both the researcher's position in the case firms and the personal contacts maintained with employees may have influenced how employees behaved, either in observational situations or in interviews. A neutral position in the case firms as an external researcher would possibly have resulted in more reliable empirical data.

In addition to a multiple case-study approach, other research methods could have complemented the findings of this dissertation. A quantitative approach, for example, could have been used to analyse the influence of examined managerial practices on a firm's financial performance. Moreover, this dissertation focused on a certain stage and specific projects of the case firms. A longitudinal study that took into account a series of projects and different life-cycle stages of the case firms could have further increased the reliability of the results.

The theoretical frameworks selected for this research were generally more recent frameworks developed within the past two decades. Strategic entrepreneurship, resource orchestration, organisational ambidexterity and NSD are theoretical concepts mostly from the 21st century. In spite of this decision, using other concepts as theoretical lenses could have widened the perspective of research question analysis.

6.4 Future research recommendations

This dissertation generates a broader understanding to the question of how to develop and deploy scarce human resources for daily operations and new opportunity implementation simultaneously. By taking into account the theoretical context and research design in this dissertation, several avenues open for future research. First, the concepts developed in this study can be tested empirically in the future. For example, to plan and manage a development project and apply a level of ambidexterity and different leadership styles in different stages of NSD based on the findings of this dissertation, would yield insightful results. Research could analyse the project itself and the experiences of project managers to determine if any suggested practices are useful for new opportunity implementation projects. Additionally, to evaluate the concepts in this dissertation a comparative analysis of several development projects consisting of different project management practices would be productive. It would be interesting to examine which role, for example, organisational ambidexterity serves when different project management methods are used. Furthermore, applying organisational ambidexterity in waterfall projects instead of agile projects may be useful.

The units of analysis in this dissertation were the firm manager and the leader as well as examination of practices for human resource management. An interesting perspective would be to focus on the employees' perspective and analyse how employees experience the management practices presented in this dissertation, asking if these practices motivate them to engage in ambidextrous behaviour and to exert their best effort for new opportunity implementation.

Finally, quantitative research methods would offer new perspectives to further study the problems covered in this dissertation. In this case, research questions should be operationalised to analyse, for example, the financial performance of case firms that apply the management practices introduced in this dissertation. Future avenues of analysis such as longitudinal studies of the firms' performance, employee motivation and job satisfaction and failure rate of opportunity implementation projects would further contribute relevant aspects to the topic of this dissertation.

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Small service firms must continuously develop new service offerings in order to grow and differentiate from competition. However, implementation of new opportunities into profitable businesses requires human resources which are typically scarce in small firms. This dissertation examines how entrepreneurial service firms can develop and deploy their human resources to simultaneously enable efficient opportunity implementation processes and to manage daily operations. Multiple case studies are examined through various theoretical lenses in three essays. The results of this dissertation argue that the purpose of strategic HRM in small service firms is to recruit and educate multi-skilled employees who are willing and capable to engage in ambidextrous behaviour. Furthermore, this dissertation introduces models how the managers can benefit from different theoretical frameworks when developing and deploying firm's human resources.

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