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SUCCESSFUL STRATEGY AND ORGANIZATION

Gjalt de Jong

**CENTRE FOR SUSTAINABLE ENTREPRENEURSHIP
 MONOGRAPH SERIES, NO. 2**

SUCCESSFUL STRATEGY AND ORGANIZATION

Gjalt de Jong

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ABOUT THE CSE MONOGRAPHS

Since its foundation in 1614, the University of Groningen has enjoyed an international reputation as a dynamic and innovative university of higher education offering high-quality teaching and research. Balanced study and career paths in a wide variety of disciplines encourage the 30,000 students and researchers to develop their own individual talents. Belonging to the best research universities in Europe and joining forces with prestigious partner universities and networks, the University of Groningen is an international place of knowledge.

Campus Fryslân is a Faculty in the making and is a part of the University of Groningen. Campus Fryslân focuses on the grand challenges of our society. Rather than teaching one particular discipline, the Faculty is aimed at the multidisciplinary study of academic questions connected with the social and economic themes. The Faculty's core philosophy is to connect regional themes with interdisciplinary global issues.

Within Campus Fryslân, the Centre for Sustainable Entrepreneurship is dedicated to one of the main challenges in the modern world economy: the transformation from an oil- and gas-based economy into a circular society. Sustainable entrepreneurship offers the creative potential needed to develop a circular society in which economic, social, and ecological systems are simultaneously balanced and preserved. The Centre will offer a master of science in sustainable entrepreneurship for students, master classes for business leaders and sustainability labs for academic scholars.

The monograph series of the Centre for Sustainable Entrepreneurship offer state-of-the-art academic research related to understanding the causes and consequences of sustainable entrepreneurship. The monographs offer a unique opportunity for new thought leadership and new path-breaking research guiding students, junior and senior academic scholars, business leaders and policymakers in their efforts to design, implement and preserve successful sustainable entrepreneurship. Each monograph comprises several chapters which introduce theories, methods, evidence and implications relevant to think about sustainable entrepreneurship in the modern world economy.

Research in the field of sustainable entrepreneurship is in its infancy. Research aims, questions, theoretical concepts, models, research methods and empirical evidence are being developed. This process benefits greatly from essential progress made thus far in all fields of science. The monograph series will focus on providing a robust and comprehensive forum for the growing scholarship on sustainable entrepreneurship. The volumes in the series will cover interdisciplinary and multi-method approaches dealing with the challenges of making the new business models of sustainable entrepreneurship successful.

The monograph series from the Centre for Sustainable Entrepreneurship aim to offer inspiration to all who are or soon will be designing and implementing sustainable options for their organizations, be they directors, managers, employees, academic scholars, students, politicians or policymakers. Through the ongoing release of focused topical titles, this monograph series will enable all representatives to contribute to a rigorous and comprehensive understanding of the causes and consequences of sustainable entrepreneurship in the modern world economy.

Gjalt de Jong, PhD
University of Groningen/Campus Fryslân

Series Editor
Centre for Sustainable Entrepreneurship

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BIOGRAPHY

Gjalt de Jong, PhD (Oentsjerk, 1968) is Director of the Centre for Sustainable Entrepreneurship at Campus Fryslân at the University of Groningen. He also is Associate Professor of Strategy at the Faculty of Economics and Business at the University of Groningen. He received his Master's degree in Economics and a PhD degree in Business Administration from the same university. He is a senior member of the Faculty's research institute. Prior to his current appointment, he served as a senior advisor at PricewaterhouseCoopers and KPMG.

De Jong has extensive experience in research into strategic issues. He publishes on key strategic issues related to leadership, organizational structures, inter-firm collaboration, globalization and public policy. His research is interdisciplinary, multi-level and multi-method.

De Jong has extensive experience in university education. He has developed and supervised virtually every conceivable form of educational activity for students of Bachelor's and Master's programmes and postgraduate studies. He has coordinated educational programmes for economics, business and management. He has managed both large international programmes and small national groups. He has coordinated thesis programmes for various departments and has supervised hundreds of research projects on strategy themes.

De Jong has extensive experience as a senior advisor in consultancy for the private and public sectors. He developed his consulting skills throughout his career with leading consultancy firms and their international clients. He provides strategy advice to leaders of international companies, but also to managers from small and medium-sized enterprises, universities, government and network organizations.

De Jong plays an active role in public debates. He combines his knowledge with research, education and advice in developing and challenging opinions on contemporary regional and national strategic issues. He regularly gives guest lectures and public presentations.

CHAPTER 1. INTRODUCTION

1.1 Introduction

This book is about successful strategy and organization. It is the second monograph in the series of the Centre for Sustainable Entrepreneurship. The first monograph explained the definition of strategy. Strategy is all about making choices and taking action to successfully differentiate ourselves from our peers. Strategy as a scientific discipline is the study of the fundamental causes and consequences of the choices which businesses make and the activities they undertake to successfully become distinguishable from their peers. Strategy, in short, is all about successfully making a difference. The first monograph addressed how personal characteristics matter for this.

This second monograph switches to a new unit of analysis: the organization. The premise in this book is that successful strategy and organization are interrelated and mutually reinforcing each other. The strategic choices a company makes immediately determines the organizational structures it designs. When a company decides to enter new international markets it will also make decisions about how to produce and distribute the new products it intends to sell abroad. When a company wants to turn its current performances it generally cannot do so without seriously reconsidering the structure within which it currently operates.

But the other way around also applies. Bureaucratic organizations find it difficult to develop and produce new products and services precisely because its structures generally prohibit them to do so successfully within reasonable time limits. Loosely organized and young organizations are hampered to grow when maintaining informal structures they appreciate and induced them to start new ventures in the first place. Hence, the structure of an organization coincides with the strategic choices its make. Strategic choices and organizational structures co-evolve in a complex game of interaction. The aim of this book is to disentangle some of this complexity and, in so doing, offer insights and inspiration for the management of successful strategy and organization.

The remainder of this chapter offers foundations to reflect on the “strategy and structure” paradigm. I first position strategy research in the modern world economy. I explain the rationale of the interdisciplinary, multi-unit and multi-method nature of strategy research. This section helps the reader to come to grips with the multi-faceted nature of strategy research – an issue that is also particularly relevant for understanding the causes and consequences of sustainable entrepreneurship. Subsequently, I review strategy teaching philosophies and methods. I advocate various principles that guide the reader to think about meaningful strategy teaching in the modern world economy – again, with direct relevance for sustainable entrepreneurship. Finally, this chapter

offers the outline of the book.

1.2 Strategy research

Research into the causes and consequences of successful strategy in the modern world economy requires (a) an interdisciplinary approach, (b) an appropriate level of analysis, and (c) a multi-method perspective. Much strategy research has been one-dimensional. An intensive study of one dimension of successful strategy does indeed provide fundamental insights into that particular dimension. The research design presented in this book – and in the CSE monograph series – is different. Instead of specializing in a single strategic question, this book – and in the CSE monograph series – presents an approach in which multiple dimensions of successful strategy are treated systematically. The strength of this approach lies in its ambition to offer an all-encompassing comprehensive study of successful strategy.

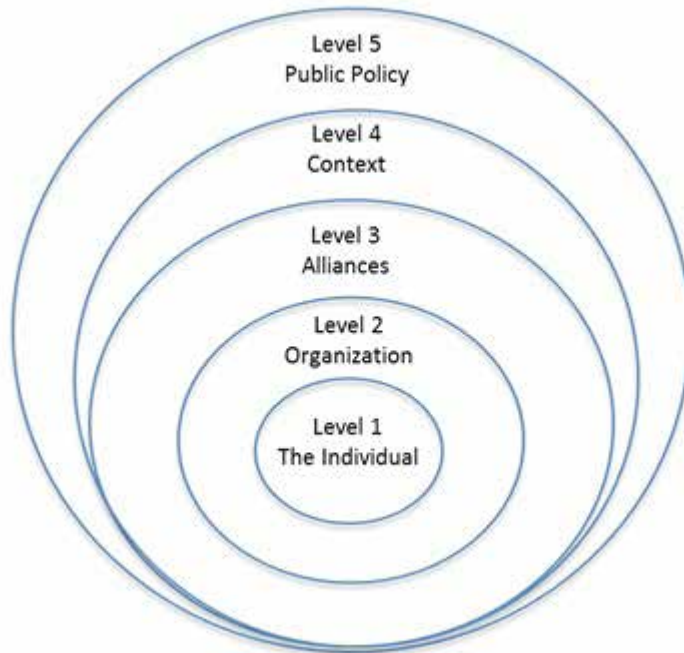
The book presents a variety of research methods. In so doing, it anticipates the strengths and weaknesses of each academic research method. For example, quantitative studies aligned with the empirical research cycle enable the analysis of causal relationships when panel data are used. This method, however, is less suitable to understanding how particular processes determine the causalities observed. Case study research is most appropriate for this. Case studies in turn, however, offer no opportunities to generalize findings which derive from the case analyses. Empirical studies of cross-sectional data offer a valuable opportunity to understand strategy success for particular dimensions, albeit that these methods are known for their limitations due to endogeneity. The combination of methods presented in this book enables us to get to grips with the multi-faceted and multi-level nature of successful strategy in the modern world economy.

The alleged cost of the integrated research programme – interdisciplinary, multi-level and multi-method – presented in this book is the loss of depth in each of the research areas covered. The question is whether depth should always be the goal of research. A thesis is that the marginal value of each additional specialist insight entails diminishing returns for the existing body of knowledge of a particular strategic issue: the added value of new insights will initially increase greatly, but level off at a given point. This is related to what is known as dialectics of lead. This law states that a head start in a specific domain often does not lead to infinite progress, given that over time there is little incentive to seek further improvement. This book combines the best of both perspectives: in-depth analysis for particular research questions materializing dialectics of lead prior to its decreasing marginal returns.

Strategy research encompasses different domains grouped according to a particular

unit of analysis. Figure 1 presents a categorization of strategy research in different units of analyses.

Figure 1. Strategy research in the modern world economy



A first level of analysis concerns the individual. This level of analysis is relevant because strategic decisions are essential to individual decisions: for example, the director of an organization decides to buy another company. The root causes of strategic success or the failure of individuals have therefore the subject of study in the first monograph of the overall CSE monograph series.

A second level of analysis concerns strategy and organizational structure, which, as said, are inextricably linked and therefore form an independent research domain here. Structure can be conventional or modern and innovative. There are wonderful examples of structures in the modern world economy where various innovative organizational methods are brought together in balance and sustained. These examples include the realization that democracy, respect and ethical behaviour could lead to sustainable strategic success going far beyond what many conventional structures envisage.

A third level of analysis concerns strategy and inter-firm alliances. This domain addresses the question that each organization will have to face: what parts of the value chain should be outsourced or obtained in collaboration with other companies? With the hyper-dynamics of the modern world economy, this question is valid more than ever. Some organizations are very successful in setting up and managing alliances with other companies and can therefore successfully set their businesses apart from others. Other strategic alliances fail and the question is whether and how alliance failure can be prevented.

A fourth level of analysis studies strategy and the context of organizations. Many companies in the modern world economy operate in several countries and are therefore confronted by cultural, institutional and economic differences. The question is whether, and if so how, these international differences determine the success of their strategic choices.

A fifth level of analysis concerns strategy and public policy. In the modern world economy, government increasingly plays an important role. Governments and international organizations are increasingly producing new laws and regulations which impact on business and define their strategic success. The role of government in formulating and implementing successful strategy is therefore a key focus for modern strategy thinking.

The aforementioned domains must not be understood as straitjackets. Over time, strategy research has become increasingly multilevel. Numerous combinations of levels can and are made in modern strategy research integrating individuals within organizations, organizations within contexts or individuals in contexts nested in different institutional regimes. In either case, it fosters the added value of the research once the appropriate level or levels of analyses are clearly addressed. Ambiguity about the unit of analysis contributes to ambiguity of the findings and the applicability of the research.

1.3 Strategy teaching

One of the best ways to study strategy and organization is to teach it. Interactions with scholars, students and business leaders assist in reflecting on paradigms, models, methods and findings. The paradigm of strategy teaching self is evolving. It is worthwhile to reflect on appropriate teaching philosophies and methods in order to benefit effectively from the interdisciplinary, multi-method and multi-level characteristics of modern strategy research.

The 'old' and the 'new' world at academia

Regarding education, one can argue for an 'old' and a 'new' regime in research universities. In the old regime the professor was central. The professor had unique insight into the relevant field and decided which theory and what research method had to be taught. This is the conventional teaching model in which the professor is the determining factor, and where lectures are the main form of work. In the modern world the teaching of strategy in universities would benefit from a different content and design. One of the main differences is caused by academia interacting with the outside world. That in itself is a challenge.

The purely academic education of students is among the dominant views in science. Inherent to this vision is that academic education should primarily occur outside the mundane sphere. It is used to avoid debate about the applicability of academic models. A modern vision accepts that almost all university-educated students continue their careers outside university. When this is accepted, students should be able to learn skills to further their careers outside university.

University students of strategy should gain professional knowledge and develop research skills but also have the ability to assimilate strategy competences and skills. The latter are not only the preserve of universities of applied sciences – they should also be an important element in the educational programmes of all universities in general and for strategy in particular. This is a strategic choice that universities can make and one that allows them to distinguish themselves. Relationships with companies are a form of invisible capital which forms the basis for the strategic success of universities. Such partnerships offer opportunities for mutual benefit. Companies gain access to talent, universities gain access to the strategic issues confronting businesses and the opportunity to provide answers. Cooperation does not mean that a university will be exposed to the vagaries of business as is commonly feared and argued by conventional scientists.

Strategy is a discipline that lends itself ideally to teaching methods involving theory and practice. There are plenty of managers who design strategies – often from the proverbial cabin in the woods – and then walk away. This method of doing strategy is very reminiscent of Monty Python's race for the deaf: the starting gun fires, but no one starts running as no one hears it. One of the alternatives is equally unappealing. There are companies which deliberately operate without any strategy, under the motto 'any strategy is doomed to fail' or 'pre-determined choices negate any form of creativity'. This corresponds to Monty Python's race for people with no sense of direction: each runner can choose his own finish line and no one can ever win.

The combination of theory and practice in modern strategy teaching plays on the fact that virtually every student starts a career in business upon successful completion of their Bachelor's or Master's degrees. Only a few start careers as PhD students at university. Of this latter group, only a fraction becomes academic scholars. Universities in the modern world economy are challenged to conform to this combination fostered by professional accreditation programmes. Again, the fact that business practice plays a role in the academic teaching of strategy does not mean that the scientific aspect is subordinated. Thanks to the interdisciplinary, multi-level and multi-method approach this book adopts, strategy offers persuasive opportunities for university education in the modern world economy.

Universities in the modern world engage with outside organizations where students can develop their professional knowledge and skills in successful strategy not only in their own time but also within educational programmes.

Key principles for modern strategy education

With the above in mind, new strategy programmes can be designed and implemented on the basis of four principles. These principles concern a university's purpose, values, teaching methods, research, collaborations with industry representatives and dialogues with other stakeholders. Professional strategy education enables the continuous consideration of each of these principles at every level of teaching and for every year in a multiannual programme.

The first principle relates to the primary goal of science strategy education. The common thread running through this book series, for example, shows that the primary goal should be the development of fundamental strategic knowledge and management skills for sustainable entrepreneurship. It enables students as future leaders to position their businesses optimally to achieve sustainable added value for their companies, their employees and their region. University students have distinguished themselves through a natural selection process. This entails rights – including excellent education, which often correlates with a significantly higher income compared to others – but also a responsibility. The responsibilities primarily concern the ongoing care for others in their company, ecology in their region and the distribution of wealth as a result of the company's activities. Ethics of sustainability is therefore an essential part of strategy education. The core value of strategy – the sustainable management of companies, their employees and the region they are active in – is directly reflected in the various subjects included in the curriculum, and the research activities and practical exercises the students participate in.

The second principle concerns teaching methods. University education in strategy

must reflect educational structures, materials, processes and environments which enable effective learning about successful strategy. Many academic programmes aim to have students devour books. Modern strategy education adds another dimension to this. Professional knowledge can be gained from books, but it also emerges from discussions and practical exercises into the strategic challenges of national organizations and international companies. In addition to teaching, coaching and Socratic discussions therefore play an important role in the professional education of strategy experts.

The third principle concerns research. Strategy students study how, for example, the characteristics of managers or public policies contribute to successful sustainable entrepreneurship. Thanks to the interdisciplinary and multi-level nature of the present research agenda, students can use a wide range of research projects to develop their own vision of successful strategy.

The fourth principle concerns the collaboration between science and business. Professional strategy education is open to the interaction between students and business leaders. This enables students to increase their knowledge of relevant and contemporary strategic decisions. Students along with the current generation of business leaders can map new routes for successful strategies for particular organizations. Discussion meetings with senior representatives from enterprises can offer relevant internships and research projects enabling the acquisition of new competences by means of strategy training and coaching.

Modern universities themselves seek contacts with companies, network organizations, municipalities, provinces, ministries and international organizations. Many strategic issues transcend the boundaries of firms. This brings with it issues of ethical conduct and fundamental strategic choices with regard to the structure of our economy, such as the production of our food, the distribution of the income of businesses, healthy ageing and sustainable energy. Strategy education in the modern world economy offers room for discussion of important contemporary strategic issues between lecturers, researchers, students, businesses, government, consumers and the media. The power of the principles which underpin strategy in the modern world economy lies in the fact that they provide guidance for each year and each level at university. Strategy is relevant to every university programme at any level. Obviously, the curriculum for first-year undergraduates is different from that of senior students or for students in postgraduate education. Modern strategy education consists of three key elements: instructive teaching, research and consulting.

The specific weight accorded to instructional teaching, research and consulting (and

for each academic year within multi-year programmes) differs. For example, in pre-Master's programmes – which serve as a link between universities of applied sciences and research universities – the focus is on instructive teaching followed by research and consulting. In Bachelor's programmes, the first year is dominated by instructive teaching, with research and consulting gaining in relative importance in the following years. At the Master's level, teaching, research and consulting have equal weight.

1.4 The structure of the book

The quest for successful strategy in this book continues with research into the organizational structure of companies. Each company has its own organizational structure. Some companies opt for a hierarchical organization with a lot of different levels of government in which bureaucratic procedures and compliance are important. Other companies have only one or two different organizational levels and rely on the ability of independent learning and their employees. The central question is whether differences in organizational structure influence strategic success, and if so, how. This book presents various research methods to answer this question.

Chapter 2 studies the crucial characteristics of corporate democracy. This chapter argues that democratic structures and procedures help develop and sustain organizational adaptation and learning capabilities and competences. The chapter provides lessons learned from the case of the Breman Group: a Dutch organization which is a best practice example for corporate democracy.

Chapter 3 shifts the focus from industry to services and offers an in-depth case study of Randstad. Randstad is one of the leading companies in the temporary staffing industry. Chapter 3 introduces the Randstad model of corporate service innovation, showing how their particular innovation strategy, structure and decision-making processes help them develop learning capabilities that have fostered the company's long-term competitive advantage.

Chapter 4 also analyses an important dimension of successful organizational structures: productivity. This chapter offers a conceptual productivity framework for service companies. This framework explains the relationship between productivity and other success indicators and offers advice on improving productivity. To that end, the chapter uses case study information from various leading service organizations. The next two chapters in this book review the relationship between successful strategy and the organizational structures of multinational enterprises (MNEs). This is relevant because a multinational enterprise is a governance structure which operates affiliates in many and widely different institutional contexts. Chapter 5 focuses on the distribution of decision-making authority between the headquarters and the operational units.

This is among the most important strategic decisions which multinational enterprises make. Chapter 5 analyses whether and how the institutional context within which the headquarters and a subsidiary are located matter for successful decisions. It builds on a new database which includes detailed information from European subsidiaries of MNEs in European countries.

Chapter 6 also focuses on the division of decision-making autonomy but now relates this strategic decision to the distance in country contexts between home and host countries. This chapter offers an in-depth discussion of country context distance enabling comprehension of the subtle differences in dimensions and measures. The chapter shows the relevance of strategic decisions for MNEs operating subsidiaries in Central and Eastern European countries. Its findings derive from unique and new survey databases.

CHAPTER 2. CORPORATE DEMOCRACY

Summary

The typical modern corporation is based on the old-fashioned blueprint of the shareholder-driven hierarchy. A worthwhile question is how alternative blueprints of corporate democracy might better satisfy the requirements of modern knowledge economies. In this article, we introduce a model of corporate democracy developed and implemented by the medium-sized Dutch engineering firm Breman Group in the early 1970s. The model has been in place ever since. We argue that Breman's democratic structures and procedures help to develop and sustain organizational adaptation and learning capabilities and competencies which are critical to a knowledge- and service-based economy. We provide lessons that can be learned from the Breman example, and illustrate how the Breman model of democracy is and can be implemented in other existing and newer organizations.

2.1 Introduction

Democracy is widely valued as a key principle in governing nation states. Furthermore, scholars have built a case for extending democratic principles into corporate settings. Recently the arguments of extending workplace democracy have been based primarily on the beneficial consequences of development of the individual, the organization and consequently, the wider polity¹. From a corporate perspective, according to this logic, the aim of democracy is mainly instrumental by delivering increased efficiency, innovativeness and productivity. The key argument is that organizations which encourage their employees to become closely involved in decision-making processes, granting them high degrees of autonomy, become more agile. They are therefore better able to find and produce new opportunities, and to reap the associated benefits.

The processes associated with corporate democratization should produce a strong and sustainable alignment between individual behavior and the goals of the organization. Democratic organizations, in theory, should have committed, loyal and purposeful employees. From the perspective of individual employees, working in an organization that supports democratic principles provides a context that stimulates the development of their competencies and skills to their full potential. Companies that are organized around democratic principles will support informational transparency and fair treatment of everyone. Thus, in democratic organizations employees will feel more engaged because they experience freedom of behavior and a sense of shared purpose.

Democratization, apart from being a good thing in itself and for the organization involved, also plays an educational role, and may thus produce important spillover effects². The institutions within which individuals act shape their attitudes and behaviors. The act of democratization is educative because participation develops and

fosters specific qualities – e.g., skills to argue, to understand, to empathize and to develop compromises. Most people spend a large part of their daily life in workplaces, usually in authoritarian organizations where they can exercise little influence over their work. The autocratic and hierarchical organizations that dominate in this world give people little opportunity to develop democratic skills. Of course, to many the aim of organizational democracy goes beyond instrumental reasons alone. Its goal is to promote democracy itself, and related familiar democratic aims such as justice, equality, freedom, and the protection of citizens.

Surely, very few organizations would say they are fighting democracy. However, day-to-day practices in modern enterprises tend not to be very democratic, being heavily based on hierarchical structures and shareholder dominance. Although a truly democratic organization may not exist – it is more like a conceptual ideal-typical conception of corporate democracy – some organizations are more democratic than others.³ In continental Europe, for example, labor unions and works councils are well-established institutions in the industrial relations systems, their roles embedded in and protected by law, much more so than in the Anglo-Saxon world. The core of this chapter is the introduction of an example of a successful democratic business model – i.e., the Breman model of corporate democracy⁴. The Breman Group, a Dutch construction and engineering company, offers a benchmark concept of corporate democracy that comes close to the ideal stereotype by illustrating how the balance of power between capital (shareholders) and labor (employees) can be shaped in the context of a medium-sized industrial enterprise without sacrificing long-term performance in a competitive environment. For more than 30 years, the Breman Group has reported financial performance that exceeds the yearly average of the Amsterdam Stock Exchange, as well as absenteeism rates far below branch averages. We will argue that the Breman Group model comes, relatively speaking, close to an ideal-typical conception of corporate democracy, moving far beyond the legal requirements of the Dutch context.

The outline of this chapter is as follows. First, we provide a short historical overview of the concept of (corporate) democracy. Next, we give a brief description of the Dutch legal setting concerning employee participation, as this is the institutional framework within which Dutch organizations are embedded, and beyond which alternative business models of corporate democracy may move. Subsequently, we describe the Breman model of corporate democracy. Then we introduce a conceptual framework that we use to disentangle how crucial characteristics of corporate democracy may affect organizational behavior and performance. Finally, the paper concludes with an appraisal of what can be learned from the Breman case in the context of the current quest for innovative business models of corporate democracy that fit with the

requirements of modern knowledge economies.

2.2 Democracy and the modern business enterprise

Democracy implies a form of governance in which people rule – the label derives from the Greek word *demokratia*, assembled from *demos* (people) and *kratos* (rule)⁵. Throughout history, democracy has received different perceptions and meanings, often dependent upon the institutions involved and the role of citizens within them. In ancient Greece, classical democracy referred to the notion of ‘moral reciprocity’: the possibility of aligning the power of the individual with the needs of the community through a sense of common purpose. A notion of liberal democracy dominated in the fifteenth through the eighteenth century, in which participation in political life was not only necessary for the protection of individual interest, but also for the creation of an informed and committed citizenship. The writings of Marx and Engels in the period of industrialization during the nineteenth century advocated direct democracy. Since World War I, legal democracy oftentimes aligns with patriotic and authority-obeying behavior. In modern democracies, the majority principle is the key way of protecting individuals from arbitrary government, and of maintaining liberty.

In a similar vein, corporate democracy has taken on many meanings. In its most general definition, it refers to a system of democratic governance embedded in a flanking organizational structure that at least includes shared residual claims by all members in combination with democratic decision-making rules.⁶ We use these three key elements of this definition in our study of the Breman Group model. Democratic decision-making rules offer opportunities to all organizational members to codetermine the organization’s personnel, social and economic affairs. Shared residual claims imply that the organization’s profits are distributed across employees, managers and owners, according to codetermined allocation rules, whilst buffering the organization against non-democratic aggression by outside parties. A flanking organizational structure guarantees the smooth functioning of democratic processes. As we discuss the Breman model of democracy later in this chapter we will explain these three features in greater detail. First we will provide the environmental context in which the Breman Group exists.

Dutch Legislation on Works Councils

Headlines-hitting accounting scandals of such former icons as Enron and Ahold have exemplified the instability and riskiness of business models that are determined by stock markets and a short-term mindset, being driven by the need to create ever-increasing shareholder value. The scandal cases have fueled a slumbering debate about the degree to which the Anglo-Saxon business model of shareholder value is in need of reconsideration. In many European countries, the debate is focusing

on the relative power of shareholders (capital) vis-à-vis employees (labor) in firms' decision-making and monitoring processes. Within the Netherlands, this debate on corporate democratization started in the late 1960s. Since then, it has been on and off the agenda of managers, labor unions and policymakers in a wave-like fashion⁷. Recently, it re-emerged to full attention in the slipstream of corporate scandals.

Key in the Dutch model of corporate democracy is the legal position of works councils. In continental Europe, there is a decade-long tradition of research into the working of works councils, in line with the heavily institutionalized role of the employee participation bodies in many countries. Particularly, the German experience received much attention⁸. Clearly, continental-European works councils are very different from their Anglo-Saxon counterparts, as the former – contrary to the latter – are legally “institutionalized bodies of collective worker participation at the workplace level, with specific informatory, consultative and codetermination rights in personnel, social and economic affairs”,⁹ rather than Anglo-Saxon voluntary labor-management committees. Evidence for the strong works council tradition in continental Europe is the establishment of European works councils in the European Union, which is creating a cross-country body of legally protected worker participation in internationally operating enterprises¹⁰.

The earliest works councils in the Netherlands, following the first Dutch Law on Works Councils from 1950, have been characterized as ‘pseudo-participatory bodies’ or ‘paternalistic participation devices’ because of the absence of substantial decision-making rights for employees in combination with the dominant position of the managing director in the work councils, implying that the employees’ actual decision-making power was very limited indeed¹¹. The absence of sanctions left the decision to establish works councils to the discretion of the (executive) management teams of firms. Additionally, the tasks of works councils were prescribed to be directed at the general interests of the company, rather than at those of employees. Moreover, the organization’s CEO or managing director often chaired the council. The end result was, generally, symbolic and window-dressing rather than real corporate democracy. The nature of the works council changed with the revisions of the Dutch Law on Works Councils in 1971 and 1979. The revision of 1971 included the mandatory establishment of works councils for all larger organizations, with subsequent sanctions when firms failed to do so. The tasks of the works council were extended to take into account the interests of the employees, next to those of the organization at large. The 1979 revision declared the role and function of works council to be exclusively for the sake of the protection of employees’ interests. Since then, the works councils have been a representative body for employees. The new law redefined the relationships between employees and their managers. It determined that employee – employer

interactions should at least incorporate a prescribed number of regular consultation meetings of the works council with management representatives. The works councils received veto-right opportunities in the area of social and human resource policies, and advisory rights in the context of strategic and financial issues. Complemented with additional rights, such as members' exemption from regular activities to be able to perform activities for the works council, the right to consult external advisors and/or subject matter experts (to be paid by the organization), and the protection from layoff for works council members, this strongly altered the dependency relationship between council members and managing directors, clearly strengthening the position of the former.

Today, Dutch works councils have to be involved in decision-making regarding a wide range of an organization's financial, social and technological policies. They are entitled to have regular meetings with the executive management board, and to receive up-to-date information about the day-to-day financial position of their organization. The management team is obliged to consult the works council on any matter that relates to the design of the organization, e.g., pertaining to the transfer of management control, planned mergers and acquisitions, downsizing and layoff programs, and the implementation of new technologies. Works councils may veto proposed changes by the management team in the domain of operational matters such as work hours, holiday arrangements, job evaluation schemes, recruitment procedures, and promotion and training initiatives. They are entitled to pro-actively take any initiative they consider to be important from the employees' or the organization's perspective, with a mandatory need for the management team to respond adequately and timely. Works councils can make official appeals in the Corporate Court ('Ondernemingskamer') in Amsterdam, should the management team of their organization ignore their rights of advice and/or veto.

However, despite the legal obligations, by far the majority of Dutch managers still favor traditional management models, with an emphasis on control, hierarchy, and window-dressing participation. This becomes particularly evident in times of economic slowdown, as has been the case in the Dutch economy during the past two years¹². For example, we have observed (explicit or implicit) pressure from managers to individual works council members, referring to their responsibility to accept proposed plans for reorganizations. In other cases, we noticed the use of unreasonable time limits of a few days to advice on complex strategic plans proposed by the management team. The management team often had used months to formulate the plan, with the expensive support of an army of outside consultants. Furthermore, managers tend to provide limited access to outside expertise to assist works councils, and they present strongly exaggerated and biased 'burning platforms' to motivate the desired

organizational change. Hence, day-to-day practice of Dutch managers favors the misuse of the relatively strong power position of the executive management team vis-à-vis the works council. This behavior out-rules the paper-and-pencil opportunities provided by Dutch legislation, and implies that much corporate democracy in the Dutch business world are examples of window-dressing strategies in response to the institutional pressure of Dutch law¹³.

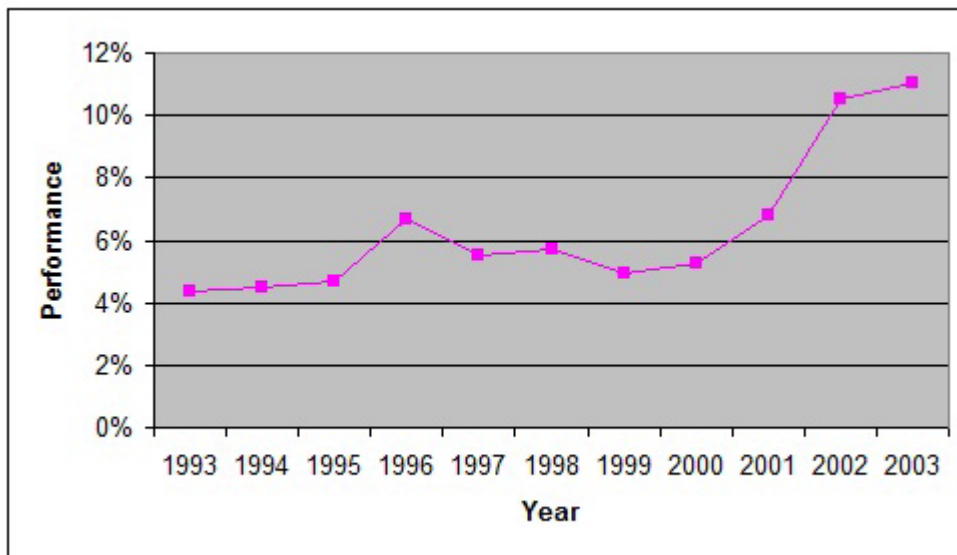
2.3 The breman model of corporate democracy¹⁴

The Dutch Breman Group, a medium-sized construction engineering firm, designed and implemented a new form of corporate democracy in the beginning of the 1970s. With minor adjustments only, the same model has been in place since then. It is a refined organizational model that combines employee participation and shared responsibility with entrepreneurial spirit and organizational cleverness (with, e.g., a focus on core competencies, shared services, and capital management). The Breman model is an example of a successful initiative that fully exploited all opportunities offered by the Dutch legislation, to subsequently move far beyond the legal imperative. The premise of Breman's conception of corporate democracy is a positive perception of the role of employees in the organization, arguing that the latter must be empowered to shape their contribution independently from managerial control and hierarchy. Breman regards their employees as valuable resources, rather than as costs in their accounting system that have to be controlled and managed¹⁵. Designing and implementing structures that promote employee participation and corporate democracy means that an organization like the Breman Group considers the human capital embodied in their employees as a key source of innovation, whose creative potential can only be realized by real rather than window-dressing empowerment.

The first Breman company received its name from its founder, who established a bicycle shop in 1925 in the Dutch town of Genemuiden. This Breman outlet soon included domestic appliances. In 1953, the firm sold electrical installations and started to focus on services for plumbing. The nation-wide introduction of gas to Dutch households in 1966 enabled the firm to construct, deliver and maintain gas-heating systems. By 1971, the gross turnover of the Breman Group accounted for about US\$ 6 million. Today, the company employs roughly 1,200 employees in 25 separate companies, accounting for approximately US\$ 140 million gross turnover per year. Currently, the Breman Group's key products and services relate to construction, utilities and maintenance. Indeed, throughout the years, the Breman Group has reported robust financial results, increasing market shares, and sustainable company growth in terms of sales turnover and number of employees. It survived the severe Dutch slowdown in economic activities for construction in the beginning of the 1980s. Additionally, the Breman Group has been able to successfully respond to the economic recession and

increasing competition in the past three years. In effect, no reorganizations (layoffs or pay cuts) are reported or planned. By way of illustration, Figure 1 presents the recent financial performance of the Breman Group.

Figure 1. Financial performance Breman Group: profits as percentage of turnover



In the past decade, the financial performance of the company increased steadily, with a remarkably steep rise in the post-2000 recession period. On average, profits as percentage of turnover were 6.36 per cent during this period, which is far above the branch average of 4.03 per cent. In terms of absenteeism, Breman Group reports an average of 4.73 per cent vis-à-vis 5.63 per cent for the branch.

Corporate Democracy in Breman's Practices

In the beginning of the 1970s, the Breman model of corporate democracy was designed and implemented by one of the members of the family. Originally, a set of religious perceptions served as point of departure (stewardship, equality of human and financial capital, continuity and balance). The underlying vision for labor incorporated the perspective of long-time employment¹⁶. Additionally, expected challenges in the area of succession in this family-owned company provided incentives to change the organizational structure. The family has designed the Breman model of corporate democracy in cooperation with outside expertise, which included the use of external legal knowledge and academic perspectives on organizational design. The Breman Group incorporates six different institutes: i.e., 25 legally independent firms, the

Breman Employee Association (BEA), the Breman Advisory Board, Breman Beheer, Brebank, and Breman Centrale Diensten (BCD – Breman Central Services). Each of the 25 firms is a legally independent private company, with its own management team. Each firm focuses on its distinctive core competencies, which differ across the firms, and outsources all other back-office processes, such as HRM and information and communications technologies, to BCD. Breman Beheer is the owner of all 25 private companies. Breman Beheer supplies capital and loans to the private companies, at their request and after approval. It maintains all buildings and cars, and rents these to the private companies.

Table 1. Democracy in practice in the Breman model

<i>Shared</i>	1.	Shared equity
<i>Residual</i>	2.	Profit sharing
<i>Claims</i>	3.	Fixed interest
	4.	Priority shares
<i>Flanking</i>	5.	Breman Employee Association
<i>Organizational</i>	6.	Brebank
<i>Structures</i>	7.	Breman Beheer
	8.	Advisory Board
<i>Democratic</i>	9.	Election procedure
<i>Decision-making</i>	10.	Equal approval
<i>Rules</i>	11.	Arbitration safety net
	12.	Decision web

The Breman Group's organizational procedures and structures aim to facilitate that all employees have equal decision rights on the firm's policies. Two operational ground rules dominate behavior: democratic decision-making processes and intense intra-organizational communication. We identified twelve features that characterize Breman's conception of corporate democracy. Table 1 lists those characteristics, which will subsequently be introduced below. Much of the model is supported by detailed legal documents. For presentation clarity, however, we refrain from presenting the many legal details.

The twelve major features are clustered in three groups that align with the three key principles of organizational democracy as introduced earlier: shared residual claims, flanking organizational structures, and democratic decision-making rules.

Shared Residual Claims

1. Shared equity is a key element of the Breman model. Employees and shareholders are entitled to shared equity in the organization. Financial capital is not placed above human capital. Through the 50 per cent share in Brebank of the Breman Employee Association (see below), employees indirectly own half of the Breman Group's stocks. Employees and shareholders share residual revenues according to codetermined rules, and have an equal 50 per cent say in the management of each individual institute (see below)¹⁷.
2. Shareholders accept the company's policy to receive fixed interest over their invested capital. This reward aligns with the interest rates of Dutch (convertible) bonds. In this way, the argument goes, shareholders are disconnected from shareholder value short-termism, transforming them from disloyal share traders into committed share owners.
3. Profit sharing is done annually. After deduction of corporation tax, 50 per cent of the Breman Group's profit is returned to Breman Beheer to finance new investments. The other 50 per cent is allocated to the employees of those firms that have generated net positive results. Overall, this implies that approximately 40 per cent of the Group's profit is distributed to the employees.
4. None of the firms or any other Breman institute is listed on a stock market. All capital is completely isolated in the Breman-owned financial institute Brebank and managed by Breman Beheer (see below). Formally, 50 per cent of the shares in Brebank are in the hands of Breman Beheer, whilst Breman Employee Association owns the other 50 per cent. Brebank owns two priority shares in Breman Beheer, which is enough to veto any key decision regarding ownership and structure. This construction protects the Breman Group against aggressive take-over attempts and hostile structural changes. Currently, the Breman family members own most of the shares in Breman Beheer. The shares are freely tradable outside the company.

Outsiders (non-family members) have the opportunity to become involved in the Breman Group. However, new entrants, as any other stakeholder, can only change the organizational structure after Brebank's approval.

Flanking Organizational Structures

5. All employees are member of the Breman Employee Association. The employees themselves elect the management board of this institute. The key aim of BEA is to support employee participation in the organization, and to supervise the allocation and distribution of the employees' share in profit. Additionally, BEA facilitates communication between the advisory board, the Brebank and the 25 firms, and takes care of training programs directed at improving employee participation skills.

6. Not Breman Beheer but Brebank approves all strategic decisions that relate to the Breman Group as a whole. The board of Brebank consists of three members – i.e., a shareholder director (appointed by the shareholders), an employee director (appointed by the employees via BEA) and a third independent director, who is appointed by the other two directors. The Brebank must approve all investments in, e.g., capital, stocks, acquisitions and joint ventures. Finally, Brebank operates an arbitration committee that mediates if unanimity cannot be reached (see below).

7. Breman Beheer is the holding shell in which all other Breman Group units are embedded. As explained above, Brebank buffers the Breman Group against outside pressures to change ownership or structure, but Breman Beheer is in charge of the management of corporate strategy issues. Breman Beheer's executive management team members are appointed after approval of both employees and shareholders.

8. The employee association appoints two of the four members of the advisory board, whilst the shareholders appoint the other two members. The advisory board supervises overall operational activities, and advises on any important change in business processes and company investments. Next to that, the board supervises the activities of Breman Central Diensten.

Democratic Decision-Making Rules

9. Each of the current 25 firms operates an elaborated election procedure, in which works councils function as employee – management linking pins. Each Breman firm has an elected works council. The works council appoints the management team of the firm. It receives and reviews all applications and makes a binding proposal of their elected choice to the executive management team of Breman Beheer¹⁸. As a result, the management team of each firm is directly accountable to the employees of that firm.

10. Decisions on any relevant issue within each firm need equal approval by both the management team and the works council. This safeguards equality of interests of employees and managers. Arguments and reasons, rather than the positions taken, are of prime importance. In general, the equal approval rule implies the freedom to apply any other decision method, as long as this is agreed upon by equal approval.

In case equal approval cannot be reached, both parties can apply to Brebank for arbitration. If this does not work, the works council is entitled to ask for the resignation of the management team of the individual firm that, in line with procedures, will be honored.

11. In Brebank, unanimity is required. In case unanimity cannot be reached, a new proposal or (ultimately) arbitration is needed. Each management team member of Brebank communicates a new proposal to the group that (s)he represents. In principle, this cycle is repeated until unanimity is reached (see below for an exception). As a 'lender of last resort,' an arbitration safety net can be activated, in which case third-part mediation must bring a solution.

12. At the level of the Breman Group, the executive management team and advisory board of Breman Beheer and/or BCD initiate strategic proposals, which are presented to the various decision-makers. This triggers a decision-making procedure that guides the matter at hand through a decision web. The key decision-makers are the shareholders, BEA and the independent director of Brebank – these are the three representatives in Brebank. Shareholders discuss the proposals on shareholder meetings, and accept or reject by majority votes (one share, one vote). The shareholder decisions are reported to the delegate of Breman Beheer in Brebank. The BEA representative reports a proposal to each of the 25 individual firms. The management teams and works councils review all proposals independently, and take a vote.

The Breman Triangle

The twelve key features of the Breman model of corporate democracy are organically molded into what may be called the Breman triangle, in which capital and labor jointly decide on the Breman Group's course. This triangle is depicted in Figure 2.

Together, the three cornerstones – shared residual claims, flanking organizational structure and democratic decision-making rules, each being associated with four model features introduced above – produce a system of checks and balances that safeguard internal corporate democracy, and that protect the Breman Group against external threats to change ownership or structure. This corporate democracy triangle has survived about three decades of turbulence, producing sustainable growth and profitability. The next question is how the characteristics of Breman's democracy can be used to explain its high levels of performance.

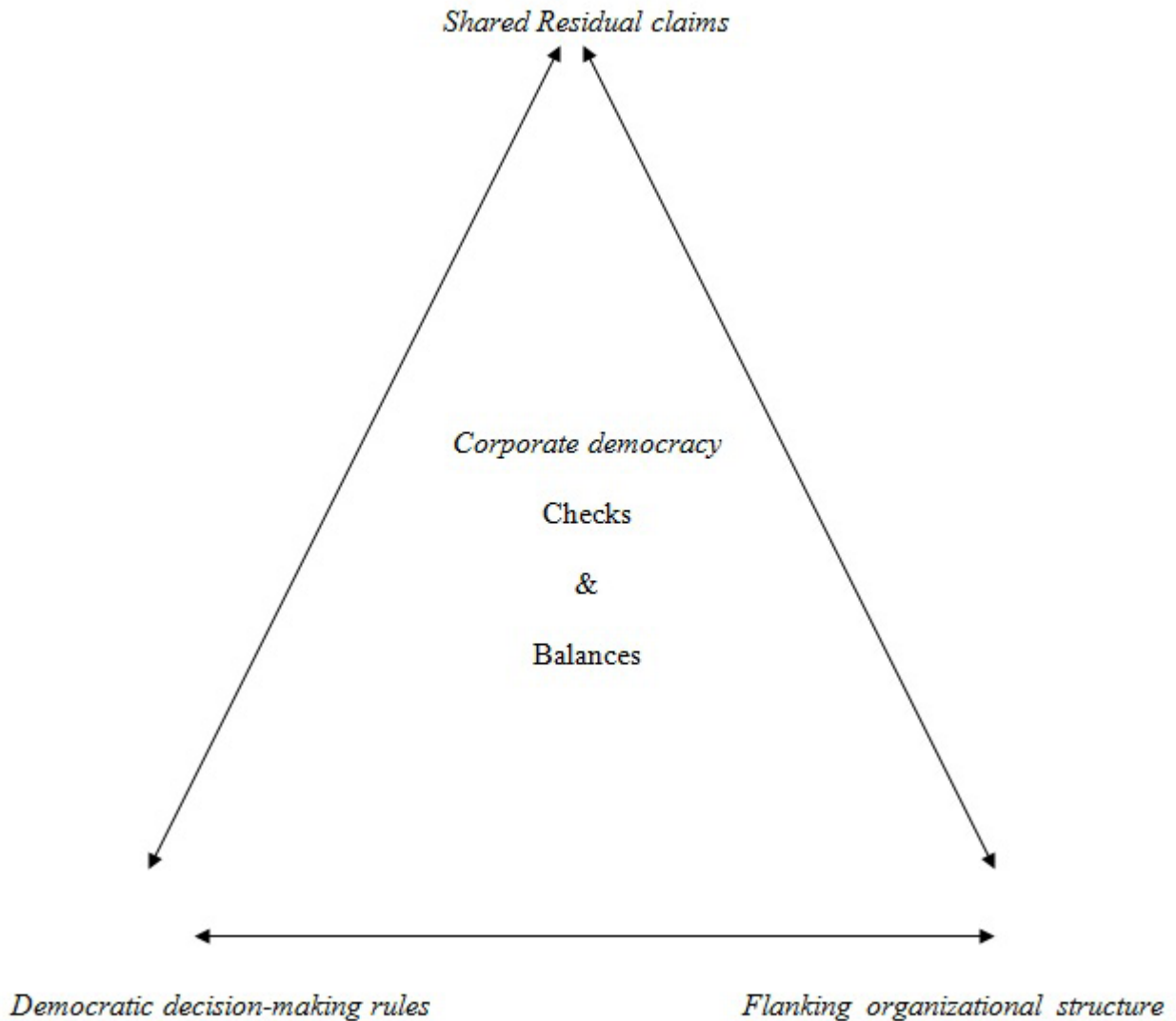


Figure 2. The Breman triangle of corporate democracy

2.4 An explanation of Breman’s succes

The Breman model is an example of an organizational innovation developed in practice that may inform theory. An extensive review of how the Breman model might relate to all relevant theories is beyond the scope of this paper. By way of illustration, we focus on four key perspectives that figure in the modern organizational literature. (1) organizational adaptation; (2) high-commitment HRM; (3) network organization; and (4) triple-loop learning¹⁹. Below, we briefly reflect on these four perspectives, one by one, focusing on a number of highlights that might help us to understand the success of the Breman model.

Organizational Adaptation

Organizational adaptation has become increasingly important in modern times of increased turbulence²⁰. Ongoing globalization and technological revolution seem to have produced a permanent state of hypercompetition in which timely adaptation is the key to survival²¹. Many firms are squeezed between the need to rethink their business model and the pressure to act quickly. On one hand, they face the opportunity to enter new markets, create new products and services, and integrate new technology into their current operational processes. On the other hand, they encounter the overnight emergence of new competitors, the threat of a brain drain to competitors, and the need to survive boom-and-bust cycles. In such a turbulent environment existing strategies and structures run the risk of becoming outdated very rapidly. The challenge is to adapt in the face of overwhelming complexity²².

The Breman Group has implemented an organizational form that supports the development of core competencies in each of the 25 independent firms. In so doing, adaptive capabilities are emphasized. Each firm outsources non-core business processes, such as information and communications technologies and HRM, to the BCD unit. For BCD, these activities are the core, and therefore this Breman unit can specialize in that, so maintaining a competitive edge vis-à-vis outside organizations that offer similar services. Hence, by the beginning of the 1970s, Breman already understood the advantages of a shared services center. Each firm develops and refines its core competencies, products and services, and is therefore able to offer high-quality products and services at competitive prices. The combination of high quality and low prices allowed Breman to adapt to declining economic activities in Dutch construction, and to meet increased competition, without reorganizations in terms of layoffs and pay cuts.

The relationships between the different firms receive full attention from the Breman Group's management. In this context, the pivotal role of central institutes such as Brebank, Breman Beheer and BCD is important. These central units facilitate the emergence and durability of intra-Breman relationships, foster connectivity in the network by promoting development and growth over time. Durability is important. Competencies are not off-the-shelf products, but are embedded in the heads and hands of people, in teams, organizational procedures and structures. They often have a strong tacit dimension. Their development is path-dependent in the sense that they are contingent upon preceding firm-specific assets. In the case of tacit knowledge, ongoing interaction is needed to enable the transfer of knowledge. The linkage between firms with different complementary perspectives and competencies requires appropriate absorptive capacity and a shared language for communication.²³ This takes time to develop, on the basis of interaction, and represents a dedicated

investment. With about thirty years of experience, the Breman Group, with the emphasis of corporate democracy on cooperation and trust, fully captured the advantages of organizational adaptation.

High-Commitment HRM

Recent research confirms the important role of human and social capital in explaining organizational success in knowledge-based industries²⁴. High commitment human resource management (HRM) strategies incorporate democratically-oriented features such as decentralization of decision-making, empowerment, lifetime training and high wages²⁵. To produce and deliver high-quality products and services, employees need a wide array of knowledge and skills. Additionally, they need to be able to make decisions at levels that are as close to the customer as possible. Social capital also provides an improved ability to attract and retain new customers.

The Breman model of corporate democracy clearly gives a central place to employees. This is immediately clear from the rules regarding management election, decision-making by equal approval, profit sharing and ownership allocation. In this way, empowerment has a status far beyond window-dressing policies. In a setting like that, high-commitment HRM policies abound, whilst low-commitment HRM practices are avoided. In this context, the total absence of downsizing programs in Breman, in good and bad times, is indicative²⁶. Apart from that, the network structure of the Breman Group offers opportunities for HRM policies that cross-border the individual Breman-firms. For one, the Breman Group's corporate democracy is associated with rich jobs and tasks that are absent in traditional hierarchies, such as those in BEA and works councils. Moreover, the network of separate Breman-firms provides entry to an elaborate internal labor market. Finally, employees are indeed shared across the Breman-firms. All this together produces a high-loyalty and high-trust environment that is conducive to developing and sustaining an adaptive organization that engages in triple-loop learning (see below).

Network Organization

Network theories provide arguments as to why firms that operate within or as a network of durable relationships are able to survive, particularly in complex and dynamic contexts²⁷. As firms expand their networks, they are also allowing more actors to participate in decisions and outcomes, a key principle of democracy. There are many reasons why firms enter into inter-organizational relationships²⁸. One of the main reasons is strategic outsourcing: in order to be at the forefront of development, a firm has to concentrate on those activities in which it excels, and outsource the non-essential activities as much as strategically sensible. Another key argument is that organizations use outside partners as sources of complementary knowledge

and competence, which promotes innovation and learning²⁹. By securing inter-firm collaboration, the focal firm's resources can be redeveloped, refined and refocused, which will enhance knowledge building and organizational competencies. In other words, durable inter-organizational relationships offer a platform for extending intra-firm and inter-firm capabilities, because internal resources are increasingly and synergistically connected with those of other enterprises.

In a similar vein, intra-unit relationships within a larger organization may be a key to adaptation, flexibility and learning. The Breman model is, from one perspective, an intra-firm network. Particularly the role of Brebank, Breman Beheer and BCD is important. All 25 Breman firms continuously meet in these units to discuss strategic proposals. On the one hand, the rule of equal approval ensures that the support of each and every firm is needed before a proposal will be implemented. The equal approval rule breeds an organizational culture that results in high levels of interpersonal commitment and trust. On the other hand, the development of competencies benefits from organizational autonomy, where each firm pursues activities in markets optimally related to the partner firms. They all operate independently in different markets, offering different products and services, but all belonging to the same industry.

The Breman model combines centralization and decentralization. Centrally, strategic proposals are discussed and complementary assets are shared; decentrally, each firm independently interacts with its specific environment. Each of the 25 firms has its own segment of customers. The holding company Breman Beheer warrants this segmentation. By so doing, the Breman Group secures that each firm has its own set of clients. Segmentation implies intra-group diversity: the 25 firms operate in different regional markets and (sub)sectors, offering firm-specific and tailor-made products and services. Very often, subcontracting relationships between Breman firms are initiated. The holding company Breman Beheer initiates innovation, using the network of 25 Breman-firms. For example, very recently, the central Breman Group supported one firm to enter into the market of sprinkler systems. This firm developed new knowledge, which was subsequently shared with other Breman-firms via, e.g., subcontracting relationships. The result is that the Breman Group is now able to offer new services and products³⁰.

Triple-loop Learning

The development of a learning ability is a prerequisite to sustainable performance and even survival³¹. There are different levels of learning. Single-loop learning occurs when error detection permits the organization to carry on with present policies or to achieve present objectives after correction of current routines. It is a consolidation process: changes in the organization appear without really altering present objectives,

policies and routines. Double-loop learning is a transformation process. Changes in the organization appear by collectively reframing problems and developing new objectives, policies and routines. For double-loop learning, the key actors in the organization have to be able to create ongoing dialogues, a conversational process in which defensive reasoning and behavior do not impede free and open inquiry³². Triple-loop learning adds to the well-known categories of single-loop and double-loop learning³³. Triple-loop learning exploits and explores the competences and opportunities that people need to participate in well-informed choices about organizational and strategic issues. So, triple-loop learning is embedded in organizational procedures and structures that institutionalize the democratic principle of participation. Triple-loop learning pertains to realizing the fullness of learning about the diversity of issues faced by linking all local units of learning in one overall learning infrastructure, as well as by developing the employees' competences and skills to use this infrastructure. Implicit in the distinction between different systemic levels of learning is therefore the relationship between behavior and structure, and how the two have to work together synergistically to reach the full learning potential.

The Breman model has many features that promote triple-loop learning, and hence single and double-loop learning³⁴. The model is built upon procedures and structures that create conditions for free and open inquiry within each firm, as well as across all Breman-firms. The election procedures and unanimity rules, for example, stimulate the open exchange of arguments and opinions on a regular basis, being firmly institutionalized at different levels of the Breman Group. In this way, the Breman Group permanently mobilizes the creativity that is in the heads and hands of all employees, who can contribute to debates without any concern that this may harm their position. After all, the decision-making procedures are based upon the open exchange of ideas and the incentives of capital and labor are perfectly aligned, as the employees receive about 40 per cent of annual profit. As is well known from the group literature in social psychology, human diversity is positively associated with creativity and innovation, particularly if intra-group communication is not hampered by conflict fights and power asymmetries³⁵.

In summary, an emphasis on adaptation, high commitment HRM strategies, expanding networks, and triple-loop learning may help explain why Breman's democratic model has been so successful.

2.5 Implications and lessons learned

Many advanced countries have been moving away from agriculture and manufacturing and towards information, knowledge, or service economies. Knowledge-intensive products and services have gained prominence also in many traditional manufacturing industries. Business has invested heavily in equipment to support information

processing and knowledge workers have replaced manual production workers within many traditional industries. Nevertheless, the majority of organization theories and management practices still have their roots prior to the era of high technology, being designed to answer questions for old-style manufacturing enterprises. As a result, the new features of modern information economies challenge researchers and managers to re-think their theories and strategies, since they may no longer be valid³⁶. Perhaps in this environment the principles of democracy will gain a more prominent position.

We reviewed many reasons for companies to democratize their organization. Push factors include increased globalization, changing workforce characteristics and new information and communications technologies opportunities. Pull factors are increased employee commitment and engagement, as well as the alignment of individual with company goals. Beside these, there is abundant evidence from quantitative questionnaire surveys and qualitative case studies that many employees value democratic principles in organizations per se³⁷. These trends induce the design and development of new, democracy-based governance models – i.e., the emergence of a new way of looking at people and their role in organizations. It brings about a changing role of management in the context of a global marketplace, and a knowledge society where the traditional hierarchical organization may no longer be appropriate. New organizational principles require managers to review their roles, to see how they can best contribute and add value to their organization's intellectual capital.

The Breman case provides evidence that an advanced system of corporate democracy can be designed and implemented successfully. Although there are numerous reasons for a company's financial success, from enlightened top management with a long-term view to specific competencies tailored at specific markets, we have highlighted the potential role of democratic characteristics in this organization. In this example of corporate democracy, employees are fully involved and given shared responsibilities throughout the organization, aligned with an appropriate incentive structure for capital and labor. In this way, the key productive asset in the knowledge economy – human capital – is fully mobilized. This is critical in modern knowledge economies in which competition revolves around innovative uniqueness, rather than routinized efficiency. In such a setting, the workforce must not be regarded as a cost at the debit side in the accounting system, but as an asset at the credit side of the organization's balance sheet. It is precisely this culture that is institutionalized and promoted in a corporate democracy like the Breman Group.

Throughout the years, the Breman Group sustained their democratic structure. By doing so, the company developed experience as an outside consultant to new and existing firms that have an interest in becoming a democratic organization. In

2001, for example, the Breman Group involved Essent in an alliance that adopted a 100 per cent copy of the Breman model. Essent is one of the leading Dutch energy companies that needed a strategic partner (or acquisition target) with national coverage in the maintenance market. In size, Essent exceeds Breman almost 50 times, but it deliberately decided to fully accept all of Breman's democratic structures and features in the new alliance organization. The Breman Group has also transferred its corporate democracy model to very small organizations, including a dentist and a farmer. Currently, Breman is expanding its activities internationally through corporate democracy initiatives in Germany. These experiences show that, irrespective of size, activities, markets and (local) institutions, established companies are able to transform their existing (hierarchical) structures into democratic forms.

For many companies, this transformation will require a new organizational blueprint. While doing so, managers can take lessons learned from Breman's decade-long experience with corporate democracy. These lessons focus on the building blocks that construct a democratic organization: shared residual claims, democratic decision-making rules and flanking organizational rules.

A key issue relates to the claims and responsibilities of employees, works councils, managers and shareholders in a democratic organization. That is, any democratic organization needs a constitution in which details regarding the organizational structure, decision-making rules, and different stakeholders' roles and responsibilities are written down in legally enforceable documents. Breman developed blueprints for new organizations to support works councils and management teams on virtually any conceivable issue. An active policy of updating and fine tuning over the years has produced blueprints that have reached a great level of detail and workability. The constitution warrants shared residual claims of labor and capital, and key responsibilities for employees and work councils. Moreover, it prevents that unforeseen circumstances result in shortsighted escapes from the democratic principles. For each company constitution, of course, country-specific legal rules need to be and can be anticipated (with or without the use of outside legal expertise). In Germany, for example, the position of employees, as well as labor unions, is different from the Netherlands – on average, they already have stronger positions vis-à-vis management.

Another crucial element refers to isolating all capital in a company-owned financial institute – in our case, Brebank. A long-term horizon is forced upon shareholders by introducing (modest) interest payments rather than (strongly fluctuating) dividend revenues. Any hostile change in this feature of the organizational structure, including a merger or acquisition, must be blocked via the constitution. A company-owned financial institute, together with a modified shareholder perspective relying

on (modest) fixed interest payments, implies that the financial capital stock of the company will gradually grow over time, allowing a virtually endless continuation of the firm, irrespective of changes in management, employees or market circumstances. Such a relatively autonomous company can focus on the (very) long run, without the permanently looming terror of short-termism of stock markets and commercial financial institutes. It is able to fund R&D expenditures with inside sources, and it can offer financial bids to new clients that easily undercut competitors, which tend to need demanding outside investors and the associated (higher) interest rates that affect margins and prices negatively.

A final lesson addresses the competencies and skills of managers and employees. A sine qua non for a viable democratic organization is a trustworthy and 'service-oriented' leadership, and employees who accept that their work comes with democratic obligations and rules. Within the Breman Group, managers neither have opportunities nor face incentives to take their own self-interested decisions. For example, they cannot optimize their own financial package. The initiation, planning and implementation of each activity is a shared responsibility of employees and managers. In the very first years, the firm's founder Breman granted approximately US\$ 100.000 to the employees with the accompanying challenge to divide this sum among themselves by themselves, announcing that as of that date this would be the company's residual claim allocation policy. He trusted that the employees would have the capabilities to do so elegantly and responsibly, which was indeed the case. The incentive structure equally benefits employees and managers, depending upon the financial performance of the individual firm. On average, all employees receive a three-month salary bonus per year, and managers an annual variable remuneration of about 10 per cent of profits after taxes. For Dutch standards and for the type of market in which the Breman Group operates, these compensation packages are substantial.

We must mention in closing that continuous training in democratic principles is key, and the managers of all Breman firms facilitate this on a regular basis, developing and applying their own training material. Hence, trustworthiness and compliance rather than power and subordination are the management styles that must dominate in democratic organizations. This does not mean that the managers are not pro-active. On the contrary, it is in the interest of the works council to find, elect and challenge the best managers, as this directly contributes to the financial performance of the individual firm, and hence to their bonus. In times of economic decline, managers cannot force massive layoffs upon their employees without their consent, or any other type of reorganization that is commonly used by hierarchical firms which need to focus on the short-term interests of their shareholders. Clearly, life in a democratic organization like the Breman Group is very different from that in modern shareholder-

Notes

1 These organizational arguments derive from Gratton, L. 2004. *The democratic enterprise*. London: Financial Times Prentice Hall.

2 This aligns with the 'spill-over' argument. For an extensive discussion, see Carter, N. 1987. *Consciousness and change: A study of the development process of a worker co-operative*. Bath: University of Bath.

3 For descriptions of democracy in companies, see, e.g., Leadbeater, C. 2000. *The weightless society*. London: Texere. Empirical evidence demonstrates that a wide range of different democratic structures can be found in co-operatives, ranging from direct, participatory to indirect, representative forms of democracy. These include the grassroots collectives that sprang up in the 1970s across North America and Europe, the large co-operative sectors in France and Italy, and the plywood co-operatives in the Pacific Northwest of the US.

4 The legal entity of the case company is Breman Group Netherlands. Throughout the paper, we interchangeably use Breman or the Breman Group, both referring to the same corporate entity.

5 For a helpful overview, see Gratton, L. 2004. *The democratic enterprise*. London: Financial Times Prentice Hall: 26 and following.

6 Employee Stock Ownership Plans (ESOPs), which have become popular in the US in recent years, are often excluded from this definition. It was discovered that an ESOP was a defensive strategy by managers threatened by hostile takeover. Furthermore, ESOPs give partial ownership to (some of) the workers, but usually leave control in the hands of powerful others, with just a minority of worker representatives sitting on the board of the company. Hence, the majority of ESOP workers do not participate in the governance of the enterprise. As we explain in detail, for corporate democracy it is not so much shared ownership in terms of stocks that matters, but rather shared responsibility and shared say in the company – i.e., codetermination.

7 Management fads, including those related to corporate democracy, tend to come in waves. See on this Abrahamson, E. 1997. The emergence and prevalence of employee management rhetorics: The effects of long waves, labor unions, and turnover, 1875 to 1992. *Academy of Management Journal*, 40: 491-533.

8 There is a huge non-English literature on industrial relations and works councils in different European languages. For overviews of this literature in English, see Frege, C.M. 2002. A critical assessment of the theoretical and empirical research on German works councils. *British Journal of Industrial Relations*, 40: 221-248; and Addison, J.T., Schnabel, C., & Wagner, J. 2004. The course of research into the economic consequences of German works councils. *British Journal of Industrial Relations*, 42: 255-281.

9 Frege, C.M. 2002. A critical assessment of the theoretical and empirical research on German works councils. *British Journal of Industrial Relations*, 40: 223.

10 See, e.g., Marginson, P., Hall, M., Hoffmann, A., & Müller, T. 2004. The impact of European works councils on management decision-making in UK and US-based multinationals: A case study comparison. *British Journal of Industrial Relations*, 42: 209-233.

11 An introduction into the Dutch history of works councils is Visser, J. 1995. *The Netherlands: From paternalism to representation*, in: Rogers, J., & Streeck, W. (Eds.), *Works councils: Consultation, representation, and cooperation in industrial relations*. Chicago: University of Chicago Press.

12 In the past three years, we have supported about twelve works councils in large and medium-sized Dutch companies as outside experts. In all cases, the executive management team had announced a major re-organization program, involving a substantial number of layoffs. According to Dutch law, the works councils have the legal right to give advice about such issues. Note that we have no consultancy relationship whatsoever with the Breman Group. Our observations are in line with other research in the the actual functioning of works councils. For an example, see Kotthoff, H. 1981. *Betriebsräte und betriebliche Herrschaft: eine Typologie von Partizipationsmustern im Industriebetrieb*. Frankfurt: Campus; and Kotthoff, H. 1994. *Betriebsräte und Bürgerstatus: Wandel und Kontinuität betrieblicher*

Codetermination. Munich and Mering: Rainer Hampp Verlag.

13 Oliver, C. 1991. Strategic responses to institutional processes. *Academy of Management Review*, 16: 145-179.

14 We reconstructed the Breman model based on interviews we performed with management team members in combination with in-depth document studies, the latter including written notes and minutes of meetings. Most of these documents provided data for, or were the result of, discussions in meetings that served processes of public testing of and inquiry into the new organizational design introduced and developed in the Breman Group. Reports from academic researchers and policymakers from the early days of the Breman model provided additional sources of data such as Goodijk, R. 1987. *Ondernemerschap en medezeggenschap* ('Entrepreneurship and participation'). Unpublished Ph.D. thesis. Enschede: University of Twente. Of course, a case study methodology does not allow for testing causal relationships between variables under consideration. The research approach, however, does help to identify fine-grained processes and key characteristics underlying a radically democratic organization such as Breman, which is the purpose of this study.

15 See on this modern mentality with a cost-cutting and efficiency-promoting bias Cascio, W.F. 2002. *Responsible restructuring: Creative and profitable alternatives to layoffs*. San Francisco: Berrett-Koehler.

16 The company has an active policy for incapacitated employees. Whereas other firms remove incapacitated employees as much as possible – a major problem for the Dutch economy –, Breman ensures lifetime employment for this category of employees, and actively hires them from outside the company. In this way, Breman contributes to societal solidarity.

17 The majority of shares are family-owned, but this does not determine their say in the company. To prevent stereotypical shareholder behavior, the Breman Group does not promote direct shareholder ownership by individual employees, although any outsider including the employees can obtain shares in the firm. Legal documents prevent the sellout of all shares, because this conflicts with one of the grounding principles of the organization, - i.e., continuity.

18 This roundabout route is invented to circumvent Dutch legislation, which does not allow works councils to hire employees.

19 A nice introduction into the overwhelming number of theories in (strategic) management is Mintzberg, H., Ahlstrand, B., & Lampel, J. 1998. *Strategy safari: A guided tour through the wilds of strategic management*. London: Prentice-Hall.

20 See, for instance, many chapters in Baum, J.A.C. (Ed.). 2002. *Companion to organizations*. Oxford: Blackwell Publishers.

21 A well-known analysis here is D'Aveni, R.A. 1994. *Hypercompetition: Managing the dynamics of strategic maneuvering*. New York: Free Press.

22 Stacey, R. 2001. *Complex responsive process in organizations: Learning and knowledge creation*. London: Routledge.

23 See, e.g., Seshadri, S., & Shapira, Z. 2003. The flow of ideas and timing of evaluation as determinants of knowledge creation. *Industrial and Corporate Change*, 5: 1099-1124.

24 Pennings, J.M., Lee, K., & Witteloostuijn, A. van. 1998. Human capital, social capital, and firm dissolution. *Academy of Management Journal*, 41: 425-440.

25 Huselid, M. 1985. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38: 635-672; and Pfeffer, J. 1998. *The human equation: Building profits by putting people first*. Cambridge, MA: Harvard Business School Press.

26 There is a game-theoretic argument why not launching a downsizing program is particularly beneficial in bad times, when the economy is hit by a downturn. See on this Witteloostuijn, A. van, Boone, C.A.J.J., & Lier, A. van. 2003. Toward a game theory of organizational ecology: Production adjustment costs and managerial growth preferences. *Strategic Organization*, 1: 259-300; and Witteloostuijn, A. van. 1998. Bridging behavioral and economic theories of decline: Organizational inertia, strategic competition, and chronic failure. *Management Science*, 44: 501-519.

27 Burt, R.S. 1992. *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.

28 See, e.g., Bachmann, R.G., & Witteloostuijn, A. van (Eds). 2003. *Networks, social capital, and trust: A multidisciplinary*

perspective on interorganizational relationships. Special Issue of International Studies of Management & Organization, 33: issues 2 and 3.

29 Kogut, B., & Zander, R. 1996. What firms do? Coordination, identity and learning. *Organization Science*, 7: 502-518; Nooteboom, B. 2000. *Learning and innovation in organizations and economies*. Oxford: Oxford University Press; and Weick, K.F. 1995. *Sensemaking in organisations*. Thousand Oaks, CA: Sage.

30 This is an example of combined activities that cycle from exploration to exploitation. See March, J. 1991. Exploration and exploitation in organizational learning. *Organization Science*, 2: 71-86.

31 Examples of classic contributions to the organizational learning literature are Argyris, C., & Schön, D.A. 1978. *Organizational learning*. Reading, MA: Addison-Wesley; March, J. 1991. Exploration and exploitation in organizational learning. *Organization Science*, 2: 71-86; and Senge, P.M. 1990. *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday. For overviews of recent studies, see many chapters in Baum, J.A.C. (Ed.). 2002. *Companion to organizations*. Oxford: Blackwell Publishers.

32 This is well-known from Argyris' work. See, e.g., Argyris, C. 2003. A life full of learning. *Organization Studies*, 24: 1178-1192; and Argyris, C., Putman, R., & McLain Smith, D. 1985. *Action science*. San Francisco: Jossey-Bass.

33 Flood, R.L., & Romm, N.R.A. 1996. *Diversity management: Triple-loop learning*. Chichester: Wiley.

34 The Breman model illustrates how triple-loop learning can be organized. Other examples of such triple-loop organizations are the Dutch company Endenburg and the Quaker communities. See, e.g., Romme, A.G.L., & Witteloostuijn, A. van. 1999. Circular organizing and triple-loop learning. *Journal of Organizational Change Management*, 12: 439-453; and Louis, M.R. 1994. In the manner of friends: Learning from Quaker practice for organizational renewal. *Journal of Organizational Change Management*, 7: 42-60.

35 Boone, C.A.J.J., De Brabander, B., Olfen, W. van, & Witteloostuijn, A. van. 2004. The genesis of top management team diversity: Selective turnover within management teams in the Dutch newspaper publishing market in 1970-1994. *Academy of Management Journal* (forthcoming); Jehn, K.A., & Mannix, E.A. 2001. The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, 44: 238-251; and Pelled, L.H., Eisenhardt, K.M., & Xin, K.R. 1999. Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly*, 44: 1-28.

36 See, e.g., Shapiro, C., & Varian, H.R. 1999. *Information rules: A strategic guide to the network economy*. Boston, MA: Harvard Business School Press.

37 See for an overview, e.g., Carter, N. 1987. *Consciousness and change: A study of the development process of a worker co-operative*. Bath: University of Bath.

CHAPTER 3. SERVICE INNOVATION

Summary

Official statistics suggest that European service corporations seem to be ignoring the importance of R&D and innovation activities. It is worthwhile to look at whether and how European service companies innovate in order to reap the associated benefits. In this article, we will introduce the Randstad model of corporate service innovation, showing how their particular innovation strategy, structure and decision-making processes help to develop learning capabilities that have fostered this company's long-term competitive advantage. And what lessons are to be learned from the Randstad example that could assist the implementation of the model in other organizations.

Key words: innovation, services, business models, temporary staffing industry

3.1 Introduction

Despite the increased importance of service innovation for the economy, we know surprisingly little about the drivers, strategy, organization and decision-making culture of innovation processes within service companies. This study explores these features of service innovation in detail. The core of this article is the introduction of the Randstad model of service innovation in the temping industry. This company offers a benchmark concept of corporate innovation by illustrating how the balance between strategy, structure and decision-making processes can be shaped in the context of large service enterprises without sacrificing long-term performance.

Many advanced countries have been moving away from agriculture and manufacturing towards information, knowledge and service economies. Services are ubiquitous and form the key to the much needed productivity growth of many developed economies (Howells, 2004; Van Ark et al., 2000; Inklaar et al., 2007). Market services alone, for example, account for 45 to 55 percent of the total value added in most OECD countries and the overwhelming majority of all European employees work in service companies (European Commission, 2003; 2005). Hence, the competitiveness of service companies is crucially important for the economic growth of advanced nation states. Innovation and/or research and development within service companies – and across service companies in 'systems of innovation' (Metcalfe & Miles, 2000) – are key to achieving a sustainable competitive advantage (Cainelli et al., 2006; Dodgson, 2000; Verspagen, 2005; Pilat, 2001); the more so as services are becoming increasingly tradable and therefore subject to international competition (Mankiw & Swagel, 2006). There are many good reasons why service companies need to innovate (Sundbo & Gallouj, 2000; Den Hertog, 2000). From a corporate perspective, the aim of innovation is mainly instrumental, delivering increased efficiency and productivity as well as access to new markets and clients (Ozdemir et al., 2007). It is apparent

that market situations and competitive structures are subject to constant change and that the pace of dynamic innovation has accelerated unmistakably. Against this background of increased competition, successful companies no longer try to achieve decisive advantages through cost leadership or advances in quality or technology alone (Foss & Knudsen, 1996; Peteraf, 1993; Conner, 1991). They tend to differentiate themselves through innovative services that give them a decisive unique selling proposition compared with their competitors (Barney, 1993; Dahlgaard & Dahlgaard, 1999; Sharma et al., 2005; Tether et al., 2001). Thus, innovation allows service companies to continuously offer enhanced or new services in the market and be quicker than the competitor. They are therefore better able to find and produce new opportunities and reap the associated benefits. We will associate this proposition with our case company, i.e., Randstad.

Surprisingly, however, many service companies seem to ignore the importance of innovation and/or R&D for the performance of their corporation (Van Ark et al., 2003). Official statistics suggest that relative to their economic performance, service sectors only account for a small share of total R&D (OECD, 2005a; 2005b). The average R&D intensity tends to be much lower in services than in manufacturing. Although not all service sectors are the same – and the intensity to engage in innovation and R&D varies between service sectors – the statistics nonetheless indicate that service companies find it difficult to create new products and services. To some extent, we can explain the less optimal innovative performance of service companies in the official statistics. It is argued, for example, that service companies are more inclined to invest in various forms of organizational ('soft') innovation rather than in (technological) R&D – that often aims at technological ('hard') innovation – and for that reason are not covered in the statistics. This is confirmed by case study research (Boden & Miles, 2000; Gallouj, 2002; Gallouj & Weinstein, 1997; Howells, 2001; Metcalfe & Miles, 2000; Sundbo et al., 2007). Service companies associate R&D mostly with technological R&D (Den Hertog et al., 2003). R&D is less associated with creating new services or new service development. This implies that, in practice, important services' R&D and innovation activities are hidden behind labels such as business development and service improvement without being recognised as services' R&D (Howells & Tether, 2004; Tether, 2003; Den Hertog, 2000).

Hence, the empirical evidence of innovation by service companies is mixed and therefore many questions still remain unanswered, most importantly, whether and how service companies are able to innovate and by doing so, achieve long-run competitive advantage (cf. Dodgson et al., 2005). The main research question of this study is 'how do service companies develop and maintain successful R&D and innovation activities?' We investigate the drivers, strategy, organization and decision-

making culture of innovation processes within a service company in the temporary staffing industry to answer this question. Research on new service development usually focusses on particular sectors such as financial services (e.g. Ozdemir, 2007; De Brentani, 2001), transport (e.g. Nijhof et al., 2002) and wholesale (e.g. Hart & Service, 1993). Innovation processes in the temporary staffing industry remain relatively unaddressed and we aim to fill this gap. The industry is also interesting because most of the leading industrialized countries have overall rates of temporary employment above 10 percent, with relatively high levels in European countries such as the Netherlands, Germany and France (OECD, 1999). Finally, it is a knowledge intensive business sector which is often highly innovative in its own right, as well as facilitating innovation in other economic sectors (Den Hertog, 2000).

The outline of this article aligns with the structure of our research. First of all, we will provide an overview of core concepts and definitions that relate to service innovation. That is, we start our research with a review of previous work of service innovation in order to characterize and define service innovation. We use these insights for the design of our exploratory case study. Section three will describe our case study methods and introduce our case company, i.e., Randstad. Section four will report the case study results and will present the Randstad model of corporate innovation. The article concludes with an appraisal of what can be learned from the case company in the context of the current quest for business models of innovation by service firms that strive for innovation and that need to adapt to the requirements of modern knowledge economies.

3.2 Services and innovation

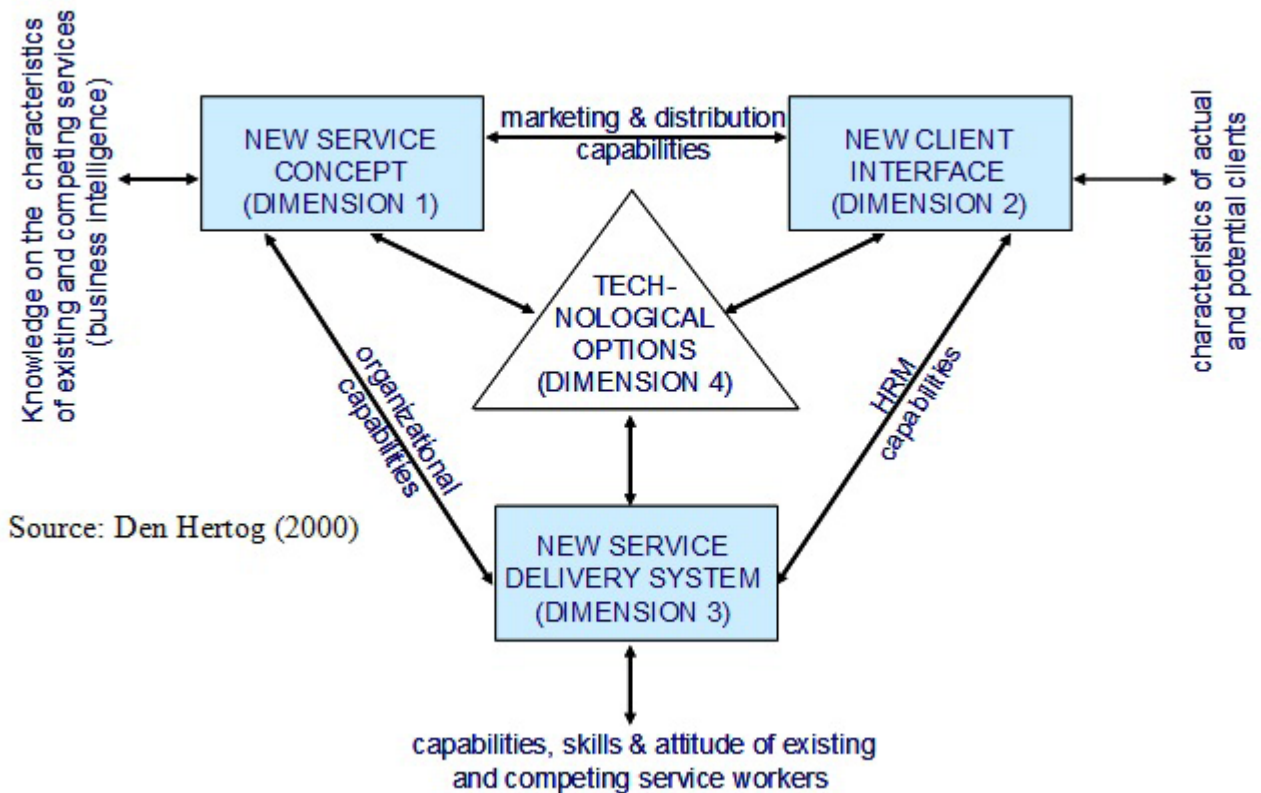
During the past decades the research in services and services innovation has mushroomed (Dodgson, 2000; Tidd & Hull, 2003; Gallouj, 2002; Metcalfe & Miles, 2000). These studies offer a helpful point of departure for the design of our exploratory case study. Studies on service innovation have focused mainly on the conceptualisation of service innovation (Boden & Miles, 2000; Gallouj & Weinstein, 1997; Howells, 2001). These studies often characterize services as a specific economic activity that is distinctively different from goods producing activities – they stress the intangible nature of most services, the overlap of the moment of production and consumption, the non-storability and low tradability of services, and the strong user-producer links. For a long time, the definitions of services were dominated by Pavit's sectorised taxonomy of technological change that primarily characterised service industries as supplier-dominated sectors (cf. Soete & Miozzo, 1989; Evangelista & Savona, 1998; Djella & Gallouj, 2001). In a similar vein, the important theoretical contributions of Barras (1986, 1990) portrayed most service sectors as supplier-dominated, and as receiving an impetus from manufacturing in order to be able to embark on subsequent phases of innovation processes.

Our study aligns with the definition of Gadrey et al. (1995) who suggest that “to produce a service [...] is to organise a solution to a problem (a treatment, an operation) which does not principally involve supplying a good. It is to place a bundle of capabilities and competences (human, technological, organisational) at the disposal of a client and to organise a solution, which may be given to a varying degrees of precision”. This definition suggests that not only technological, but also human and organisational capabilities are important for providing services. Additionally, the definition allows us to differentiate between highly standardised service products or service formulas with quasi good characteristics (such as fast food chains) and more customised services such as consulting or legal services. The latter category usually involves a substantial part of tacit knowledge and is often the result of the interaction between the service provider (producer) and the service receiver (client).

We can derive two conclusions from the service innovation literature. Firstly, it has been increasingly recognised that many services deliver a – sometimes substantial – contribution to innovation processes, that is, they are not merely passive recipients of others’ innovations. Secondly, the emphasis on technological innovation has been moderated. Innovation in services or in service functions represent multidimensional characteristics, which involve both technological and non-technological dimensions. The importance of non-technological elements has increasingly been acknowledged for service innovation. These achievements result in a better understanding of the peculiarities of services (Miles, 1993), service management (Norman, 1991; Quinn, 1992; Løwendahl, 2005), the role and importance of the interaction with clients (Kline & Rosenberg, 1986) and the recombination of existing elements in new services (Henderson & Clark, 1990). Today, it is widely acknowledged that innovations in services and manufacturing are equally important. Manufacturing firms increasingly use innovation in service functions in order to differentiate their products. Conversely, some business processes in service organisations increasingly resemble those in manufacturing.

Service innovation is seldom limited to a change in the characteristic of the service product itself. Innovation often coincides with new patterns of product distribution, client interaction and quality control. What is important for introducing one new product in a market might be totally irrelevant for other products. Offering a completely new service may differ considerably from offering an existing service using a new distribution channel. Figure 1 presents a conceptual model that maps the diversity of service innovations (Den Hertog, 2000). This model distinguishes between one technological and three non-technological dimensions of innovation.

Figure 1. Dimensions of Service Innovations



The conceptual model represents four different dimensions of service innovation. The first dimension is the new service concept. Low-cost or 'no-frills' airlines are an example of these 'conceptual innovations'. Manufactured products are typically highly tangible. This is often not the case with services. Service innovations may be embedded in a tangible product (such as ATM) but the innovation itself is often a new idea or concept of how to organise a solution to a problem. There is an ongoing debate on the 'newness' of many service innovations but this applies to 'new' manufacturing products as well and is part of this line of research. Services can be new to the providing firm; the regional, national or international market; or the client. The level of novelty in service innovations differs; although a particular service concept may already be familiar in other markets, the key thing is that it is novel in its application to a particular market.

The second dimension is the client interface. The various generations of electronic banking (from the introduction of ATMs to the use of mobile phones in banking) is an example of an innovation where the 'client-interface dimension' is dominantly present. Not only did electronic banking change the way services are offered and how we interact with our banks, it also introduced a considerable degree of self-service as most of the data entry is now in the hands of final consumers. Clients are often part and parcel of the production of the (new) service. The interaction process between the provider and the client is an important source of innovation – the more so when the business service itself is offering support for innovation (which, for example, is the case in R&D or design services). The higher the degree of co-design or co-production of services, the more difficult it is to locate the prime source of the innovation.

The third dimension concerns the in-house service delivery system and organisation. It refers to the organisational structure of the service company itself; appropriate management and organisation is needed to allow service workers to perform their job properly, and to develop and offer innovative services. New services, for example, may require new organisational structures, (inter)personal capabilities or team skills. The large-scale introduction of home shopping services is an example of the 'delivery system and organisation dimension' of service innovation.

The fourth dimension, technological opportunities, has caused much debate in the service innovation literature. Service innovations are of course possible without technological innovations but they often go together. IT can facilitate or enable but likewise constrain service innovations. Tracking and tracing systems are examples of 'technological innovations': they enable transport service providers to monitor the progress of their fleet and thus manage their transport service more efficiently.

Apart from the importance of these four dimensions as separate innovation vectors of change, the linkages between the vectors may be of even more significance. Often these cross-linkages are forged in practice by those responsible for marketing, organisation development and distribution. For instance, launching a new service concept (for existing or new clients) requires marketing expertise. Similarly, creating an adequate interface with clients, and adapting the service delivery system, requires knowledge of how services are distributed (both in terms of where they are produced and of how they are delivered). The decision as to whether to develop new services also requires organisational knowledge. Hence, a particular service innovation may be characterized by one dominant feature related to one of the above-mentioned dimensions. This particular feature will often prompt a set of changes in other dimensions, in order to bring about a successful innovation.

To summarize, any service innovation will most likely involve a combination of all four dimensions. A completely new service, for example, will imply that a new service delivery system will have to be developed, employees will need to change their tasks and work relations with their clients, and existing IT applications and business processes be adjusted. The weight of the dimensions, as well as the interactions between them, will vary across service innovations, services and firms.

On the basis of the foregoing, service innovation can be defined as “a new or considerably changed service concept, client interaction channel, service delivery system or technological concept that individually, but also in combination, leads to one or more (re)new(ed) service functions that are new to the firm, change the service/product offered on the market, and require structurally new technological, human or organisational capabilities of the service delivery organisation” (Van Ark et al., 2003, p. 16). This definition covers the notions of technological and non-technological innovation, but also the distinction between technological and non-technological aspects of innovation. This subtle but important distinction stresses the difference between the nature of the innovation itself and the characteristics of the innovation process and the organisations involved.

3.3 Methods and case company

Research Methods

This study can be characterized as an explorative type of research, and follows a case study approach. A case study is the investigation of a temporary empirical phenomenon within its real context (Eisenhardt, 1989; Yin, 2004). In this study, innovation is the phenomenon to be investigated, the service companies are the cases. Case research differs from other qualitative methods in that it involves numerous other data sources, some of which are quantitative. There are two major issues that lead to this choice, namely the research question and the depth of analysis. The main research question of this study is ‘how do service companies develop and maintain successful R&D and innovation activities?’ Case studies are particularly useful to answer ‘how’ questions because such questions are more explanatory, and do not aim to describe the incidence or prevalence of a phenomenon. Additionally, this study aims at investigating the development of innovation. Case studies are particularly suitable for this, because they allow for greater flexibility during the inquiry. In other words, when exploration rather than theory testing is the aim of a study, a qualitative approach is recommended instead of a quantitative one.

We used a combination of criteria to select the case company, namely business service sector, long-term successful financial performance and a substantial history in R&D and innovation activities. The case study is part of the Research and Development Needs

of Business Related Service Firms (RENESER) project. This project is established by the European Commission's DG Internal Market and Services. Among other things, the project is charged to undertake an examination of the apparent 'underinvestment' of European business service firms in R&D. We reconstructed the business model of corporate innovation based on four interviews we carried out in December 2005 with four management team members in combination with document studies (desk research). The documents included financial sheets, annual reports, minutes of (board) meetings and memoranda concerning R&D and business development strategies. We interviewed Randstad's managing director concerning business concept development, the managing director for ICT systems, an account manager for key clients, and a member of the executive board of Randstad Holding. On average, the interviews lasted two hours. This enabled us to obtain detailed information concerning strategic and operational issues in the development of new service offerings. The interviews were semi-structured. The semi-standardised interview guide was based on an extensive literature review (summarized in the previous section). A focused interview enabled a detailed study of the selected phenomenon.

In order to keep the focus, we developed a semi-structured questionnaire. To date, no theoretical model exists that allows the disentanglement of innovative business models. For this reason, we used three key aspects which are identified in the strategy and organisation literature as key determinants of company success: strategy, structure and process (cf. Pettigrew & Fenton, 2000). Hence, besides general company information, questions concerning the R&D and innovation strategy, function, organisation, and decision-making processes were selected as the research focus. In the RENESER project we used various pilot firms to test the questionnaire. The case study was authorised by the case company. As stated, a case study methodology does not allow for testing causal relationships between variables under consideration. The research approach, however, does help to identify fine-grained processes and key characteristics underlying R&D and innovation activities in service companies such as Randstad, which is the purpose of this study.

Case Company

Dutch-based Randstad Group is one of largest staffing and human resources service organisations. According to 2006 figures, the company employs 16,620 persons in corporate staff, achieved € 8,186.1 million in revenue and € 360.3 million net income. It currently operates in 20 countries through more than 2,650 outlets. It is market leader in the Netherlands, Belgium, Germany, Poland and in the south-east of the United States. Its core competence is its knowledge of work and work-related processes and detailed understanding of the demand and supply of labour. In addition to offering traditional mass customised staffing services (for instance, via

the Randstad or Tempo Team companies), Randstad has deliberately moved towards higher value-added services (or 'specialities') for which new service concepts and business models such as contract staffing, recruitment & selection, and permanent training are being developed. As such, Randstad is developing into a knowledge intensive business service firm. Despite its market leadership, Randstad operates in a competitive market with other large staffing agencies such as Adecco and Manpower as well as numerous small-scale local companies. As Randstad is moving up-market – e.g. through professional staffing and recruitment services or by offering outsourcing of HRM activities – it is also starting to compete with different types of competitors such as recruitment agencies (for instance, YER and Michael Page), interim management bureaus or ICT service companies. The latter may offer secondment of ICT personnel, but can also offer the outsourcing of HRM systems. However, probably its main competitors are business clients that employ personnel directly themselves.

R&D and Innovation Drivers

From our interviews we learned that Randstad is much more likely to think in terms of business development than innovation or R&D. But although R&D and innovation are therefore largely hidden, innovation and new services are important to Randstad. Important R&D and innovation activities are embedded in various activities ranging from optimising large scale administrative processes, business concept development, co-innovation with major clients and creating an open corporate culture in which 'bottom-up' innovations are valued and where needed adopted by senior management for further diffusion. In practice, innovation in an organisation like Randstad means enriching, blending and customising the company's core activities into well-defined and profitable service concepts that can be rolled out swiftly.

Furthermore, based on the interviews and desk research we identified various trends that affect the markets in which Randstad operates. They drive the services R&D and innovation taking place at Randstad. One trend is that of increasing service content and 'higher customer intimacy'. In order to be able to offer more customised HR-related services, Randstad not only needs to become more knowledgeable about the labour market, but also about the markets in which their individual clients operate. Randstad has increasingly built up specialisations geared towards certain industries and particular businesses. This often implies moving away from the traditional business model of selling hours of flexible work towards models based on taking care of certain service functions.

Another trend concerns the quality of front and back office work processes. Technological development is a key driver for 'soft' innovation at Randstad: it complements, supports or enables process-oriented, service delivery and organisational innovation.

An important growth driver in the staffing and HR solutions industry is the quality of the administrative processes underlying the mass (customised) service offering. Apart from scale economies, standardisation of processes is needed to administer the many individual candidates that work through Randstad channels at numerous client sites. Important sources of R&D and innovation are administration and ICT systems that create efficient back office (including knowledge management systems) and front offices work processes for Randstad. These administrative and ICT systems can also help in realising process innovations such as electronic billing systems, new front office systems or shared service centres. A final trend concerns the increasing deregulation of national and international labour markets that require Randstad to adapt to these. This also influences the development and introduction of new services and service concepts.

3.4 The business model of corporate innovation

From our interviews and desk research we have identified nine features that characterize corporate innovation by our case company. Table 1 lists those characteristics, which will subsequently be introduced below. The nine major features are clustered in three groups in line with the three key principles of successful organizations: strategy, structure and decision-making processes.

Table 1. Innovation in Practice in the Randstad Model

Strategy: Non-Formalized Strategic Focus	1. Formal strategy 2. Strategic holding groups
Structure: Semi-Structured Organization	3. Ad-hoc project teams 4. Ad-hoc alliances 5. Funnel selection method 6. Exploitation of success 7. Portfolio management
Process: Embedded Decision-Making	8. Bottom-up exploration 9. Open innovative culture

Strategy: Non-Formalized Focus

1. Randstad's formal strategy focuses on business development rather than innovation or R&D. Innovation is not the end but the means by which the company wants to develop its business. Randstad does not have a specific R&D budget. The company does not specify particular innovation targets or a strategic blue-print that pre-defines innovation activities.

2. Two strategic groups at the holding level, namely Strategic International Accounts and Business Concept Development, focus on new business ('organic growth') supported by innovation. Hence, in line with their corporate strategy, innovation and R&D are primarily induced by (prospect) client needs. Thus, the groups first identify these needs and afterwards initiate innovation projects with major (prospect) clients and by doing so, focus the Randstad organization on feasible innovation activities. This prevents first concepts from remaining diffuse ideas and not becoming innovations. They innovate for current 'real-world' existing challenges, not for potential future bottlenecks.

Structure: Semi-Structured Organization

3. Ad-hoc (international and cross-divisional) project teams are organized if the need for a new service is detected. These teams of specialized Randstad consultants who have different backgrounds and experience, will develop and implement the dedicated solution. Randstad has a large pool of expertise and dynamically starts and ends project teams.

4. Randstad deliberately uses ad-hoc partnerships with major (prospect) international clients ('co-innovation') to develop new services. The partnerships with clients allow sharing the risks involved in developing new services and offer pilot opportunities to test these. The client has a first mover advantage from the new service vis-à-vis its competitors. Additionally, Randstad applies ad-hoc partnerships with universities and specialized research institutes to develop and maintain state-of-the-art knowledge concerning HR and labour market issues.

5. Randstad applies a funnel method to organise the overall process of new service development. In the first step of the funnel, concept business opportunities and good ideas are collected. With the use of a strict set of criteria (profitability, risks, scale opportunities, in-house adaptability), all new ideas are gradually reduced to a selected number of feasible candidates.

6. Randstad exploits successful innovation. Given that Randstad is a worldwide organisation, it continuously scans successful new services, selects best practices,

describes them in great detail, standardises these and – after approval – diffuses them as the standard way of working to those countries where these services are offered. The company replicates successful concepts across operating companies using existing front and back office capacities with the so-called ‘copy & paste strategy’. The toolkits give detailed plans for implementation, allowing adaptation options for different national cultures and markets. By using existing know-how, the launch and implementation of new concepts can be accelerated.

7. Portfolio management supports the ongoing monitoring and selection of approximately 10-20 innovation projects worldwide. The company keeps an explicit track record of failed and successful projects that is maintained by one dedicated executive board member.

Process: Embedded Decision-Making

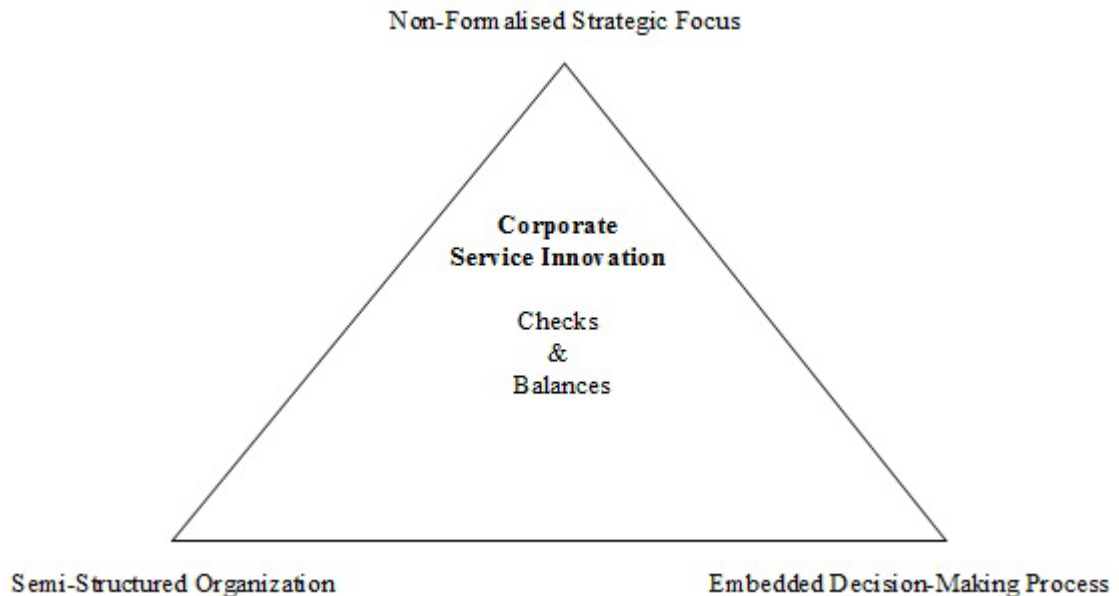
8. The adoption of a ‘bottom-up’ approach to innovation actively challenges all employees to step forward with ideas for incremental innovations and/or new service concepts. That is, almost all new ideas derive from the shop floor and/or in direct consultation with their clients.

9. Randstad management actively promotes an open and innovative culture. The organization is relatively flat with a non-hierarchical format. Employees on the shop floor or within the Randstad organization itself can easily make suggestions to the location or regional district manager. Randstad carefully selects and trains its own managers (approximately 80 percent of all managers have a Randstad specific career) as well as consultants and other employees via its company owned Academy. This ensures that the greater part of management has a thorough understanding of Randstad specific business models and culture.

The Service Innovation Triangle

We interpret our case study findings as follows. The nine key features of the Randstad model of corporate innovation can be integrated into what may be called the ‘service innovation triangle’ (see Figure 2). Together, the three cornerstones – non-formalized strategic focus, semi-structured organization, and embedded decision-making processes – produce a system of checks and balances that safeguards innovation in a service company. A non-formalized strategic focus implies that the organization (a) is aware of the importance of innovation but (b) focuses its innovative activities towards new products without specifying these in strategic blue-prints. A semi-structured organization guarantees the smooth functioning of R&D and innovation processes. Embedded decision-making processes offer opportunities to all organizational members to co-determine corporate R&D and innovation.

Figure 2. The Service Innovation Triangle



Innovation and Performance

The corporate model of innovation has survived years of economic slow-down as well as prosperity. Although there are numerous reasons for a company's financial success, from enlightened top management with a long-term view to specific competencies tailored to specific markets, we highlight the particular business model of corporate innovation. As said in the introduction, innovation allows service companies to timely differentiate their service portfolio and by doing so, obtain sustained competitive advantage. In line with this proposition, we offer two explanations why the Randstad model of innovation may underlie the company's financial performance (cf. Kelly & Storey, 2000).

First, the Randstad model has features that promote organizational learning. For example, the model is built upon decision-making processes that create conditions for open inquiry within each firm, as well as across the Randstad firms. The strategic management literature increasingly acknowledges the development of a learning ability as a prerequisite to sustainable performance (Dodgson, 1993; Senge, 1990). In the literature on learning, a distinction is made between between single and double loop learning (Argyris & Schön, 1978). The first is learning to do existing things better (more efficiently) and the second is learning to do new things (from a new perspective). For double loop learning, the key actors in the organization have to

be able to create ongoing dialogues, a conversational process in which defensive reasoning and behaviour do not impede free and open inquiry (Argyris, 2003).

Second, the Randstad model seems to have solved the dilemma between exploitation and exploration. That is, the notions of different orders of learning are closely related to the distinction between exploitation – the efficient use of existing competencies – and exploration, the development of new resources or competencies (March, 1991). Exploitation is required for firms to survive in the short term, and exploration is required to survive in the long term. Thus, the literature states that in order to survive now and later the firm must perform both, i.e., engage both in exploitation and exploration. But this entails a paradox (Gilsing & Nooteboom, 2006): exploitation requires the maintenance of existing entity, knowledge and practices, with a certain amount of control and coordination. Exploration requires their change, with a loosening of control and coordination.

Randstad operates a flexible form of a matrix organisation: cross-functional and cross-departmental groups are formed ad hoc, according to the opportunity at hand (cf. Gallouj & Weinstein, 1997). This so-called 'hypertext' organisation is what Nonaka & Takeuchi (1995) recommend for exploring innovative, novel combinations of existing practices. Additionally, Randstad separates exploitation and exploration in place and time (Volberda, 1998). Throughout the organisation, employees and teams engage in exploration. Another team fosters the exploitation of successful exploration results. The Randstad 'copy & paste' method is the replication of strong concepts and specialities across the operating companies using existing front and back office capacity. Randstad's funnel concept, in combination with the sequential teaming of exploration and exploitation offers the firm continuous cycles of innovation that are materialized in growing turnover rates (that is, organic growth).

3.5 Discussion

Conclusions

In developed countries, the service sector has grown rapidly since the beginning of the 20th century (Van Ark et al., 2000). It is true that many European service companies are small or medium-sized enterprises that deliver tailor-made 'interactive' solutions to local clients (Mazzacuto, 2000; Sundbo & Gallouj, 2000). They therefore have little to do with international competitors also because many service markets are protected by market regulations which foster their competitive position. This all may have limited their inclination to innovate, which is indicated by often-reported barriers such as a lack of finance, risk aversion and competing business priorities (Edvardsson et al., 1995; Howells & Tether, 2004; Oke, 2004). But globalization and the liberalisation of European service markets will have an impact on the competitive

positions of service companies and – at least from a theoretical perspective – this should drive their innovative activities. Nonetheless, official statistics still suggest that the innovative performance of European service companies is below what should be expected (OECD, 2005a; OECD, 2005b). This indicates that many service companies still find it difficult, or less important, to develop new services (Howells, 2000; Vermeulen & Dankbaar, 2002). Our case company, however, provides evidence that a system of corporate innovation can be designed and implemented successfully in a service organization (cf. Dodgson et al., 2005; Ozdimir et al., 2007). Although differences in size, markets and activities do exist between service organizations, we suggest that the Randstad business model of innovation offers helpful information for managers that aim to improve the innovative nature of their enterprise.

Implications for Managers

First, there is a key factor that relates to the company-specific role of innovation. At all levels of the company the persons employed need to be convinced that innovation is the key to sustainable financial success (cf. Edvardsson et al., 2002; Kelly & Storey, 2000). Innovation should not be the end but the means that supports organic growth of the company: it does not need a separate strategy and/or budget to become effective. Our case study reveals that the propensity to innovate is an integral part of the Randstad company shaped by trends in the context of the organisation. It is explicitly aimed at business development – a primary concern for the company is the ongoing requirement to map and respond innovations to a client's needs (Alam & Perry, 2002). Related to this element is the timing of the introduction of the new service. Business consumers of service products sometimes demonstrate high levels of satisfaction with existing services. Where the benefits of a new service are unclear, and particularly when increased costs are imposed, prospective clients may not accept the novel product. And so timely involvement of the client (e.g. in an innovation partnership) is important.

Another factor is the optimal structure and coordination of innovation processes and activities (cf. Nooteboom, 2000; Dodgson et al., 2005). Innovation is derived from creativity that on the one hand requires a trustworthy and non-bureaucratic context but on the other hand structure and coordination in order to prevent inefficiencies and to materialize investments (Meyer & DeTore, 2001). Our case company shows that innovation processes and practices are multi-faceted and their management involves the coordination of business intelligence, product and service development as well as the diffusion of best practices throughout the entire organisation. All these will overlap but are equally important and therefore require substantial consideration in order to deliver successful new products and services. Randstad shows that the application of, for instance, a funnel concept and portfolio management in combination with a

few dedicated employees (strategic groups) offer sufficient structure for harvesting successful new ideas. Related to this element is the codification of innovation practices. It is obvious that the codification of new knowledge is difficult but nonetheless important. Randstad offers methods and guidelines for the implementation of new services based on best practices and by doing so, diffuses the new services throughout the entire company.

A final lesson addresses the competencies and skills of managers and employees (cf. Oke, 2002). Innovation is not a product that can be bought on a market, nor is it often part of the curricula of high-schools, universities or manager programs. Formal training in service innovation management is rare in Europe, and it appears that there is little government support or encouragement for teaching programs specifically designed for service firms. The majority of organization theory and management practices still have their roots prior to the era of services and innovation, being designed to answer questions for old-style manufacturing enterprises. For that reason, the company itself needs to continuously train its managers and employees like Randstad pursues in its company-owned Randstad Academy. Although some innovation toolkits and knowledge databases are available, they often need to be customised to the company in question. In-house training also supports an innovative culture to the benefit of employees (De Brentani, 2001). Of course, many employees of service companies work at client sites that have their own structure and organizational culture. But being part of an innovative parent organization will challenge the development of competencies and therefore job satisfaction.

CHAPTER 4. SERVICE PRODUCTIVITY

Summary

Service companies and organizations do not usually measure their success in terms of productivity. For many service providers, productivity is a vague concept used in manufacturing industry, and productivity management is not a priority. So what exactly do we mean by the productivity of services, and how is it measured? After all, the input and output of services is difficult to quantify.

Despite the alarming macroeconomic figures on productivity trends in the service sector in the Netherlands, there is a relative indifference towards, and lack of familiarity with, the concept of productivity at company level. Since the early 1990s, productivity growth in the Netherlands has lagged behind that of other countries. According to the figures, productivity is even falling in certain service industries. For a country like the Netherlands, with such a large and rapidly expanding service sector, this is a worrying development.

This chapter offers a conceptual productivity framework for service companies that explains the relationship between productivity and other success indicators, and gives advice on improving productivity. In order to arrive at the most effective methods for increasing productivity, it is essential to understand the specific issues that relate to the combination of service-related labour and productivity. We argue that managers in the service sector must quickly become competent in productivity management. This is essential in the current climate of increasing international competition. Productivity must play a much more important role in the development of new services, as well as in the design of the processes through which services are provided. Although IT is an important element, it is not sufficient on its own. IT will not be profitable unless related investments are made in people and the organization.

We conclude that the differences between productivity in the service sector and productivity in industry are considerably smaller than many people in the service sector assume. The relative importance of the aspects for improvement varies, and the instruments will have to be adapted for specific types of service, but experiences from industry can provide valuable insights for service companies.

Our study shows the need and possibilities for productivity policy at company level, and the conceptual framework links productivity policy with corporate strategy and performance, as well as providing points of departure for improvement. The chapter provides convincing arguments and ideas for including productivity in corporate strategy, and making it an area for management focus.

Keywords: labour productivity, services, innovation, management tools

4.1 Prologue

Productivity is a main theme of cabinets and employer associations. Although productivity is a sensitive issue for employee organizations, the trade unions are generally aware that higher productivity will create more jobs than it destroys.

Talking about productivity is one thing, but understanding it and changing the current situation is another matter entirely. This is especially true in the service sector. The Netherlands has a large service sector, which is seen as the main source of the productivity problem. This is only partly true, but it would certainly do no harm if Dutch service companies paid greater attention to productivity. This study deals primarily with service organizations. Although non-profit organizations have specific characteristics, much of the information in this study also applies to service companies in this category. For the sake of readability, we have chosen to use the term 'service company'.

Productivity is at the core of an organization's operations and generates a great deal of resistance when mentioned, especially when economic conditions are unfavourable. Suddenly, the management has to establish exactly who is making a genuine contribution. The question 'What do you actually do' usually heralds yet another reorganization and collective redundancies. The argument is that the organization has no choice, given market forces and increasing competition from Eastern Europe and the rest of the world. The Netherlands is often accused of avoiding the issue of productivity and sweeping it under the carpet. It is said that the Dutch do not believe in result-driven remuneration systems or other methods that measure and compare the performance of departments or individuals. This approach is not compatible with business culture in the Netherlands because it goes against the principle of solidarity and the 'social face' of organizations.

By contrast, policymakers, academics and employer organizations are less embarrassed to discuss, think and write about this issue. The growth in productivity has been slowing since the mid-1990s, so it is not surprising that the subject has again been on many agendas for some time. And we emphasize 'again'. In the 1950s, the importance of productivity was widely acknowledged. It was during this period that the Dutch Productivity Improvement Committee (COP) went to the United States to discover the secret of the American productivity miracle. At this time, too, countless Dutch companies in sectoral and other organizations put their heads together to find ways to improve productivity (see Appendix B). Back then it was evidently not a problem to talk about labour productivity and try to improve it. But times were different then: companies made 'real' products in factories, and employees were seen as an extension of the machines that produced the goods. Moreover, it was much easier to predict how higher productivity would benefit individual employees and the

country as a whole. After two world wars, the Netherlands and the rest of Europe were lagging far behind. By learning from other countries, it soon became possible to translate rapid increases in production into higher incomes for many people in the Netherlands.

The rapid growth came to an end in the 1970s. Structural changes in the Dutch economy led to uncertainty as to whether – and if so, how – it would be possible to achieve rapid growth again. The service sector represented a larger share of the economy, but this was seen as a consequence of the rise of the welfare state rather than a new light on the economic horizon. Many people believed that the expansion of the service sector was mainly due to increasing consumer demand. Service companies could not become more 'productive', it was thought, because added value was created largely by labour, which meant that technology and machines had little to contribute. The importance of human capital, represented in education and training, was acknowledged but the prevailing opinion was that it was difficult to steer and standardize the knowledge present in the service sector. During the 1980s, 'productivity' became a less important issue and the focus shifted towards subjects such as 'quality improvement'. Services still had to produce results, and improving their quality would at least help to increase the market share of service companies.

In the course of the 1990s, it gradually began to dawn on people that productivity in the service sector deserved greater attention. In the first place, improvements in service productivity were yielding positive results on the other side of the Atlantic. Moreover, the difference between the growth in macroeconomic productivity in the U.S. and the European Union during the 1990s could be almost entirely explained by rapid increases in productivity in one or two service sectors: the retail and wholesale trade and financial services. In the second place, it became evident that investment in one particular type of machine – the computer – also influenced productivity in the service sector. Meanwhile, a third factor was also becoming apparent. The use of information and communication technology (IT) was merely a precondition for productivity growth while other, largely non-technological innovations were the key to translating IT into real increases in productivity.

This chapter is based on the belief that productivity is one of the most important instruments for long-term economic growth, for maintaining and improving our standard of living, and for improving the economy. In the Netherlands and the rest of Europe, it is too often assumed that productivity improvements are incompatible with other socioeconomic objectives such as creating employment and improving the quality of life. Although increased productivity can have negative effects in the short term (e.g. on employment), this is not always the case. Moreover, these negative effects are certainly not permanent. Precisely in the constantly expanding service sector, it is

not a question of doing away with jobs but of making existing and new jobs productive or more productive. Largely as a result of demographic developments such as the declining working population and the ageing population, the ratio of working to non-working people is decreasing rapidly. The same demographic trends – in combination with the further internationalization of markets – is leading to an increase in demand for new and existing services. Service provision must be as efficient as possible in order to free-up resources that can be used to further improve the quality of life for present and future generations. This can only be done by placing greater emphasis on productivity and the efficient deployment of the sources of economic growth (labour, knowledge, technology, IT and non-technological innovation).

This chapter explores the ways in which service companies can define, measure and compare their productivity. We may know a great deal about the macroeconomic debate and industrial productivity, but we know very little about productivity and its determinants with regard to service companies. Given the sizeable gaps in our understanding of service productivity, we need to establish a sound foundation before we can formulate a satisfactory approach – involving a strategy and management instruments, or other means – to the productivity problem. First, we need to understand what productivity means for service companies. This gives rise to many questions, such as how does productivity relate to the organization's other objectives – financial as well as non-financial? How does our company compare to the best performer in the sector? Is there scope for increasing productivity, and what are the key methods for doing this? Does productivity mean the same thing to individual employees, groups, departments, business units and the organization as a whole? These are the questions we will be addressing in this chapter.

4.2 Introduction

Productivity in the Dutch economy

There is good news and bad news regarding the Dutch economy. The good news is that, following the lean years of the 1970s and 1980s, the pace of economic growth in the Netherlands accelerated rapidly during the 1990s. As a result, income per capita in the Netherlands now compares very favourably with that of other countries. At the beginning of the 1990s, average income in the Netherlands was only slightly higher than the European Union average. By the year 2000, the Netherlands was more than 15% ahead of the average for the EU member states of that time.

The improved performance of the Dutch economy was accompanied by substantial increases in employment and participation in the labour market. Between 1990 and 2002, the number of people in work as a proportion of the population in the 16 to 54 age group increased from 66.7% to 75.6%. A substantial part of these increases is due to greater participation by women. Because this involved mainly part-time work,

the increase (of 1.7% per year on average) in the total number of hours worked in the Netherlands was slightly less than the increase in the total number of employees, which was 2.2% per year on average.

The economic downturn in 2002 and 2003 dampened the euphoria surrounding the 'New Economy' of the 1990s. Company after company called a halt to IT projects. Nevertheless, now that there are signs of economic recovery, new investment in IT is offering opportunities for continued growth. In the service sector in particular, there appear to be many potentially successful applications for IT.

The bad news is that the growth in labour productivity in the Netherlands slowed considerably during the 1990s. Between 1990 and 2003, for instance, added value per hour worked increased by an average of 0.9% per year. The corresponding figure for the European Union as a whole was almost a full percentage point higher. According to some commentators, the problem is less serious than some people assume. The slow rate of growth in labour productivity in the Netherlands contrasts sharply with the high level of growth compared to other countries. Added value per hour worked is actually 5% higher in the Netherlands than in the United States, which is currently the world economic leader.

At the beginning of the 1990s, however, the productivity level in the Netherlands was 15% higher than that of the United States. The benefits of productivity improvements are therefore short-lived. Moreover, there is a correlation between the high labour productivity and low labour participation that prevailed at the beginning of the 1990s. During periods of low labour participation, only the most productive employees remain in work, while their less productive colleagues can be easily channelled into a redundancy scheme, open sick leave or early retirement. The increased labour participation rate during the 1990s enabled many people in these categories to return to work. Many of these 'new' employees are employed in sectors with relatively low productivity levels, such as personal services. The Netherlands failed where many other countries succeeded, namely in improving the labour participation rate as well as labour productivity.

An important assumption in this study is that growth in labour productivity is the key to maintaining and improving our standard of living in the long term. Increased participation in the labour market and greater investment in machines and computers have only a short-term effect on economic growth. The central question addressed in this study is how these sources of economic growth can be used more productively in the long term.

In the remaining of this section we will explain why our research focuses on individual companies providing services. We will explore the macroeconomic explanations for falling productivity in the Netherlands. This will also clarify the reasons for focussing on the service organization as is discussed subsequently. Following this, we summarise our key findings from the study, and set out the structure of the rest of the chapter.

The causes of the Dutch productivity problem

Most of the research carried out into the causes of the Dutch productivity problem has focussed on the economy as a whole. Although this chapter concentrates on the problem at a different level, i.e. that of the company, a number of insights resulting from macroeconomic research are important for this study. It has been found, for example, that the slowing of the productivity growth rate in the Netherlands (and in the European Union as a whole) is fairly widespread and is not, as is sometimes suggested, restricted to the service sector. It has also been shown that, compared to the United States, the problem is greatest in the field of financial and business services. Strangely, these organizations are the largest investors in IT. Apparently, then, investing in IT is not enough. Macroeconomic figures also show that the service sector in the Netherlands is lagging behind other countries when it comes to innovation (van der Wiel, 2001).

Some researchers believe that there is a direct link between the Dutch productivity problem and this lack of innovation. In this context, they point to an important secondary effect of wage-moderation policies followed during the 1980s and 1990s. Wage moderation was advocated as a means of stimulating the Netherlands' competitive strength and employment level, above all in the industrial sector. But, according to these researchers, wage moderation led to 'laziness' because the supply of cheap labour meant that they had to be less concerned about innovation (Kleinknecht, 2003).

Other researchers attribute the slow growth rate to the need for important reforms in the labour market and various product markets in the Netherlands (OECD, 2004). They argue that, despite brave attempts in the early 1990s, changing political priorities and the influence of certain interest groups hindered the flexible operation of these markets. A number of large service industries are most affected by this, for example business services, retail and transport. This apparently hampered the commercialization of new products and services, which meant that labour and capital could not be optimally deployed. Furthermore, it made it more difficult for small and medium-sized businesses to develop new markets.

Still other researchers point to the fact that the Dutch government has not created

conditions that provide optimum access to productive inputs. They argue that due to cuts in education, infrastructure investment and innovation grants at the beginning of the 1990s, and more recently in 2002 and 2003, investment in these crucial inputs has been far below the necessary level.

Finally, the media and a number of prominent businessmen and politicians have drawn attention to the failings of the labour, management and business culture in the Netherlands. According to these critics, the traditional 'polder model' has penetrated to every corner of the Dutch business world. Consequently, new initiatives are slow to come to fruition or do not see the light of day at all. The '9-to-5' and '3 holidays a year' culture is a major obstacle to ambition and achieving objectives. Middle management has adapted itself too strongly to this culture by basing financial and other goals on the passive reality of the Netherlands. Finally, it is argued that entrepreneurs are not daring enough to enter new markets and introduce new products and services, possibly because they are constrained by the complex framework of regulations surrounding issues such as redundancy and bankruptcy.

It is not the aim of this chapter to prove or disprove the validity of these claims. Although they are all in some way relevant to the main theme of this chapter, they offer little insight into the question of why service companies find it so difficult to address the concept of productivity in a concrete way.

The role of the service sector

In developed countries, the service sector has grown rapidly since the beginning of the 20th century. In 2001, the service industries in the private sector (i.e. excluding government bodies, education and healthcare) generated approximately half the GDP and employment in the Netherlands.

Three main factors explain the growing importance of the service sector during the past 50 years. First, final consumer demand for services increases as income per capita increases. At higher levels of income, for example, trade and transport become more important, there is a growing need for communication and an increasing demand for wealth-related services such as leisure services, healthcare and social services. The second factor is the shift in employment away from industry towards services, due to the fact that more and more companies are outsourcing their service activities. Finally, the price of services in relation to the price of industrial goods is increasing because it is more difficult to increase productivity in the service sector. The share of the service sector in terms of total employment is therefore increasing faster than its share in total GDP.

In general, service companies are relatively small. Approximately 45% of employees in the retail trade work for companies with 10 or less employees. Even in service industries that provide services to consumers or manufacturing companies, one-quarter of employees work for companies with a workforce of less than 10. These figures have remained relatively constant, despite the increase in the total number of employees in the service sector during the past decades.

The service sector has a larger share of new enterprises than the manufacturing sector. This is particularly true for business services. The large number of start-ups is partly due to the low initial investment. The question that remains, however, is why these new companies show no growth in productivity as time progresses.

The service sector is highly heterogeneous, and this is also true of the productivity figures for the various service industries. Information from the Groningen Growth and Development Center, for example, shows that the average growth in labour productivity in marketing and public-sector services (measured as GDP per hour worked) was lower than in industry. But the figures for service industries such as retail, telecommunications and water transport were significantly higher than those for manufacturing industry. On the other hand, labour productivity in the financial services sector slowed considerably, or even decreased, as was the case in the insurance sector. These figures do little to support the frequent claim – usually made by economists – that productivity growth in the service sector is by definition much lower than in industry.

The question is also whether slow productivity growth in the service sector is a specifically Dutch problem, or whether it occurs elsewhere too. In the Netherlands, the share of the marketing-services sector in total employment is relatively large (approximately 50% in 2001). This percentage is even higher in Britain and the United States. Both countries are characterized by relatively high labour participation rates in the retail trade, over 10%, against 7% in the Netherlands and France, and 8% in Germany. Particularly prevalent are the relatively 'low-value' business services such as call centres, employment agencies, security and surveillance firms, and cleaning services. Although they are still low, the growth figures for labour productivity in these service industries compare favourably with those of other countries. The Netherlands therefore has a relative productivity advantage in these service industries.

The GGDC databases show that the productivity problem in the Netherlands is concentrated in the financial services sector. Here, productivity has declined strongly since the 1990s. This is surprising, given the success of Dutch financial service providers abroad. It is not easy to define exactly why financial services have performed

poorly in terms of productivity, and a precise diagnosis falls outside the scope of this study. Appendix A includes a brief discussion of the differences between productivity yardsticks at the level of individual companies and at macroeconomic level. The alleged distortion of macro-productivity figures due to measurement problems is also discussed in this Appendix.

However, it has prompted one important message in this chapter, namely that productivity is certainly not the only performance indicator for service industries and companies. It is highly possible that the choice of activity and the accompanying profit margins act as constraints on productivity in the sector. In section 2 we discuss in more detail the relationship between productivity and the other objectives of service companies.

Finally, it is useful to look more closely at labour productivity growth in the service sector in America. The United States is often regarded as the champion of the New Economy. Table 2 shows that labour productivity in marketing services in the US has grown more slowly than productivity in manufacturing. Although much of that rapid growth can be attributed to only a few service industries (wholesale, retail and financial services), almost all services grew faster in America than in the rest of Europe. Various studies have shown that the 'productivity miracle' in America's service sector was not only due to huge investments in IT. IT efficiency in that sector has also increased significantly.

To summarise, the productivity problem in the Dutch economy cannot be attributed solely to the service sector. Moreover, productivity growth varies from one service industry to another. There is no reason to assume that the service sector has no growth potential. The causes of slow productivity growth in the Netherlands are more complex. However, the need to tackle these problems is most urgent in the service sector, if only because it represents such a large share of the Dutch economy.

The focus on service companies

The subject of study in this chapter is not the macroeconomy or a business sector but the individual company. When discussing productivity it seems obvious to concentrate on the level of the company, but in practice very few studies focus on companies – particularly service companies. However, a more detailed examination of productivity at company level is essential. A study of business services by the CPB (Netherlands Bureau for Economic Policy Analysis) showed, for example, that new companies have been particularly affected by low productivity (van der Wiel, 2001). Moreover, there were considerable differences between the productivity performance of companies in that service industry. An OECD study found that the problem in Europe is not so much

that companies cannot get started, but that they do not continue to grow once they are up and running. This means that they do not realise the productivity benefits that result from economies of scale (OECD, 2003).

It is always advisable to aim to quantify developments in productivity. This produces practical yardsticks that can be used in strategy development and monitoring. However, we should not exaggerate the importance of quantification. Measuring productivity in a service company is no easy task and involves many uncertainties. The service sector does not have the standard criteria that exist for the manufacturing sector, which can measure productivity down to the level of individual processes (e.g. tons of steel or numbers of television sets). The productivity yardsticks in the service sector are very vague/approximate because the quality of individual services varies considerably and because services are frequently geared to the needs of individual clients. An example of such a rough estimate is the total value of the service provided, divided by the increase in the total number of paid hours. Such an indicator is of little help to analysts attempting to identify the underlying determinants of productivity growth, or to managers who want to build it into their policy.

The question is whether the lack of useful formulas for calculating productivity in the service sector is simply due to a measurement problem, or to the fact that service companies find it less important. Sometimes, productivity is seen as something that relates only to the manufacture of goods. In the service sector, the question is rather what a service adds to the value chain (in the case of business-to-business services) or to the 'experience' of consumers (in the case of business-to-consumer services). Some researchers and consultants choose not to address the concept of productivity for service companies because they believe it gives a very limited indication of their performance. Too much emphasis on achieving high productivity rates could even have an adverse effect on the results of service organizations.

Although all these facets are discussed in this chapter, our conclusion is that improving productivity can enhance the 'bottom line' of service companies. In order to substantiate this, we first need to clarify how productivity should be defined for companies in the service sector. We will then examine the main characteristics of the drivers of productivity growth in service companies, and the main instruments for achieving it. Finally, we will address the question of how service companies can incorporate productivity management in their policies.

The most important questions and answers in this study

Before we can understand the concept of 'productivity in service companies', we need to answer a few basic questions. These questions and answers, on which the

structure of this chapter is based, can be summarised in the following eight points.

1) What is productivity? Why is productivity growth important? Is productivity (and labour productivity) the same thing as efficiency? How can productivity be measured at company level? In section 2 we argue that labour productivity is not a very useful concept at the level of the individual service company. Productivity should be regarded not only in terms of production (or output) in relation to the number of hours worked but also in terms of all inputs used by the company, including tangible and intangible capital and other resources. This brings us closer to a concept that we can use to express the efficiency of a company.

2) How can productivity be improved? In section 2 we distinguish between improvements in operational efficiency and technological advances. Operational efficiency involves realising productivity improvements by learning from other companies. The gulf between companies that are poor or moderate performers and companies that are top performers can be reduced using a large number of relatively simple measures, and above all by training and improving the processes within the organization. Note that this was precisely the aim of the national productivity programmes of the 1950s and 1960s. These programmes were implemented in the United States and Europe (and are still used today in Asia) to improve the efficiency of production processes. Appendix B offers a summary of this. Although these programmes were mainly geared towards manufacturing companies, a similar approach could be used for service companies today, initiated by the government, employer organizations and/or sector organizations. Technological advances (or breakthrough innovations) involve the continuous improvement of best practices at the productivity frontier.

3) How does productivity relate to other company objectives? At the end of section 2 we present a conceptual model that shows the relationship between productivity and two other business objectives, namely the purchase and sales price of products and services, and the company's activities. According to the model, these three factors determine the value created by a company.

4) How has the environment in which service companies operate changed, and how does this influence productivity? Section 3 focuses on the specific features of services and service companies. We will discuss the changing environment (e.g. market structure) in which many company services operate, as well as the increasingly short life of services. In this respect, service companies are becoming more and more like manufacturing companies. The pressure of national and international competition means that company strategies with regard to price and activities soon become outdated as a result of new developments. A strategy geared towards improving productivity growth is therefore increasingly important in terms of guaranteeing a continuous process of value creation in the long term.

5) What are the key instruments for improving productivity growth in service

companies? In section 3 we make a distinction between the two main routes to improved productivity, namely output modularization and the streamlining of the service-delivery process.

6) What are the most important 'drivers' of these productivity instruments? In section 4 we show that innovation is the key to productivity growth. More specifically, we emphasise the complementarity between non-technological innovations and the use of IT in the service sector. By 'non-technological innovations' we mean, above all, innovations in the service concept, improved customer relations and improvements in the development and delivery process for services.

7) How can we boost the 'drivers' of productivity growth and innovation? In the second half of section 4 we focus on the need to invest in intangible capital, particularly staff (human capital), technology and innovation (knowledge capital), organizational change (process capital) and customer relations (customer capital). This is the key to growth and value creation. Although the need for investment in intangible capital is certainly not restricted to service companies, it is an essential condition for continued value creation in this sector. Improving the productivity of all these forms of capital will lead to better financial results and will improve the company's chances of survival in the long term. Remarkably, companies often lack knowledge about their 'intangible solvency' and the efficiency of intangible capital.

8) Which business strategy is best for optimising the chain that begins with investment in material capital in order to drive innovation, and leads to productivity growth through the modularization of output and process streamlining in service organizations? In section 5 we consider the effects of two strategies, namely cost-reduction and innovation. Both strategies can form part of a programme geared towards improving productivity, but their effects should be mutually reinforcing rather than compensating. This chapter concludes with a plea for a refined and well-considered approach to these two strategies for improving productivity.

4.3 Productivity

The worlds of businessmen

If you wake up ten businessmen in the middle of the night and ask them about their company's main aims, nine of them will answer: continuity, growth, profit and – if they are properly awake – value creation. Whatever the reply, it will almost never include productivity. Productivity simply isn't the 'bottom line' for the average entrepreneur. Owners and shareholders do not usually monitor the company's productivity.

However, almost every businessman realises the importance of his company's productivity. A generally accepted definition refers to productivity as the ratio of 'output' (in the form of sales, production, profit or added value) to each unit of 'input' (employee, worked hour, total investment, machine hour). Productivity growth therefore means an increased level of output for a given level of input or, if both input

and output change – as is usually the case – that output increases faster or decreases less slowly than input.

Many companies use yardsticks to measure the productivity of the company as a whole or of parts of the production process. Table 1 shows the most frequently used performance indicators. The indicators in the first column of the table are based on physical output/quantities such as tons, volume or number of units. Many manufacturing companies use these indicators to monitor parts of the production process that are more or less standardized. They also serve as an internal benchmark for monitoring the efficiency of production processes. Service companies rarely use these indicators because their output is not tangible. It is difficult to define the physical output of a bank, a firm of solicitors or a consultancy firm.

Table 1. Productivity measurements

	Output measures			
	Physical Volume (V)	Revenue (R)	Profit (Z)	Added Value (A)
Input Measures				
Total Investment (I)	V/I	R/I	Z/I	A/I
Fixed Investment (If)	V/If	R/If	Z/If	A/If
Number of Employees (N)	V/N	R/N	Z/N	A/N
Total Hours Worked (H)	V/H	R/H	Z/H	A/H
Remuneration of Employees (W)	V/W	R/W		
Cost of Materials (M)	V/M	R/M		
Total Cost (C)	V/C	R/C		

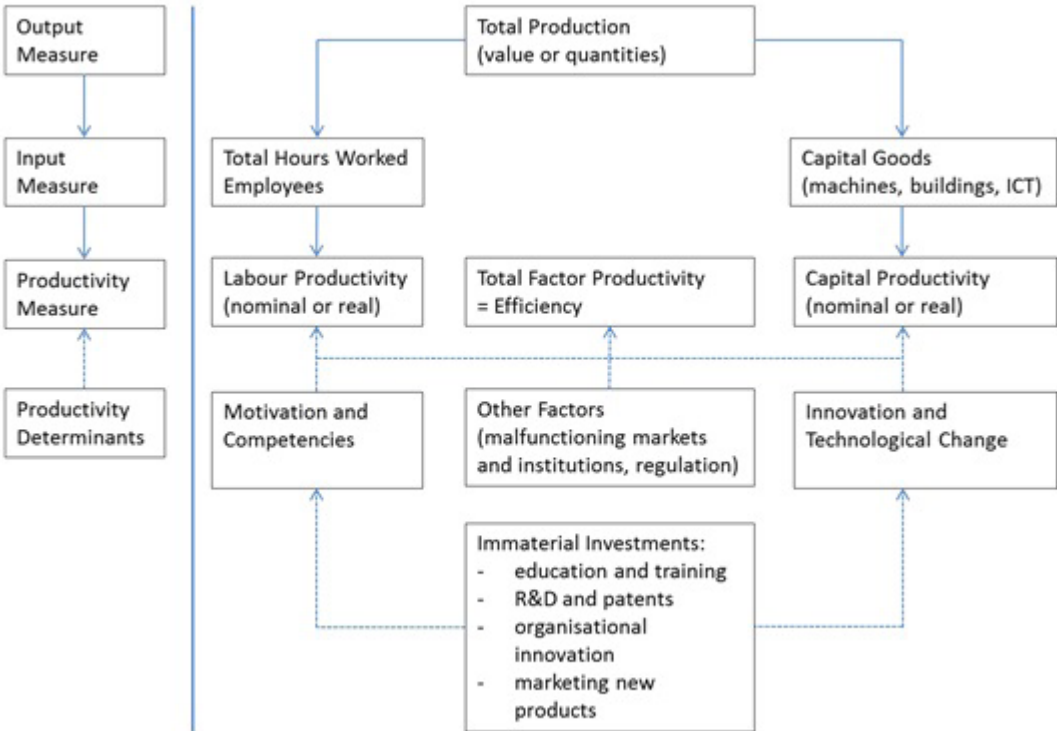
The second and third columns of Table 1 are financial indicators. These are designed to measure revenues and profit. The 'revenue/investment' (R/I) ratio and the 'profit/investment' (Z/I) ratio represent the return on capital. These indicators, along with ROA (return on activities) are among the most frequently used productivity-related indicators in financial reports. Nevertheless, they only provide limited insight into underlying productivity effects. The distinctions between the various types of capital (machines, building, means of transport, computers) are not precise enough, which means that the individual productivity 'drivers' cannot be accurately defined. We will discuss the relationship between the financial and productivity indicators in more detail later in the chapter.

The last column of Table 1 shows the indicators that are based on added value. Added value is defined as revenues minus operational costs (material, energy, bought-in services). Added value includes wage costs, premiums and profit. It represents the additional value that the company creates through the deployment of human and capital resources. According to the value-added concept, equipment and wages are not seen as a cost item in the first instance, but as an investment whereby value can be created. Indicators such as 'value added / employees' (A/N) and 'value added / material costs' (A/H) are based on this principle. The inverse of the ratio 'value added / employee remuneration' (A/W) is often used to measure staff costs in relation to total value added. The indicators in the last column are therefore the most useful for this study.

Productivity of labour and capital

The upper section of Figure 1 shows the indicators that occur most frequently in the literature. First we will discuss labour productivity and, briefly, capital productivity. Later in this section we will discuss the concept of 'efficiency', or total factor productivity.

Figure 1 Productivity measures and its determinants



Labour productivity

Labour productivity is the most straightforward and frequently used measure of productivity. It can be expressed simply as the output per employee or per hour worked. In individual processes this can be measured as physical production, i.e. quantities. However, when labour productivity is used as a performance yardstick for a company as a whole, output can usually be measured only in terms of 'nominal' productivity. Nominal productivity expresses the value (quantity x price) of average production per person or per hour worked. Nominal productivity is not the same as 'real' labour productivity. Actual labour productivity is measured at the macroeconomic level. When measuring real productivity, changes in value are first adjusted for price changes. For individual companies, an increase in output price can certainly create value, so a nominal productivity measure is obviously appropriate. It is not possible, therefore, to make a direct comparison between nominal labour productivity at company level and productivity at sector level, or with the economy as a whole.

Labour productivity is generally interpreted as a measure of how hard employees work. This frequently heard view requires some clarification. If it is taken to mean that employees who work longer hours are more productive, this is a highly doubtful assumption. Obviously, this only holds true if the increase in production is greater than the increase in the number of hours worked. If working hard means working more effectively rather than working longer hours, then it can have a positive influence on labour productivity growth. The question is, then, how to encourage employees to work more 'intelligently'. The lower section of Figure 1 shows the factors that influence labour productivity. Intrinsic motivation and competences are key factors for employees. However, intrinsic motivation (including the work ethic) is not easy to influence and is regarded as a fairly stable factor. It is determined not only by tradition, institutional pay regulations and social security systems, but also by the prospects and immediate rewards (e.g. higher salary) arising from increased work intensity.

Improvements in competences are easier to achieve, but these do not occur automatically either. In order to increase the productivity of employees and the organizations in which they work, it is necessary to invest in training and in the knowledge resources required for working more effectively. Improvements to organizational structure can also contribute to the exchange of knowledge and experience within and between organizations. We regard this investment in intangible capital as one of the main drivers of productivity growth (see Fig.1). The role of motivation and competencies will be discussed in more detail in section 4.

Capital productivity

Capital productivity is another relatively straightforward measure of productivity. It expresses the output per machine hour or per unit of capital. Capital productivity should not be confused with the financial indicators in Table 1. Capital productivity relates to the output of productive capital. When we measure capital productivity, we distinguish between the various forms of capital (for example, machines, buildings, means of transport or computers). Capital productivity is not simply the financial book value of total assets (including loans and other forms of financial capital) in relation to added value. Capital productivity measurements are used only at macroeconomic level, or at an extremely detailed level with regard to a particular type of machine or process. Financial indicators such as those in the second and third columns of Table 2 must not be interpreted as indicators of capital productivity.

Productivity and efficiency

The main disadvantage of using labour productivity as a yardstick is that it gives us only an approximate idea of the efficiency of a company or production process. Some people claim that labour productivity has no use at all as a yardstick for individual companies because it reflects not only the efforts of employees, but many other aspects too. For example, it is possible to increase labour productivity simply by providing more machines and/or computers for the employee, but this does not necessarily mean that they are working more 'intelligently'. In order to be successful, a productivity strategy must distinguish between the various drivers of productivity growth.

At macroeconomic level, the increase in labour productivity in the Netherlands does seem to be largely due to the increased deployment of physical capital. Table 2, for example, shows that one-quarter of the increase in labour productivity between 1979 and 2001 was due to the increased use of computers and other IT capital, which also accounted for one-quarter of the growth in physical capital. In the period from 1995 to 2001, more than 50% of the increase in labour productivity was due to the increased use of computers, and 15% of the increase resulted from the increased use of other capital goods.

Table 2. Contributions to labour productivity growth in the Netherlands

	1979-2001	1995-2001
<i>Total economy</i>		
Added value per worked hour	1.9 (100%)	1.3 (100 %)
Of which:		
Increase in IT capital per hour	0.5 (26 %)	0.7 (54 %)
Increase in other capital per hour	0.5 (26 %)	0.2 (15 %)
Productivity growth: TFP/efficiency	0.9 (48 %)	0.4 (31 %)
<i>Marketing services</i>		
Value added per hour worked	1.5 (100 %)	1.7 (100 %)
Of which:		
Increase in IT capital per hour	0.8 (53 %)	1.1 (64 %)
Increase in other capital per hour	0.3 (20 %)	0.3 (18 %)
Productivity growth: TFP/efficiency	0.5 (27 %)	0.3 (18 %)

Source: Groningen Growth and Development Centre databases

When the contributions of capital goods are deducted from the increase in labour productivity, what remains is the actual increase in efficiency for all measured inputs (labour, IT and other capital). This is also known as 'total factor productivity', or TFP (see Fig.1). This measure of productivity, which is based on labour input (people and hours) as well as capital (machines, computers, buildings, means of transport) comes closest to expressing the 'efficiency' of a production process.

TFP measurements at company level

The difficulty with using efficiency (or TFP) as an indicator of productivity is that it is difficult to measure at company level. This is due to the fact that there is no information mechanism to combine all individual inputs into a single input measurement. In principle, it is possible to make a rough calculation of TFP by subtracting the change in the financial value of the company (e.g. shareholder value) per employee from the change in added value per hour worked. Note that the fraction used for weighting shareholder value per employee is, for example, an expression of gross wage costs as a percentage of total value added.

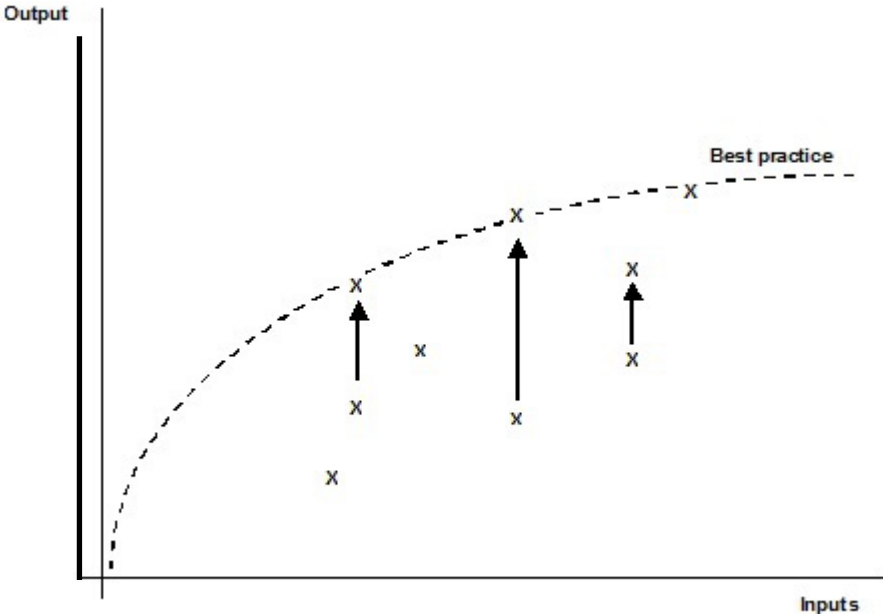
However, this method has a number of disadvantages. Shareholder value gives only a rough indication of the actual change in the productive value of the average capital-goods stock per employee. The strong increase in shareholder value of many companies at the end of the 1990s, for example, could cause a considerable downward distortion in TFP growth. For an accurate TFP analysis, it is also necessary to distinguish between the different forms of capital. Changes in accounting regulations can also influence these calculations.

The correct way to measure TFP or efficiency is to record all investment in productive inputs (physical and intangible capital) and determine the productive value (i.e. not shareholder value) of capital goods. The methods for doing this at company level are still in the early stages of development.

Operational efficiency versus technological progress

Although it is difficult to measure TFP at company level because of the lack of information about the company's productive capacity, the concept is still extremely important from a management perspective. In economics literature, an increase in TFP is usually interpreted as an improvement in the use of technology. This relates to the companies representing 'best practice' in the sector and using the latest innovations and technologies.

Figure 2a. Improvements in operational efficiency as a driver of productivity growth

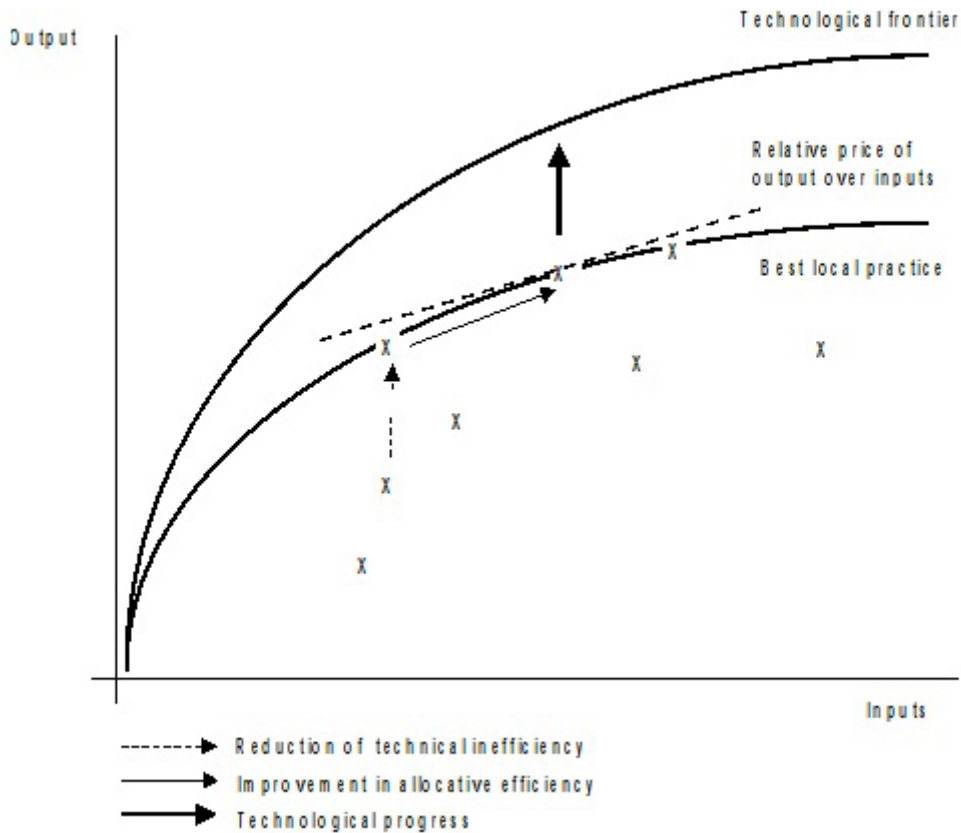


However, there are many companies that do not represent best practice, and these companies have the greatest potential in terms of improved productivity. In Figure 2a, the companies below the curve are the 'operationally inefficient' companies. These companies produce less output at each given level of inputs (horizontal axis) and are less efficient than companies on the curve. In the literature, the curve is also known as the 'production function' and therefore represents efficient companies only. Obviously, in a market characterized by what economists refer to as 'perfect competition', inefficient companies cannot survive. In practice, however, inefficient companies do survive in the short term or the longer term, depending on the actual level of competition and imperfections in the market.

Companies may be technically inefficient for many reasons. For example, they may have adopted new technologies but not yet fully adapted the production process to those technologies. They may have too many staff on the payroll, or have not managed to recruit new staff with the necessary skills. They may have difficulty solving production-line problems, or the management structure may be inadequate. This distinction between 'actual' and 'best' practice is very similar to the distinction made in the literature between actual and norm productivity.

In addition to these reasons for operational inefficiency, which originate within the company itself, there are also external factors leading to low average productivity, for example varying access to the regional labour market, specific regulations for entering the market segment in which the company operates, and differences in company size. Whatever the reason, reduced operational efficiency means that a company can only survive by charging a higher price for its product or service than its best practice competitor. In a climate of increasing competition, a company that operates inefficiently has no choice but to improve its performance in line with the best performing companies, otherwise it cannot survive. Another component of total factor productivity is actual technological progress, as mentioned above. In Figure 2b, this is represented by the upward shift of the curve that represents the best practice in the initial situation. These are the companies that have made the greatest improvements in the ratio of inputs to output. The term 'technology frontier' is a term from the industrial past. Equally, improvements in best practices can be the result of applying a completely new non-technological breakthrough. It is usually assumed that service companies have limited potential for technological advance, and therefore also limited productivity-growth potential. This view is largely a product of over-emphasising 'hard' technology at the expense of non-technological innovations. Non-technological innovations can play an important role, not only in improving operational efficiency but also in pushing forward the technology or innovation frontier.

Figure 2b. Technological progress as a source of productivity growth



The difference between technological progress and operational efficiency improvement (both components of growth in total factor productivity) is an important one in the context of this chapter. We would like to mention that there is a third aspect that relates to the prices at which output is sold and input is purchased. A company is described as allocatively efficient when, given the prices of inputs and outputs, it succeeds in combining inputs so that it can operate at minimum cost. Even a company that represents best practice by producing maximum output for a given combination of inputs can still improve its allocative efficiency (and therefore its profit position) by adjusting the combination of inputs in order to reduce costs. In other words, a company that is operationally efficient (i.e. represents best practice in terms of output in relation to input) is not necessarily maximising its profits. This is important when determining to what extent productivity contributes to the company's overall performance.

Few companies are close to the frontier, but could nevertheless improve productivity by adopting innovations and technologies already in use elsewhere and, where necessary, by adapting their organization. Other companies have already reached the technological frontier, but could improve their productivity through commercialization and innovation. In practice, companies will attempt to do both these things, but the difference is important because the resources used for this purpose differ. We will return to this aspect in section 3.

The relationship between productivity and value creation

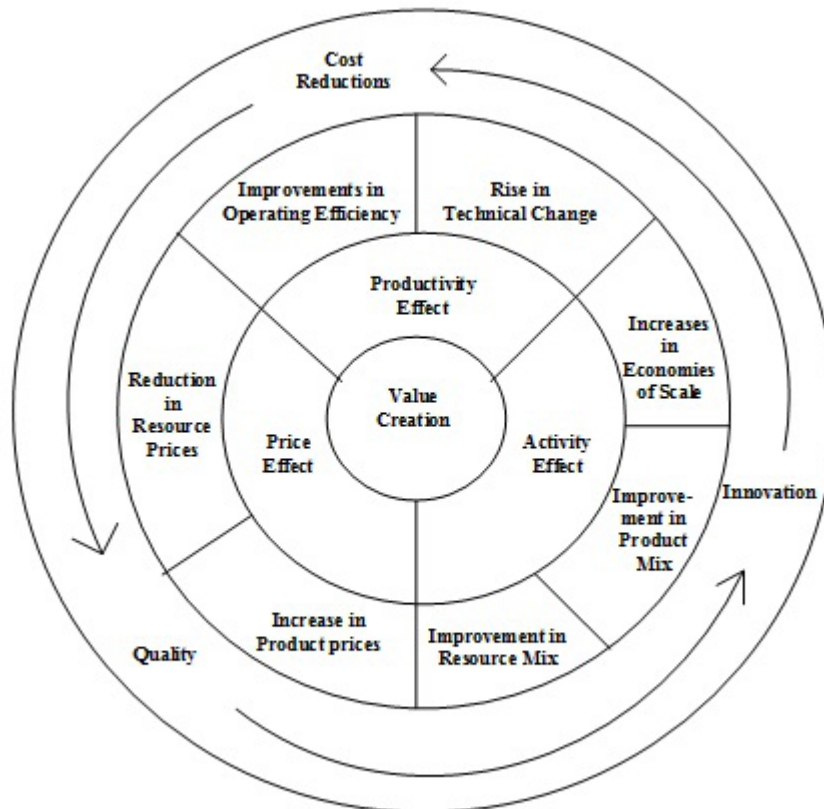
As we discussed in the previously, productivity is not a priority, either for Dutch businesses in general or service providers in particular. Consequently, the concept is often regarded, certainly at company level, either as a technical matter or primarily relating to training, working hours, remuneration and flexible deployment of employees. These factors do indeed influence productivity, but too often the responsibility is delegated to a department such as the personnel department. In this way, productivity goals are easily separated from day-to-day business operations and less emphasis is placed on them as a company objective.

If productivity is to play a role in the operation of the company as a whole, it must be clearly defined in terms of its relationship to other company goals. Figure 3 shows how the success of a company is determined by three main factors:

- (1) the company's activities ('what you do')
- (2) the purchase and selling prices of goods and services ('how much it costs')
- (3) the productivity whereby inputs are converted into output ('how you do it').

These effects, which can be defined as the activity effect, the price effect and the productivity effect, all have a direct influence on the general aim of the company, i.e. value creation. For a firm of solicitors, for example, the following examples are important for value creation: the solicitor's advice (the activity), his or her hourly rate (the price) and the number of hours and other resources required to provide the advice (productivity).

Figure 3. The sources of value creation



Productivity, prices and activities all have a direct influence on value creation and therefore on the change in added value, i.e. the additional value that the company creates through the deployment of people and capital. Productivity relates to the utilization of inputs (people and materials) and the chosen technology. In order to improve productivity, we apply the distinction made earlier between (a) an improvement in operational efficiency, and (b) technological progress or the introduction of a breakthrough innovation. The price effect relates to a fall in the cost of inputs or an increase in selling prices. The activity effect comprises three underlying factors. A change in the output mix (differentiation) can lead to increased value creation through the commercialization of new products or services, while the input mix relates to changes in the structure of inputs. Scale relates to the scaling-up of an existing activity, thereby creating more value. Increasing the scale of activities will obviously result in productivity growth if it leads to improved efficiency. This is a favourable secondary effect, but the pure scale effect – even without an increase

in productivity growth – is due to the fact that the scaling-up of activities in itself creates more value. For example, supermarkets create more value if they can offer more products and services under one roof. This can but does not necessarily lead to increased productivity.

Although each of the effects discussed above can influence value creation by a company, we should emphasise that the effects can also cancel each other out. This is frequently the case in the service sector. For example, the productivity of many personalized services could certainly be increased by full standardization. However, standardization can affect the quality, comfort or 'customized' aspects of a service to such an extent that demand for the service eventually disappears. It is also possible that scaling-up may lead to falling productivity because the extra output that is generated does not compensate the extra inputs required.

The relative importance of the effects also differs over time. The development of a new activity (e.g. a new product or service) may increase the value created by a company but will not always lead to an immediate increase in productivity. This was the case during the 'IT hype' of the second half of the 1990s, when many young companies embarked on IT-related activities that initially generated excellent returns (price effect), but at lower productivity rates. As competition increased and the economy slowed, many of these companies could not live up to expectations. Prices came under heavy pressure, and the companies that survived the unfavourable conditions were those which made sure that their new investments were productive.

It is, therefore, always important to achieve the right balance between activity, price and productivity as sources of value creation. Choosing the right activity is important in terms of creating a market and gaining market share. Input and output prices determine the level of returns. Emphasis on productivity will ensure that processes are organized to make the best possible use of inputs, which in turn means that market share can be retained or increased during difficult periods, and that value will be added to the company on a continuing basis.

Productivity at Sodexo and Capac

At first sight it appears difficult to distinguish between the three components of the value function, but in practice they are fairly easy to define. For example, in the case of CAPAC In-house Services (part of Randstad Holding) value creation is partly determined by a strategic decision for a different output mix than the conventional employment agencies. Rather than offering a general pool of temporary staff, CAPAC offers customised in-house staffing services to major employers of flexworkers, mainly in industry and logistics. Within this segment, CAPAC maintains a strong

competitive position by increasing its own productivity as well as that of its clients. It does this by gearing its concept to meet the needs of individual clients in these sectors. This enables CAPAC to respond to the constantly changing requirements of clients as efficiently and proactively as possible. Given the intense competition within this market segment in the Netherlands, price effects are less important as a strategic instrument for value creation.

Thus it is more a question of achieving the right balance between the necessary productivity improvements and a flexible labour organization. In the case of Sodexho Nederland, market leader in the Dutch catering industry, value creation is determined to a large extent by changes in output mix. In the past, traditional catering encompassed a fairly limited range of products and services. Since many clients wanted to fully outsource other facilities services in addition to catering, catering companies now also provide ancillary services such as cleaning, security and landscape gardening, and they have extended non-food and food ranges with items such as newspapers, greeting cards and convenience products. Activity effects have a considerable influence on inputs, above all because catering organizations are aiming to standardize and drastically reduce input levels. It is thought that Sodexho Nederland has only limited potential for 'pure' productivity gains. Innovations are geared primarily towards activity effects, not towards productivity.

In an interview with Sodexho in the United States, it became apparent how far country-specific factors can shape value-creation strategy. The main difference is that economies of scale are far more important for Sodexho U.S. Markets and accounts are much larger than in the Netherlands, which means that lower overheads at divisional level lead to higher revenues.

Intermediate conclusions 1

In this section we have defined the concept of productivity at the level of individual companies. For many service industries, a 'physical' productivity concept is less easy to establish. However, the majority of companies are able to work with the concept of nominal productivity, i.e. the increase in output value for each hour worked.

Where possible, this should be converted into 'real' productivity, i.e. adjusted for changes in the price of inputs and outputs. This would make it possible to calculate efficiency (or total factor productivity), and distinguish between improvements in operational efficiency and actual technological progress resulting from the introduction of completely new technological and non-technological concepts.

It is sometimes argued that measuring the productivity of service companies is not

a useful exercise, and that a too-strong focus on productivity even has an adverse effect on value creation within an organization. We have devised a simple model to show how productivity, together with the prices of inputs and outputs and the chosen activities, results in increased value creation on the input/output side. However, value creation is not simply a matter of pulling out all the stops, because the effects may cancel each other out either fully or in part. It is essential to formulate a strategy that achieves the right balance between activities, price and productivity. This requires in-depth knowledge of the market, the market segment and the life-cycle phase of the service activity.

4.4 Productivity and innovation in service companies

Is productivity more difficult to achieve in the service sector than in industry?

In the previous section we discussed productivity in a general context. The conceptual model that identifies productivity, in addition to activities and price, as one of the factors shaping value creation can be applied to manufacturing companies as well as service companies. Yet the much lower productivity growth rates in the service sector lead us to suspect that service companies are not a straightforward case.

We can make a distinction between service activities and manufacturing activities. The following are possible explanations for the low productivity growth in the service sector:

- 1) Limited potential for the full standardization of services. This applies particularly to personal services (care, education, health and beauty, hotels and catering), but also to many 'customized' business services.
- 2) Because services are produced and consumed simultaneously, service organizations can only serve a small number of customers at any one time, and therefore have considerable unused capacity during certain periods.
- 3) The producers and consumers of services are, by necessity, located close together. This often results in local monopolies, or at any rate to limited exposure to national and international competition. They are therefore under less pressure to improve efficiency. This applies especially to many public services (education, care, local authority).
- 4) The market for services is rarely transparent. Often, the consumer is not in a position to judge the quality of the service in advance. Consequently, the cost of moving to another service provider is higher, which further restricts competition in the sector.
- 5) Many services have very little potential for achieving economies of scale because there are few opportunities for combining 'hard' technologies with investment in machines and other capital goods.
- 6) Services provided on a regular basis lead to close interaction between the

provider and the consumer, which means that customer characteristics (motivation, competences, etc.) are at least as important for the performance of service companies as the characteristics of the service provider itself, namely inputs and technology, etc.

7) Many services, particularly personal services (such as hotels and catering, security and taxi services) usually have a relatively unskilled workforce.

Obviously, the extent to which these factors restrict product growth varies between sectors, specific markets and even between individual organizations. Again it becomes clear that, in the service sector in particular, enhancing productivity is not always the best way to guarantee value creation in service companies.

When considering productivity, then, there is every reason to distinguish between service companies and manufacturing companies. However, we must bear in mind that two important developments have reduced the differences between the two types of organization. In the first place, the environment in which service companies operate is becoming more and more like the industrial business environment: markets are becoming more competitive, the turnover rate is increasing, and the life cycle of services is becoming shorter. Consequently, more and more service companies are obliged to add productivity to their list of corporate objectives. These developments are discussed later in this section.

In the second place, innovation processes in service companies are becoming more and more like those in manufacturing companies. Although it is important to remember that the emphasis is on 'hard' innovation in the industrial sector and on 'soft', non-technological innovation in the service sector, in many cases this distinction is blurred. Many service companies are among the largest investors in today's dominant technology, i.e. information and communication technology (IT). The combination of IT and non-technological information is the key to productivity growth for many service providers. Later in this section we will discuss in more detail the features of service innovation and the complementarity of IT and non-technological innovations.

The changing business environment of service companies

The environment in which service companies operate has changed radically in recent years. In the past, service markets were characterized by limited competition. Traditionally, service industries belonged to the 'closed' sector of the economy. Competition was largely local, and markets were often monopolistic.

As a result of legislative changes and consumer individualization, service markets have become increasingly competitive over the past two decades. Customers are demanding more 'personalized' services, and are better informed about alternatives as markets become increasingly transparent. The turnover rates for successive 'versions' of services, service-delivery processes, and for technologies have accelerated. The

faster dynamic means that existing service concepts become outdated faster than ever. Service companies, too, have to respond much more effectively to market developments than they did in the past.

Increasing competition has enlarged the playing field for service providers not only from local to national level, but also to international level. A number of Dutch service companies are active outside the Netherlands, and foreign service companies are entering the Dutch market. Foreign companies – and certainly those of Anglo-Saxon origin – have a different organizational structure and culture than we are used to in the Netherlands. For Anglo-Saxon companies, an orientation towards productivity and efficiency is second nature, but for Dutch companies it is the exception rather than the rule.

The life cycle of markets, products, services and organizations is another factor that has to be considered in order to increase productivity and value creation. Although the spotlight often falls on successful and dynamic young companies in the service sector – IT companies, for example – most of our national income is generated by a few large companies in the traditional ‘mature’ industries such as retail, finance, and hotels, catering and restaurants. However, value creation in the companies in these ‘mature’ industries is under continuous pressure due to the decreasing demand for traditional services, the lack of opportunities for differentiation and increasing competition. Although productivity can be an important element in improving the performance of companies, choosing the right activity is just as important.

Output modularization and standardization of processes

Given an increasingly competitive climate in which consumers are demanding more and more customized services, the most important ways of increasing productivity and efficiency are to offer services in modules (the ‘front office’) and to standardize and streamline the underlying ‘back-office’ processes. In the service sector, this is largely a question of utilizing IT and related applications.

Offering services in modules means that more employees within the company are in a position to provide the service to customers. It is also easier to train new staff, and there is less dependence on ‘key’ employees. Modularizing output also makes it possible to communicate the features of a service more clearly to consumers. Many service companies in the Netherlands are already providing modularized services. Examples include financial and investment products, in-house staffing services (e.g. CAPAC), cleaning services and various catering concepts (e.g. Sodexho). In some cases, as with many providers of business services, modularization is difficult because the specialized skills of the individual service provider are the key success factor.

This may not be favourable for the company's productivity, but is essential for value creation.

Service companies can enjoy just as many productivity gains by standardizing and streamlining their back-office processes. Inputs can be more efficiently deployed in varying combinations and intensities, despite the need for a variety of 'customized' services. Service companies can realize significant productivity gains by buying in more efficiently. For example, buying can be streamlined by reducing the number of inputs and/or the number of suppliers. A standard purchase procedure can be introduced for computers and software. Staff recruitment can also be streamlined, and the exchange of staff between different projects and locations can be encouraged. In all cases, IT can play a key role in allowing the processes to run smoothly, without undermining the need to offer output that is modularized or customized.

The main consequence of the increasing pressure to provide customized services and standardize or streamline processes is the need for companies to focus on core competences. This means that the complementary competences that companies require to provide complex, differentiated and fast-changing products and services have to come from an external source. This requires greater outsourcing, even for activities that are very closely related to core competences. Of course, there are considerable differences between sectors and between individual companies. In a number of cases, industrial and service activities even become more closely integrated. For example, many companies in the machine and equipment industry, and even in the food processing industry, produce a mix of goods and services by undertaking additional activities such as after sales or maintenance. Many IT companies also produce a combination of hardware and software services. This integration of goods-related and service-related activities places many companies in a continuum of manufacturing and service activities.

Strategic alliances are necessary to survive in competitive markets, but these alliances are more difficult to realise than in the manufacturing sector, due to the protected environment in which many service companies traditionally operate, and due to the small size of many service companies. Value creation and productivity are no longer simply the result of the company's own efforts, but also of the efforts of its strategic partners. In short, a more dynamic climate often results in the need for new organizational structures, which in turn require new competences.

The changing environment of petrol stations

The example of petrol stations in Australia illustrated the changing context in which companies are operating and the consequences for strategy in terms of value creation

and productivity growth. Increased concentration (i.e. a reduction in the number of petrol stations) was one of the first consequences of liberalising this market in Australia. Between 1970 and the end of the 1990s, the number of petrol stations in Australia fell from around 20,000 to 8,000. This resulted in a considerable increase in scale. Sales per station increased from an average of 150,000 to 267,000 litres per month.

During the 1980s, competition between the stations increased dramatically. This resulted in strategies geared towards cost savings on the input side based on standardization and increased productivity growth. Changes in the production chain, for example, led to the development of independent supplier networks. Legislation and new supply channels for fuel ensured that fuel suppliers had far easier access to the petrol stations. These changes made the suppliers less dependent on the oil companies. It also meant that independent petrol stations could engage in price competition in order to achieve growth. A number of independent stations left the market, but newcomers found it relatively easy to acquire/build market share.

The shift towards self-service concepts, which began in the early 1980s, and the rapid introduction of new technologies (in particular user-friendly pump systems) generated extra savings in terms of labour costs. The focus on core competences also led to an increase in labour productivity. Petrol stations became specialists in supplying fuel, while other companies in the sector concentrated on related services, such as maintenance, tyres, exhausts and batteries. Recently, however, there seems to be a reverse trend, i.e. petrol stations are extending their services by selling food and convenience products. This is an indication that petrol stations are successfully modularizing their output.

Finally, technical advances in vehicles themselves have also increased the productivity of petrol stations. For example, the fuel and capacity of engines has improved, which means that the size of each transaction is larger.

Patterns of innovation in service companies

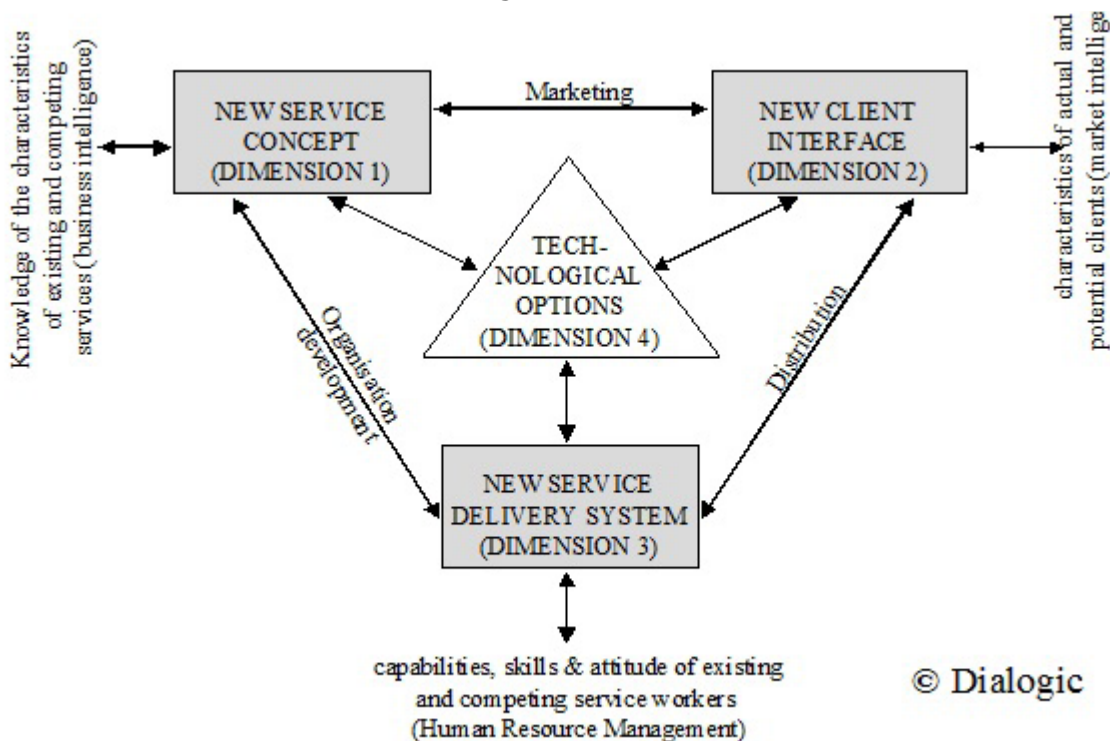
There are a number of important differences between innovation in service companies and innovation in manufacturing companies. In the first place, innovation in service companies is not usually based on new technologies and investment in new machines. In the second place, innovations in the service sector are often incremental, i.e. take the form of small improvements in existing service concepts, or new combinations of existing goods and/or services. In the third place, the traditional distinction that is usually made in manufacturing industry between product and process innovation is less relevant for the service sector because the production of the service (the

process) is usually simultaneous with its delivery (the product). Finally, the production of standardized services can often have more in common with process innovation, and production of the customer-specific service has more in common with product innovation. There is no clear dividing line.

Technological and non-technological dimensions of service innovations

The 4D (four-dimensional) innovation model provides a good foundation for understanding the specific character of service innovations (den Hertog and Bilderbeek, 1999). The model focuses on the multidimensional character of service innovations. Service innovations can involve technological as well as non-technological dimensions, which may also be interdependent.

Figure 4. A 4-dimensional model of service innovation



The 4D model identifies one technological dimension and three non-technological dimensions. The technological dimension (Dimension 4) could relate to a new computer or software package. The first non-technological dimension (Dimension 1) relates to a new service concept. New concepts in the service sector are usually incremental, stepped innovations based on a combination of old and new applications

(e.g. a call centre, home delivery of on-line orders by a supermarket, or a catering outlet in a bookshop). The second dimension of service innovation (Dimension 2) involves the creation of a new customer interface. This is characteristic of the services that are produced and consumed simultaneously, as referred to above, for example the introduction of an EDI (electronic data interchange) system for e-commerce. Dimension 3 is the 'service delivery concept' that provides a service in a new way (e.g. home shopping, Internet banking, in-house staffing services). IT applications are an important factor in many – but not necessarily all – of these non-technological dimensions.

The importance of the individual innovation dimensions varies from service to service. For example, the introduction of a completely new service involves greater emphasis on the service concept and the 'delivery' system, while the provision of an existing service is geared more strongly towards customer relations.

The relative importance of the innovation dimension also changes over time. The first step in a given innovation process is usually dominated by only one of the dimensions referred to. This dimension then kick-starts other innovation dimensions. For example, the basis for innovation in the retail and wholesale trade was the commercial viability of scanner technology and data storage (i.e. the technological dimension in Fig. 4). The use of scanner and data-storage technology brought significant improvements in stock management, and enabled companies to build detailed customer profiles that they could use to develop individualized products and services. This type of innovation cannot be implemented 'off the shelf'. It requires specific decisions with regard to retail formulas (Dimension 1) and customer communication in the form of e-retail formats, loyalty and bonus programmes, etc. (Dimension 2) and the development of new staff skills, such as IT skills (Dimension 3).

Patterns in service innovation

The next step is to translate the various elements of service innovation into a number of more or less identifiable patterns. A crucial consideration here is the way in which suppliers of inputs (machines, computers, human capital), the service company and its customers (consumers of intermediary users) interact. In the service patterns described below, the customer has an increasing influence on the innovation process in the first four patterns.

1) 'Supplier'-dominated innovation. This usually involves technological innovations in the manufacturing sector that are implemented in the service sector through investment in new computers. Although there may be limited scope within a company for influencing the service itself, it may utilize the innovation by making non-technological changes to aspects such as staff training and the way in which the service is delivered.

2) Innovation in services. Actual innovation and implementation takes place within the service organization itself. These innovations may be technological or non-technological in nature or, as is usually the case, a combination of the two. Typical examples are the development of a new service concept, the combination of different service functions, or a new method of service delivery developed by the organization itself. These innovations are often implemented in co-operation with partners from the private and/or public sectors.

3) Customer-led innovation. This type of innovation is implemented by service providers in response to the specific and clear wishes of customers. In some cases, providers respond to the demand in specific market segments. In many other cases, the innovation is initiated by a single customer. This often happens in the market for business services. The client of an educational institute may request a customized IT course to teach specific IT skills to staff.

4) Innovation through services. According to this pattern of innovation, the service organization contributes to the customer's innovation process. In many cases, the supplier of the intermediate service provides the knowledge that required by the customer for an innovation process. This pattern prevails in knowledge-intensive business services, such as engineering consultancies.

5) Paradigmatic innovation. Certain innovations are more radical than the incremental innovations that usually take place in service companies. They usually follow on from breakthrough technologies, such as IT, and lead to far-reaching and complex changes. Paradigmatic innovations in the service sector primarily affect the value chain. They often require participation and a change of behaviour by all players in the innovation, including co-operating companies, the public sector and consumers. An example of paradigmatic innovation is the introduction of the chip-card or the construction of an underground transport system.

The effects of the different innovation patterns on the productivity of service companies can vary considerably. Supplier-dominated and paradigmatic innovations usually have a strong influence on productivity because they promote more efficient utilization of inputs. Although innovation through services can influence the service-creation process, it can also result in new service concepts that are delivered less efficiently than the original service. Value creation is possible through the price effect and/or activity effect because there is not yet strong competition in the market, particularly in the early stages of the life cycle of a service concept. 'Innovation through services' relates more closely to the customer's productivity than to the productivity of the service company itself. The contribution of these innovations to productivity growth should therefore be measured for the production chain as a whole, not just for the innovating company itself.

Innovation patterns and productivity in service companies

Over the years, the catering company Sodexho has increased its focus on innovation as a business strategy. This highlights a number of the concepts relating to the innovation pattern. The leading motive is the changing preferences of customers and the changing product/service mix. Sodexho provides catering services mainly for companies and other organizations. It has shifted its focus away from the companies that purchase its services towards the end-user. This means that the innovation process has become more client-led, and the interests of the customer are an increasingly important consideration when choosing activities. By forming alliances with a number of selected suppliers (e.g. Unilever, Coca-Cola, Danone), Sodexho has gained a better understanding of consumer behaviour relating to individual products, and can modify its service concepts accordingly. By means of 'chain innovations', Sodexho aims to provide additional services outside the usual catering hours in companies. It has thus evolved into a semi-independent enterprise within the client company, and is therefore able to operate other activities in addition to the original commercial activities. This last and more radical form of innovation is still in the early stages of development.

Although, in the first instance, the innovations referred to above relate more to the choice of activity than to improving productivity, considerable emphasis is placed on modularization on the output side, and on the standardization and streamlining of processes. Through modularization, a number of consumer profiles have been developed and translated into brands with a modular construction, known as So(dexho) Classic, Vital and Dynamic. A number of catering concepts have been launched, including Caffee Toscana, DeliBreak, Worldsfare, Pronto, Eetcetera, Le Petit Café, and CrossRoads. On the input side, the company is working to reduce the number of inputs through standardization.

Other organizations in the hotel and catering sector are also focussing on the importance of productivity and innovation. A study by the Hotel and Catering Industry Board identifies three areas of improvement with regard to labour productivity: (1) sales promotion (customer loyalty, 'menu engineering', serving concept and presentation), (2) internal business processes (capacity and staffing, opening hours, automation, other equipment and technology, routing, outsourcing), and (3) staff relations (corporate culture, management and leadership, planning and scheduling, absence through illness).

Intermediate conclusions 2

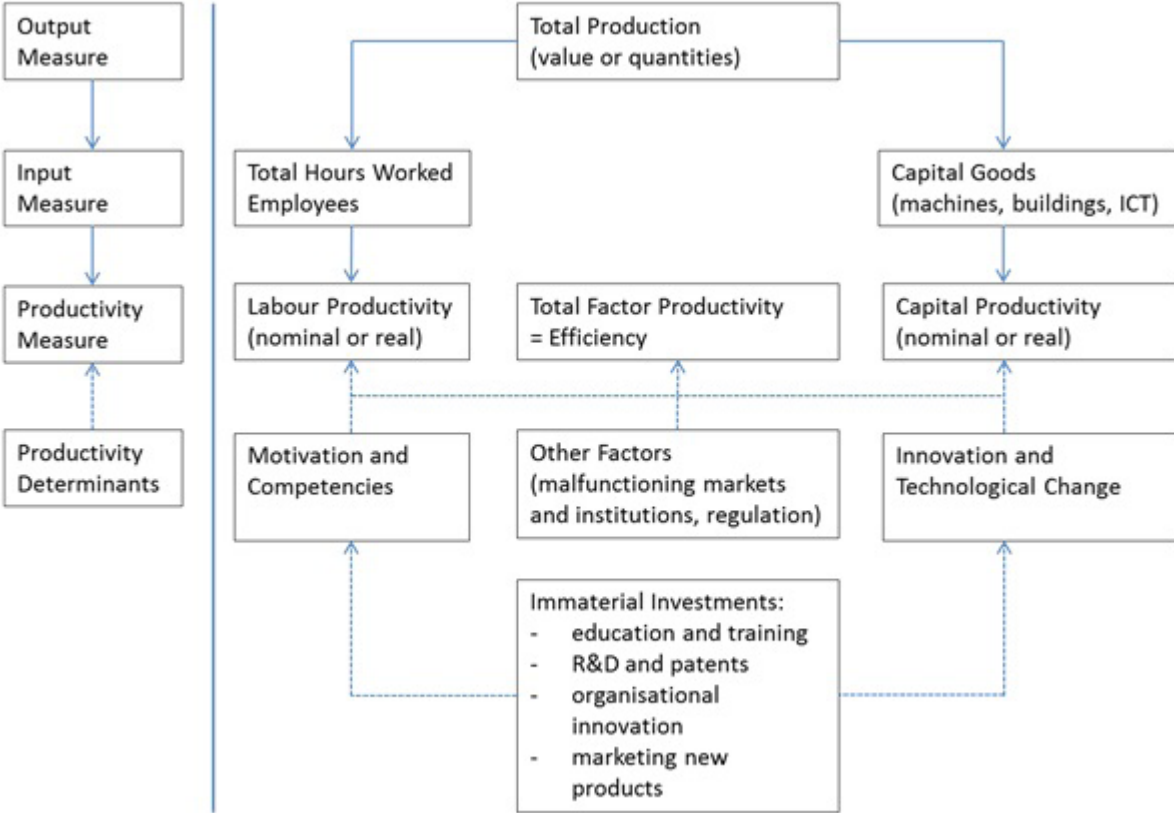
This section dealt with the specific characteristics of companies in the service sector and the implications for their approach to productivity and innovation. Although various factors can hinder productivity growth in services, we have shown that the

changing climate in which service companies operate has resulted above all in the need to modularize output and standardize and streamline the service-delivery process. This can play a significant role in improving productivity. Non-technological innovations, usually supported by IT, are important facilitators of modularization and standardization. The different innovation patterns in services are mainly the result of differences in the level of competition in the product market, service integration in the product chain, and the company's own creative efforts.

4.5 Sources of productivity growth in service companies

In this section we will analyse the sources of productivity growth in the service sector. For the purpose of the analysis, it is useful to reproduce the figure from section 2.

Figure 5. Productivity indicators and its determinants



Our analysis will focus on the lower section of Figure 5. Here we see that total factor productivity (or efficiency) is partly influenced by innovation and technological changes. In the following section we will discuss how IT in particular can contribute

to TFP improvements in service companies. We will then discuss the claim put forward in the previous chapter that the productive deployment of IT (the technological dimension) also requires service companies to make non-technological innovations. Following that we discuss the link between non-technological innovation and the need to invest in intangible capital. We then discuss the efficiency of labour itself and the importance of competences and individual motivation in the context of productivity improvements.

The role of IT and non-technological innovations

The significance of combining IT and non-technological innovations was discussed in detail in the previous section. These combinations provide unique opportunities for companies to develop new services, create modules, and standardize processes.

Nevertheless, since the IT bubble burst, there has been increasing concern about the effectiveness of IT as a source of productivity growth. For some the 'new economy' is dead in the water, while others even claim that it never existed. Whatever happened to the new economy, it is clear that Dutch companies invested in IT on a huge scale during the 1990s. Although, initially, IT often promised a great deal in terms of value creation, the positive effects were mainly due to the switch to new activities and the higher prices initially charged for them. However, such effects are temporary because competitors do the same thing, and profits ebb away to the consumer in the form of lower prices. As soon as economic conditions become less favourable and demand decreases, companies have to resort to productivity improvements in order to create value. In the case of IT deployment, companies may have waited too long.

How IT influences productivity

Before we examine the causes underlying the small productivity effects of IT, it is useful to identify three channels whereby IT can influence the productivity of an organization:

- 1) The first effect is the direct effect of technological advances in IT production. Obviously, this relates mainly to IT manufacturers, who have achieved spectacular growth thanks to the rapidly increasing production capacity for semi-conductors and microchips. But a number of companies in the service sector, primarily in software and telecommunications, have also benefited from the direct technology effect. The 'network effect' of IT can have a very favourable impact on productivity. An increase in the number of users makes the service more attractive to consumers, without the need for additional inputs. These providers of IT services are usually at the frontier of productivity. Although the network effects can stave off competition, companies remain under pressure to make continuous improvements in order to stay ahead of other networks. Companies are therefore highly dependent on new technological possibilities, which in turn are the result of large investments in R&D.

- 2) The second effect is the investment effect of IT. Due to the huge investments in computers and software, in particular by providers of financial and business services and the transport and distribution sectors, the potential for labour productivity growth in those sectors has increased significantly. The increased use of computers often leads to an increase in turnover per employee. But this applies to labour productivity, not necessarily to total factor productivity or efficiency. This type of labour-productivity effect may be temporary if it is merely due to the replacement of people by computers, without an actual improvement in the productivity of all inputs taken together.
- 3) The third effect, the efficiency or TFP effect, ensures that the productivity of service companies continues to have a positive influence on value creation in the long term. This effect can be achieved through inputs as well as outputs. On the input side, investment in IT will enable service organizations to streamline and standardize their back-office processes. The key aspect on the output side is the use of IT for modularizing service concepts, enabling optimum delivery of tailor-made services to customers. Often, the efficiency effect does not relate primarily to the technological advances themselves, but to individual companies improving their productivity performance in line with the best practice in the sector (see Fig. 2a in the previous section).

If we consider these three factors, it is easier to understand why the views on the IT effect on productivity changed so radically after 2000. The direct technology effect only proved to be relevant for a small number of service industries. The majority of companies were soon 'cured' of the investment effect when, during the economic downturn, they found themselves with a mountain of superfluous IT applications. As far as the efficiency effect was concerned, people began to ask just how many companies had managed to create a real strategic advantage.

Is IT really so important?

It has been argued that, in fact, IT is really no longer important. In 2003, Nicholas Carr, a professor at Harvard Business School, set the cat among the pigeons with his article *IT Doesn't Matter*, in which he argued that IT is so widely used that it can offer companies no competitive advantage at all. According to Carr (2003), IT has become a 'commodity input' which, in the same way as electricity a century ago, is quite simply an essential component of almost every company's infrastructure.

Although there is little to be said against this argument, it ignores the fact that the strategic advantages created by IT can be exploited primarily through complementary, non-technological innovations. Various studies have shown that it is precisely the combination of IT with non-technological innovation that generates growth. The Netherlands Bureau for Economic Policy Analysis (CPB) has carried out a number of studies into the effect of innovation and IT on the productivity of individual companies in manufacturing as well as service industries (see, for example, van der Wiel and

van Leeuwen, 2003). The studies show that, in addition to the direct effect of IT investment on labour productivity, the efficiency effect referred to above is also present. In the service sector, the efficiency effect is closely related to the intensity of non-technological innovations. Not all organizations are able to achieve these improvements, and the results vary considerably.

Similar results are revealed in a series of case studies on individual companies. McKinsey (2002), for instance, shows that IT is only one of the many operational variables through which the efficiency of an organization can be improved. For example, despite the real value of IT to the retail trade (stock management, cash register transactions, loyalty and bonus programmes), increasing competition, the emphasis on cost control and the widening of the range of products and services proved to be the key to the extremely rapid productivity growth in the U.S., particularly for large retail businesses. On the other hand, small (stand-alone) retail businesses can also achieve productivity gains, largely on the input side, by using IT for managing the stock, ordering and administration procedures for goods and other inputs.

According to Forrester Research, much of the unbridled investment in IT at the end of the 1990s was in 'naked technology', but lacked an accompanying strategy for process change and organizational innovation. This led to wastage and chaos. Considered from this perspective, major investments in IT are not even necessary in all cases. Many companies, especially in the service sector, can achieve efficient processes with very little or no IT. For example, in the creative sector of the economy (entertainment, museums, etc.), IT is certainly not always relevant. Nor do a couple of personal computers in a notary's office constitute a strategic input for the organization.

Many of the IT effects referred to above have not yet materialized. Many companies have experimented for a long time with their own specialized software for standardizing processes. The shift in focus from internal processes (who can do what with IT?) towards the market (who can save money or generate income with IT?) is often time-consuming and requires a lot of resources. In order to achieve full integration of available technology and the management of activities, all departments must be involved in the IT strategy. Finally, the use of IT in relation to other supplier or customer organizations means that the innovation process must also be implemented externally. The development of multi-organization software applications, in the vertical chain for example, is still at an early stage of development.

In summary, macroeconomic studies and case studies contain some surprisingly consistent messages with regard to the productivity effects of IT:

- Companies that invest in their staff, organization and customers in addition to investing in IT generate greater productivity improvements than companies that do

not do this.

- Companies that come up with non-technological innovations on a continuous basis can achieve greater productivity gains than companies that do so on an ad hoc basis. Therefore, non-technological innovation does not require a strategy.
- It takes time to achieve optimum combinations of IT and non-technological innovation. It usually takes several years to achieve an efficiency effect that is substantial enough to improve the 'bottom line' of the company. The patience of shareholders will thus be tested to its limits.
- The considerable differences between the results of companies in the same sector suggest that it is essential for service companies to use their own competences and resources in order to achieve an optimum combination of IT and non-technological innovations. Sector-specific factors thus appear to play a less important role than organization-specific factors.

The role of immaterial capital

Innovation is not a 'free lunch'. Non-technological innovations do not come from nowhere. Companies need an innovation strategy to generate them. Sometimes ideas arise during a 'brainstorming session' with staff, or examples are provided by other companies in the sector. Usually, however, an innovation strategy requires investment and the deployment of the company's own strategic resources in order to achieve the desired results. This is largely a question of investment in immaterial capital. In order to achieve concrete results in terms of productivity growth from innovation, companies must make real investments in their staff, knowledge, organization and customer relations.

Types of immaterial capital

Table 3 shows the usual classification of immaterial capital, drawing a distinction between human, knowledge and process (or organizational) capital and customer (or marketing) capital. Note that there are, of course, other ways to measure the importance of these factors. A study by the Work Foundation in the U.K., for example, identifies five key factors that influence the performance of companies: (1) customers and markets, (2) shareholders and management model (including corporate finance), (3) stakeholders (suppliers, customers, the community). (4) human resource policy and creativity, and (5) innovation management. The Work Foundation study places less emphasis on the need to invest in this activity. We therefore prefer to work with the classification in Table 3.

Table 3. Classifications of immaterial capital

<p>A. Human capital: A1) Formal education (general and vocational) A2) Business education and training</p>
<p>B. Knowledge capital: B1) Research & Development B2) Patents B3) Licences, brands, copyrights B4) Technological innovations other than B1-B4 B5) Software B6) Minerals research B7) Experience</p>
<p>C. Process and organizational capital: C1) Engineering design C2) Organization design C3) Construction and use of databases C4) Rewarding of innovative ideas</p>
<p>D. Customer capital: D1) Marketing of new products</p>

In the case of human capital, formal activities such as education, training and R&D investment are distinguished from more informal activities such as 'on-the-job' training. The different forms of process capital create a clear role for the entrepreneur and his/her capacity to make the various investments in immaterial capital. Much of the process capital is utilized to improve the operational efficiency of organizations, the aim being to bring performance more in line with best practice organizations in the relevant sector. Finally, customer capital is relatively important to many service companies, particularly those that provide a large number of customer-specific services.

The direct relationship between investment in material capital and non-technological innovation becomes apparent if we look again at Figure 4 in the previous section. The links between the different forms of non-technological innovation identified in the figure (service concept, service delivery and customer interface) are created by strategic instruments, which in turn derive from investments in immaterial capital. For example, the introduction of a new service concept is linked to the customer interface by means of investment in marketing capital. The emphasis on service delivery in relation to the customer interface requires investment in the distribution system ('what is produced where?' and 'how is it delivered?'). The decision to link a

new service concept to the service delivery system requires major investment in the organization. By combining innovation and investment in immaterial capital, both these elements become an explicit and integral part of the business process, instead of a subject for a small group of pioneers within the organization who only work on it if they have the time and opportunity.

'Immaterial capital' is nevertheless a difficult concept for organizations to work with in practice. Although many service companies do free up resources for non-technological innovations, and various studies show that these activities also create productivity growth and value, there is still no clear picture of the returns on investment in immaterial capital (for an analytical study of the effects of organizational change on productivity in American companies, see for example Brynjolfsson and Hitt, 2003). For this it is essential that companies keep good administrative records of these investments (which is rarely the case) so that they can see that they are creating a stock of immaterial capital that is written off (the regulations have not yet been drawn up), replaced and increased as necessary. Moreover, in order to monitor the effects it is necessary to establish a relationship between each type of capital good and the results in terms of increased production or added value. This is a difficult exercise because it is the complementarity of the immaterial capital goods that generates extra production, therefore the effects of individual investments are difficult to identify.

Finally, the link between productivity and investments in immaterial capital is not always clear. Any extra output is usually generated by the use of more inputs. It is more likely that these investments influence value creation not only through the productivity effect, but also through the activity effect (e.g. a change in the organization's input mix or output mix).

Companies will have to experiment with methods for defining their immaterial capital and, where possible, registering or measuring it. In this way, immaterial capital will become an integral part of the organization's strategic 'resources'. The foundations can then be laid for a strategy that compares the costs and benefits of these investments.

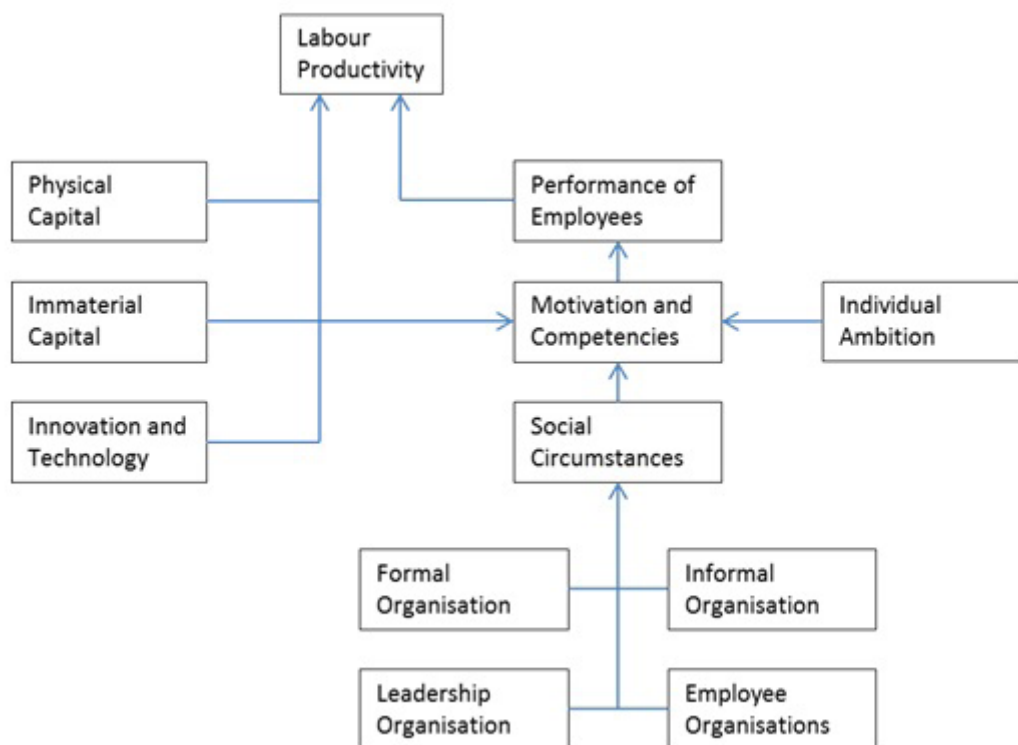
The costs and benefits of investing in immaterial capital

Baruch Lev (2001) defined a number of specific characteristics of immaterial capital that can explain the effect on productivity. First, many immaterial capital goods – such as software and databases – have high fixed costs but relatively low variable costs. This means that once intangible capital goods have been created, they can be reproduced at relatively low cost. In addition, many intangible capital goods can be utilized for several purposes at the same time. This creates potential for economies of scale. A large market can therefore reinforce the productivity effect of intangible capital.

At the same time, the utilization of intangible capital incurs significant costs that can limit the contribution to productivity growth. Often, investors in intangible capital cannot benefit from 'real' returns on their investment. The most obvious example is investment in training for staff who then leave the company. This can be a particular problem for companies in the service sector, where human capital is a key input. Moreover, initial investments in intangible capital are often high risk, especially investment in knowledge. This is due to the fact that the effects of knowledge creation are highly uncertain. Finally, intangible capital is often sourced from imperfect markets, which means that it difficult to arrive at the correct price for these capital goods.

In practice, managers will have to consider the 'value drivers' as well as the 'value detractors' of intangible investments, and determine their importance for the organization in question. This means that an innovation strategy should give equal consideration to knowledge management, organization design and personnel policy. In short, innovation and investment in intangible capital are an important strategic issue for the leaders of every service organization.

Figure 6. Productivity and the internal organization of companies



The role of the employee

We will now review the role of the employee (see also Sutermeister, 1963; Kendrick, 1984; Maister 2003). The discussion thus far has placed so much emphasis on the importance of IT and intangible capital that we are in danger of overlooking the employees themselves. This despite the fact that the discussion about labour productivity often centres on the performance of the individual employee. Obviously, employee productivity can be improved through investment in IT, human capital and knowledge. But what about the employee's personal commitment to using the IT and knowledge as productively as possible?

Figure 6 illustrates our earlier arguments with an added emphasis on individual employee performance (note that 'employee' can refer to various positions within an organization, ranging from managers, directors and senior consultants to secretaries, administrative and sales staff). It shows that employee performance relates above all to an individual's motivation and skills.

Competences and motivation

An individual's competences are determined by his/her education, experience and interests. Competences can be enhanced through investment in intangible capital such as training. This is what the work of many personnel managers involves.

A specific point for attention in many service companies, especially in the business services sector, is the dependence on the skills and knowledge capital invested in a small group of individuals. Much of this knowledge capital is simply non-transferable because it relates to experience, personal relations with the customer and/or other skills that it is difficult or impossible to document. Many service companies, especially the larger concerns, try to resolve the problem of 'key employees' and 'hidden knowledge' through training programmes, job programmes (junior employees working closely with senior colleagues), the introduction of routine procedures, knowledge databases and/or contractual amendments (clauses in employment contracts that make it more difficult for employees to move to competing companies in the short term).

The efficiency with which skills are used also depends on the individual's level of motivation. Motivation is shaped by individual aspirations and the physical and social environment in the workplace. The actual effect of motivation on employee productivity is determined by the relative importance of these aspects.

In the literature relating to personnel policy in the 1960s and 1970s, there are frequent references to the physical environment in which people have to work: lighting, noise, music, breaks, ventilation and temperature. Although physical work environments have improved thanks to agreements and legislation (e.g. health and safety legislation),

research into the influence of office accommodation on productivity shows that some of these aspects are still important. IT in particular provides many new opportunities for making office work more flexible in terms of time and space.

Three types of individual aspiration can affect employee productivity, namely the physiological, social and personal aspirations. Physiological aspirations relate to the employee's motivation to earn a living. This basic need is often met, thanks to minimum-wage legislation and the development of social security systems. Considered from this perspective, we can no longer assume that a higher salary will automatically result in improved performance. Social aspirations are realised through contact with others in the workplace. In many companies, the social aspirations of employees are reasonably well fulfilled. Once these needs have been met, increased social contact will not lead to increased motivation.

This brings us to personal ambition. These are the aspirations that are important to people as individuals. They encompass aspects such as knowledge, independence, self-respect and status. The majority of employees continually strive to achieve these aspirations in order to maintain a positive self-image. Individual employees constantly raise their expectations in this regard. These aspirations are very important in service organizations due to the strong emphasis on knowledge acquisition, innovation and customer relations.

The role of the cultural context

The cultural context in which the employee operates can also shape his/her individual aspirations. The slow growth in labour productivity in Western Europe may have something to do with the prevailing work ethic, which is sometimes characterized by complacency. There are marked differences in work culture between companies in the same sector, and even between divisions of the same company based in different countries.

There is a great deal of speculation about differences in work culture as an underlying factor in the relationship between work ethics, employee motivation and productivity in different countries. The media in particular are often at pains to point out the differences between Europe and the United States. Apart from the question of how great these differences actually are, it is not clear how these possible differences affect employee productivity. It is, for example, possible to distinguish between companies with a 'Rhineland' culture and an 'Anglo-Saxon' culture. According to one line of argument, 'Rhineland' companies stimulate employees' intrinsic motivation to work more productively by providing training and by involving them in the running of the company (the 'carrot'). By contrast, 'Anglo-Saxon' companies use the 'stick' approach to improve employee performance: remuneration structures, employee checks and

hierarchical management structures.

According to another line of argument, such classifications are far too general and fail to take account of specific sector characteristics. The 'stick model' would therefore be more appropriate for improving productivity in capital-intensive manufacturing industries. These industries (e.g. the food industry, metal industry, transport sector and cleaning companies) are characterized by the relatively large number of unskilled employees. The 'carrot model' could be more appropriate for typically knowledge-intensive industries (e.g. IT, business services, financial services). These industries usually have a high proportion of skilled workers, and it is more feasible to place greater responsibility for performance with the individual. We should point out that more and more sectors – including those that have a high proportion of unskilled workers and/or are traditionally capital-intensive – are becoming increasingly knowledge-intensive. For more and more companies, the best organizational structure will be the flat model, referred to above as the 'Rhineland'.

A comparison of work intensity, motivation and productivity

If we examine in detail the relationship between work intensity and productivity, the picture is not as clear as some suggest. A number of service companies in the Netherlands, in particular those with standardized processes, already have a management strategy geared towards productivity. CAPAC, which is active in the temping sector, makes widespread use of productivity indicators. It does so by measuring the number of staff outsourced to each 'account'. Within the company itself, indicators include the number of flexworkers per CAPAC employee, the duration of a job, and the length of time between receiving and carrying out the order. The productivity of flexworkers is measured at customer level, for example the number of load units processed per hour at a transport company. This type of performance indicator is used for each account. The results are recorded at company level and used for future offers.

Productivity is also measured for other business services (e.g. consultancy), using indicators such as the ratio of chargeable to non-chargeable hours. Non-chargeable hours are often seen as an overhead, and employees are encouraged to keep them to a minimum and/or perform non-chargeable work in their 'own' time. If this is the case, non-chargeable time is unlikely to be used for the development of new products and services.

The majority of companies in the Netherlands appear not to use productivity indicators, let alone manage their activities according to the results. Interviews conducted at Sodexo in the Netherlands and America show that, even within the same company and the same sector (in this case the catering industry), there are considerable

differences in the managerial approach to productivity. In the United States, physical productivity (number of trays per hour worked) or nominal productivity (sales per hour worked) are measured at the various sites on a monthly basis. Site managers report to their district managers regarding the development of indicators, which are used intensively for benchmarking against other company sites and for drawing up customer budgets. In the Netherlands, Sodexo does not use indicators such as productivity at location level, although other, more finance-related figures are monitored. Performance indicators are often perceived as a check on employees that can have an adverse effect. According to Sodexo, the strength of Dutch corporate culture lies in the fact that Dutch employees are more flexible, and the stronger emphasis on working on one's own initiative.

Lessons for personnel policy

Helping employees to fulfil their personal aspirations appears to be the most effective way to improve individual performance in service companies. In practice, however, this is a difficult issue. The formal and informal aspects of the organization and its management, and the representatives of works councils and employee organizations can all help to build strong motivation among employees. Nevertheless, many of the underlying causal relationships remain unclear. Various studies have shown that even a combination of strong personal ambition and motivation does not guarantee high productivity. Other studies have shown that there is not always a correlation between productivity and the attitude of employees. Moreover, employees who are unable to fulfil their personal aspirations may leave the company, depending on conditions in the labour market and the structure of the social security system.

Personnel managers are easily tempted to measure the results of various activities, with or without a view to demonstrating their relevance for productivity or value creation. The question is whether the factors discussed above – which determine the performance of individual employees – are so easy to quantify. In our opinion, companies should focus on strategies that link the aspirations of employees directly to their other strategic objectives. For service companies, this involves investing in the appropriate intangible goods. By investing in training, reinforcing the knowledge base and streamlining processes, companies can actively involve their employees in achieving company goals. This will, in turn, help employees to fulfil their personal aspirations and stimulate improved performance.

Intermediate conclusions 3

IT is essential to productivity growth in service companies. But on its own, IT is not enough. Non-technological innovation in particular is the key to the successful utilization of IT. In some cases, IT is not even an essential requirement in order to benefit from non-technological innovations. It is essential for service companies

to develop an investment strategy for intangible capital (staff, knowledge, business processes, customers) based on the limited scope for registration and evaluation. Effective skills and strong employee motivation are important preconditions for increased productivity and value creation. However, personnel managers have only a limited number of methods at their disposal for measuring the direct effect of intangible investment on company results. Linking the personal aspirations of employees to the strategic goals of the company is the first step towards allowing intangible capital to become a key factor in improving productivity.

4.6 Final remarks

Restructure or innovate?

The main aim of this chapter has been to achieve a greater understanding of the concept of productivity in relation to service companies. Today, productivity-oriented strategy is still uncharted territory for service companies. The 'unknown, unloved' approach and the lack of urgency are the main reasons for this. Even in the worst-case scenario, no entrepreneur need worry about productivity. In most situations, value creation is possible through an appropriate price strategy or choice of activity. However, if competition is intense at local, national and international levels, weapons such as price and activity strategy will only be effective for service companies in the long term. The focus thus shifts to productivity as a means of ensuring that the company's value increases in the long term. It is therefore important to define the concept of productivity and its role within the organization before setting to work with the 'productivity toolkit'. In practice, this toolkit will be geared toward the specific sector and organization.

When discussing productivity in service organizations, it is useful to distinguish between cost-oriented strategy and innovation-oriented strategy. Both are often cited as methods for improving productivity. Cost reduction, by definition, relates to the input side. The aim is to improve margins so that the selling price can be lowered in order to protect or increase market share. Innovation in service companies can involve the input and/or the output side of the organization. On the output side, innovation usually takes the form of output modularization, while on the input side the focus is on standardizing and streamlining the service-delivery process. Obviously, cost reduction and innovation are extensions of each other. Process-oriented innovations can facilitate cost reductions on the input side. The one does not necessarily exclude the other.

Nevertheless, a 'polarising' distinction between cost reduction and innovation is useful because the two strategies have different impacts on productivity, price and activities as sources of value creation. Initially, cost savings have a direct effect on price,

but can also have a negative impact on productivity. Payroll savings (through wage freezes, recruitment stops or reorganization with redundancies) can reduce labour productivity. Such measures can frustrate the personal aspirations of employees, lead to the appointment of less qualified staff, and discourage innovation. On the other hand, real cost savings (i.e. those resulting from increased efficiency) can have a positive effect on productivity.

In this context it is important to recognise the differences at sector level and at company level. Generally speaking, cost-reduction strategy is regarded as the most direct method for guaranteeing success in the traditional 'mature' service industries. Examples of mature markets are the transport and distribution sector, and a large proportion of the personal services sector. Cost savings can be generated through economies of scale, lower purchase prices for goods and services, and reduced overheads. The question, however, is whether a cost-reduction strategy can also guarantee a competitive advantage for mature industries in the long term. More and more competitors will gradually adopt the same cost-cutting measures, resulting in the well-known 'race to the bottom' with low-priced, standardized services and low profit margins.

Differentiation is an obvious way to avoid intense price competition. But for service companies, differentiation usually involves serving small, local markets and/or a strong emphasis on services geared towards the individual needs of customers. In both cases, there is a potential risk for the development of cost and/or productivity. High prices are the only way to create sufficient value for the service organization. The result of these strategies, cost reduction combined with differentiation, is that companies are in danger of leaving the middle segment of the market. In the retail trade, for example, such a dichotomy is apparently developing between 'discounters' (which focus on cost competition) on the one hand, and 'niche shops' (which focus on differentiation) on the other hand. Shops with a wide range of products and innovative retail concepts that can be offered at a reasonable price and with good customer service are finding it difficult to win sufficient market share.

In order to avoid costly 'customization', service companies must innovate by standardizing and streamlining their processes and modularizing their output. In this way, they can serve the large market segment consisting of consumers with middle-range incomes and realise a level of productivity that creates value for the company. There are countless examples of companies in mature industries that have managed to launch new products and services by cutting costs as well as innovating. This has enabled service companies such as Virgin (music and air travel) and McDonalds (food) to achieve good results in mature markets over a long period of time.

The fact that a market is mature does not necessarily mean that there is no potential for innovation. The one-sided cost-oriented approach adopted by many companies in the Netherlands is therefore not always the most obvious answer. Without a doubt, IT and related applications have changed value chains. Innovative companies, even those in the traditional mature markets, can respond effectively to these developments. Finally, mature industries also have 'niches' – created by market segmentation or other processes – that companies can move into. In the retail trade, this is illustrated by the revival of small local supermarkets. To sum up, innovation is a 'must' for service companies operating in mature markets and focussing on cost reduction or differentiation. This is why the polarization between these strategies is too black-and-white in practice, and a one-sided approach focussing on cost reduction does not help to increase productivity and create value for service companies.

In search of management tools

The next step in implementing a productivity strategy is to develop a number of management tools. This is not entirely a question of reinventing the wheel. A great deal has been published about productivity-oriented management approaches, particularly in the period shortly after the Second World War (see Appendix B). Despite the fact that these studies are about manufacturing companies, many of the experiences and recommendations relating to successful productivity strategy are still relevant for companies in the service sector. The main challenge is to adapt these insights to today's business environment – in other words, to an environment that is constantly changing and in which services, non-technological innovation and the 'learning company' play a much more important role than they did in the past. In today's knowledge-based economy, productivity-oriented management requires a shift of emphasis rather than a completely new approach.

In order to improve productivity, various companies have developed strategies geared towards innovation and strategic (real) cost savings. Various professional organizations and consultants are offering productivity-improvement programmes. The General Association of Employers (AWVN) has developed an action plan designed to incorporate the issue of 'Smarter Working' (Slimmer werken) into negotiations on pay and conditions. Here a distinction is made between five aspects: working-hours management, absenteeism and reintegration policy, training and employability, effective management, and performance-related remuneration.

The greatest challenge for service organizations is to develop an integral strategy that is geared towards value creation and based on activities, price and productivity as key success factors. This integral strategy must also focus on investment in intangible capital (personnel, knowledge, business processes and customers). The aim is to create an environment that facilitates the innovations required to modularize output

and to standardize and streamline the service-delivery process.

Appendix A. Productivity, the macroeconomy and individual companies

The business world often refers somewhat negatively to the macroeconomic figures for the Netherlands. Why do these figures paint such a negative picture of productivity in the Netherlands while so many companies are reporting significant improvements in performance (including financial performance)? Macroeconomic figures are therefore usually treated with scepticism.

There are several explanations for the discrepancy between the macroeconomic picture and the business environment as it is perceived by individual companies. The first explanation is the difference between real and nominal growth figures. The macro indicator for labour productivity is a real indicator, i.e. increases in value (turnover, production) are adjusted for price changes. Companies, however, usually report nominal figures for output and performance. In the second place, it is difficult to measure productivity at macroeconomic level. This is especially true of the service sector. Depending on the nature of the sector, measurement problems can produce a distorted picture of productivity.

The third explanation is 'window-dressing' by companies. They would rather talk about their successes than their failures and deceptions. This is particularly true of listed companies, which focus primarily on their shareholders. In this context it is true to say that in the service sector there is a considerable gap between companies with the best performance and companies with average performance. During the 1990s, there was a rapid increase in the number of companies entering the service sector. On average, the new companies initially performed less well than existing companies. It took some time before the wheat was separated from the chaff, partly as a result of economic pressure.

The trend towards outsourcing and specialization reinforces this effect. The main reason that companies outsource certain activities or processes is because they regard them as 'unproductive'. It is usually manufacturing companies that follow this trend. This allows the company in question to improve its productivity. It is also reasonable to assume that a specialized service provider can perform the outsourced activity more efficiently. The question is whether the outsourced activity is also more productive than the service provider's existing activities. From a macroeconomic perspective there could be a pure productivity effect, but at company or sector level the activity effect prevails: the service sector has taken over the least productive activities from the manufacturing sector. In the Netherlands, there has indeed been a strong increase in the employment share of relatively low-value service providers.

Moreover, outsourcing can have an impact primarily on 'nominal' productivity as inputs become cheaper in relation to output. However, this does not imply a direct increase in 'real' productivity.

Appendix B. Experiences with productivity programmes in industry

In the 1950s and 1960s, the interest in productivity programmes was a Europe-wide phenomenon. This was due to the fact that, following two world wars and the economic crisis of the 1930s, Europe was lagging behind the United States. The Dutch in particular monitored developments in the United States very closely. After the Second World War, many European countries, with the Netherlands among the leaders, implemented all manner of initiatives to improve productivity in companies. The majority of European countries co-operated within the European Productivity Agency (EPA). The EPA created national productivity centres that provided a platform for the exchange of knowledge and information. The EPA published various articles and newsletters, such as Trade Union Information and the Technical Digest.

In 1947, the Contact Group for Productivity Improvement (COP) was set up. The COP went on several trade missions to the United States. It studied American companies in depth. Although today's companies emphasise different aspects of productivity enhancement, these studies still provide useful insights. At the beginning of the 1950s, based on its visits to the United States, the COP published the following recommendations for Dutch companies looking to improve their productivity:

- Win the employee's loyalty and commitment to his/her work and the organization. American employees have a very positive attitude towards their employer. He or she is 'production-minded' in all respects.
- Simplify everything. An organized and structured work environment ensures that work can be performed faster, more cheaply and with less wastage.
- Specialize where possible. Mass production and reducing the number of different products (e.g. through outsourcing) are the keys to improving efficiency.
- Calculate everything with scientific precision. Many American companies employ a Taylorist approach, whereby every part of the production process is identified, however small. This knowledge allows companies to adopt a productivity-oriented approach to management.
- Get to know the market and modern research methodologies, and create new markets. Market research is an important aspect of business. It is essential to have knowledge of consumers and the circumstances that lead them to buy a product.
- Aim for optimum employee performance by introducing a performance-related remuneration system. Every improvement in performance must be rewarded, regardless of the employee's race, age, or gender, and regardless of his/her employment contract.

During the 1970s, measuring and improving productivity at company level became less important, and 'quality' became a key management concept. The relationship between productivity and other business goals became less clear, partly due to the advent of service companies. The underlying factors that combined to form a service were increasingly linked to the quality of the service.

Nevertheless, a strong focus remained on productivity, especially in the United States. Over the years, more than 200 experiments to improve productivity have been carried out in the United States (see Katzel 1977; Guzzo & Bondy, 1983). A different instrument was used in each case. The instruments used were specifically designed to improve labour productivity through better use of the 'human factor'. The experiments were carried out in going concerns. Table A.1 gives an overview of these intervention programmes.

Table A.1. Productivity intervention programmes in the United States

No.	Experiment	No.	Experiment
1	Recruitment and selection	8	Redefinition of work
2	Career and development	9	Decision-making techniques
3	Training and education	10	Supervision methods
4	Assessment and feedback	11	Organizational structure
5	Goal-oriented management	12	Physical work environment
6	Setting targets	13	Schedules and planning
7	Financial rewards	14	Socio-technology systems

For each of these programmes, the researchers assessed the effect of the intervention (instrument) on employee productivity. The following three criteria were central:

- Output – the most important measures of employee output were the quantity produced, the quality of the production, and production costs.
- Losses – the most important indicators of losses were loss of turnover and absence through illness.
- Interruptions to the labour or production process – the main indicators were

accidents, security incidents, strikes, interruptions to work, complaints, and the use of drugs and alcohol.

It is one thing to identify which interventions can influence productivity, but it is quite another thing to determine which instruments will improve it. The following results should be noted. However the measurements were made, generally speaking most of the intervention programmes achieved an improvement in labour productivity. Training and education (no.3) and setting targets (no.6) had the greatest effect on output, but were less important in terms of reducing losses or preventing interruptions to the production process. The programmes involving assessment and feedback (no.4) also proved highly effective in increasing output and reducing interruptions, but were much less effective when it came to reducing losses. All other programmes had a similar impact on the various productivity yardsticks.

Appendix C. Productivity and Economic Growth

This Appendix is based on G. de Jong (1996). Canada's post-war manufacturing performance: A comparison with the United States, research memorandum 1996-GD32, Groningen, University of Groningen, Groningen Growth and Development Center. The reader is referred to this original paper for detailed statistical information.

C1. Introduction

Productivity studies offer an accountancy-based perspective of economic growth (de Jong, 1996, 1994; Szirmai et al., 1995). They are generally concerned with developing methods enabling to correctly measure and compare productivity and economic growth of nation states (for a recent overview see, Groningen Growth and Development Center, University of Groningen). This appendix offers an example of the great number of studies that have been developed in this research tradition. Although the data apply to the 1960s-1990s, its main framework still is relevant to date (see De Jong, .

This appendix addresses Canada's post-war manufacturing productivity performance as compared with the United States. It follows up on earlier studies, including Maddison (1952), West (1971), Frank (1977), and Roa and Lemprière (1992). Among others, productivity represents the key to international competitiveness and rising living standards (Baldwin, 1992; Dollar and Wolff, 1988). Labour productivity of a firm or a country can be defined as the quantity of output produced with a given level of labour input. Aggregate actual labour productivity is defined as the summation of the output of the various goods produced, with prices used to aggregate heterogeneous goods, divided by the summation of the labour input needed to produce each good. The concept of total factor productivity represents the ratio of output to an index of

inputs, usually labour and capital. Like labour productivity, it relates output to an indicator of inputs (Sharpe, 1995).

International comparisons of productivity levels have gained the interest of researchers in the last couple of decades (Maddison, 1982; 1995). Comparisons of productivity levels are important for various reasons e.g. they can be applied to the study of structural change, technology progress, comparative advantage, and competitiveness, and in the analysis of catch-up and convergence (Van Ark and Pilat, 1993; Maddison and Van Ark, 1994).

To date, a growing body of literature has addressed both the theoretical and empirical perspectives which has contributed to the understanding of international comparative labour productivity measurements (Van Ark, 1996). Most studies compare a specific sector of the country under consideration with a specific sector of the world productivity leader of today, i.e. the United States (Van Ark, 1993; Pilat, 1994; Mulder, 1994).

For an international comparison of labour productivity it is required that both output and inputs are measured in common units. Purchasing power parities are used to convert variables expressed in national currencies into the US dollars. A purchasing power parity is a ratio of prices for a particular commodity in two countries with the prices expressed in the two national currencies. This ratio is calculated by dividing the price of a specific quantity of an item of a specific quality in one country's currency by the price of the same item in the other country, in the currency of the other country. The purchasing power of the different currencies is thus equal (or has parity) in terms of the specific quantity of a particular good or service that can be purchased (Kemp, 1993). In most of the comparisons of labour productivity across countries a purchasing power parity, or unit value ratio, is used as the conversion factor instead of the exchange rate. The exchange rate as a conversion factor is rejected because it can be subject to major fluctuations and it primarily reflects the purchasing power of currencies in terms of goods and services which enter international trade. In other words, the exchange rate does not necessarily represent the actual price relationship between two countries for each product or industry. Purchasing power parities and comparative labour productivity levels can be estimated using different methods. This study uses the 'industry of origin' approach as developed in the International Comparison of Output and Productivity (ICOP) project at the University of Groningen.

The outline of this Appendix is as follows. The second section explains the ICOP methodology which is used for calculating the unit value ratios and the comparative labour productivity levels. The third section presents this study's empirical results of Canada's manufacturing productivity performance for the benchmark year 1987 as well as the period 1961-1990. These results are compared with other ICOP studies in

section four. The final section five summarises the main conclusions.

C2. ICOP methodology and sources of data

This section briefly discusses the 'industry of origin' methodology as developed in the ICOP project at the University of Groningen (Maddison and Van Ark, 1988; Van Ark, 1993; Pilat, 1994). The basic procedure for deriving Canada's post-war comparative productivity levels consists of two parts. Firstly, the benchmark year comparisons are made and secondly the series of comparative productivity levels are calculated. The benchmark year chosen for this study is 1987 so that this study's results can be compared with other ICOP related studies presented in section four of this paper. For the comparison of productivity in Canada and the United States the censuses of manufactures of both countries served as the basic statistical source. The general information for the United States was obtained from the 1987 US Census of Manufactures - General Summary. For Canada no census data were available for 1987. The year closest to 1987 for which census data was available was 1988. Summary figures for 1987 and 1988 are obtained from Statistics Canada Manufacturing Commodity Publications Catalogue No. 32-203, 32-250, 32-251, and 32-352. To assess whether the Canadian census is similar to that of the US census the main definitions of output and employment were compared. For the United States, gross value of shipments is defined as the total sales of products. Employment is inclusive of working proprietors and head office employment. Product data is exclusive of indirect taxes and subsidies. One of the most important concepts used in this study is that of value added. The US definition of value added is presented in table 1.

Table 1 US Census Definition of Value Added

	Total Sales of products, f.o.b. plants
plus	Industrial services rendered
=	Value of shipments (gross output)
minus	Purchases (raw materials, components, semi-manufactured goods, packaging materials, workshop materials, energy inputs)
minus	Purchases of industrial services (work done on materials supplied)
plus	Net change in stocks of finished goods, raw materials, packaging
plus	Margin of goods merchanted or factors
=	Value added by manufacture (value added)

The Canadian census of manufactures is similar to that of the US. It uses the US definition of value added, gross value of shipments, persons employed, and actual hours worked. Hence, the relative productivity comparisons are calculated on the basis of these census value added and employment figures. The US actual hours worked are not derived from the census, as the census figures only refer to hours of production workers. Our hours are hours actually worked adjusted downwards to exclude hours not worked due to public holidays, vacation, and sickness.

The next step in our approach was to calculate the unit value ratios which serve to convert output in both countries to the same currency. The necessary product information for the underlying matching procedure for the United States is derived from 1987 US Census of Manufactures - Industry Reports. For Canada, I used the available 1988 commodity data derived from the aforementioned serial publications. From these sources the necessary product information for the matching between both countries was obtained. For every binary comparison there are two UVRs, i.e. one at quantity weights of Canada and one at quantity weights of the US. The first is the Paasche price index, while the second is the Laspeyres price index. Producer price indices (Statistics Canada catalogue no. 62-558) were used to adjust the Canadian unit values from 1988 to 1987 so that it could be compared with the 1987 unit values from the US census. Formulas (1) and (2) represent the sample industry UVRs:

$$UVR_{j,1987}^{CU(C)} = \frac{\sum_{i=1}^n (P_{ij}^{C88} * Q_{ij}^{C88}) * P_j^C}{\sum_{i=1}^n (P_{ij}^{U87} * Q_{ij}^{U87})} \quad (1)$$

$$UVR_{j,1987}^{CU(U)} = \frac{\sum_{i=1}^n (P_{ij}^{C88} * Q_{ij}^{U87}) * P_j^C}{\sum_{i=1}^n (P_{ij}^{U87} * Q_{ij}^{U87})} \quad (2)$$

where

- $UVR_{j,1987}^{CU(C)}$ is the UVR of the Canadian dollar versus the US dollar in industry j at quantity weights of Canada for 1988 (Paasche price index);
 - $UVR_{j,1987}^{CU(U)}$ is the UVR of the Canadian dollar versus the US dollar in industry j at quantity weights of the United States for 1987 (Laspeyres price index);
 - $i=1...n$ is the sample of the matched items.
 - P_j^C is the producer price index for industry j in Canada in 1987 (1988=100).
- In most of the tables below, ratios based on both formulas are presented. For

the final comparisons of gross value added and productivity only the geometric mean of the two indices, i.e. the Fisher price index, is used:

$$UVR^{Fisher} = \sqrt{UVR^{CU(C)} * UVR^{CU(U)}} \quad (3)$$

Beside the Fisher price index the empirical results also show the price levels. Price levels at different levels of aggregation, i.e. sample industry, branch, and sector level, are defined as the ratio of the Fisher price index to the official exchange rate.

The branch level ratios are obtained by a weighted average of the ratios of the sample industries that belong to a given branch. Hence, the branch level UVRs are defined using value added shares. The value added figures for different branches are used to obtain UVRs at sectoral level. Real GDP in Canadian manufacturing is obtained by deflating the value added in Canadian dollars into US dollars, using the unit value ratio computed at the output level. Finally, labour productivity is obtained as the real value added (or GDP) per person employed or per actual hour worked in the manufacturing sector and its branches.

Table 2 Coverage Percentages and Number of UVRs by Major Manufacturing Branch

	Canada 1988	USA 1987	Number UVRs
Food Manufacturing	43.14	40.96	59
Beverages	54.91	34.99	8
Tobacco Products	58.61	77.36	2
Textile Mill Products	24.30	36.70	5
Wearing Apparel	43.98	46.85	32
Leather Products and Footwear	28.51	46.07	6
Wood Products, Furniture and Fixture	37.58	14.22	9
Paper Products, Printing and Publishing	39.23	12.62	11
Chemicals, Petroleum and Coal Products	39.94	34.30	36
Rubber and Plastic Products	12.40	9.87	1
Non-Metallic Mineral Products	31.23	28.31	9
Basic and fabricated Metal Products	16.78	13.10	9
Machinery and Transport Equipment	17.07	16.90	11
Electrical Machinery and equipment	2.32	3.23	2
Total Manufacturing	27.75	21.60	200

Notes: (a) Coverage ratios for Canada refer to 1988. The UVR for total manufacturing is the weighted average of the UVRs of all manufacturing branches.

3. Comparative labour productivity in manufacturing

1987 Benchmark year comparisons

The Canada - US manufacturing labour productivity comparison starts with the matching of the products in the sample industries to derive sample industry UVRs (see: appendix table B.3). Table 2 shows that a total number of 200 sample industry UVRs were calculated which accounted for an average of manufacturing output of 27.8 per cent in Canada and of 21.6 per cent in the USA. The Canadian coverage ratios refer to 1988 because the product matches are based on the 1988 commodity data. The number of UVRs varies considerably between the branches. For some branches, e.g. food manufacturing, a fairly large number of UVRs could be calculated while for other, e.g. rubber and plastic products and electrical machinery and equipment, less UVRs could be calculated. The reason that not all products are matched to obtain UVRs ranges from insufficient product descriptions to incomparable specifications of physical output specifications or complete lack of information for a specific product in either of both national censuses. Furthermore, a specific problem when calculating UVRs is the difference in product mix and product quality between Canada and the United States. For some of the sample industries, the UVR is dominated by a few or even only one product UVR. However, other ICOP studies have shown, that the average UVR for total manufacturing is not very sensitive to outliers (Van Ark, 1993; Gersbach and Van Ark, 1994).

Table 3 presents the UVRs and relative price levels for 15 major manufacturing branches. These UVRs present the amount of Canadian dollar equivalent to each US dollar in purchasing power, using the United States as the base country. As mentioned before, the UVRs are based on the matching of the product items within each sample industry. The sample industry UVRs are adjusted with the Canadian producer price indices. The 1988/1987 results are not discussed here since the main interest is for the 1987 benchmark comparison.

Table 3 UVRs and Price Levels by Major Manufacturing Branch, 1987

	UVR: CANS/US\$ 1987			Relative Price Level (USA = 100)
	at US Quantity Weights	at Canadian Quantity Weights	Geometric Average	
Food Manufacturing	1.519	1.473	1.496	112.83
Beverages	1.841	1.717	1.778	134.08
Tobacco Products	0.900	1.092	0.991	74.77
Textile Mill Products	1.564	1.275	1.412	106.47
Wearing Apparel	1.446	1.359	1.402	105.72
Leather Products and Footwear	1.252	1.186	1.219	91.91
Wood Products, Furniture and Fixture	1.710	1.155	1.405	105.97
Paper Products, Printing and Publishing	1.385	1.302	1.343	101.29
Chemicals, Petroleum and Coal Products	1.282	1.298	1.290	97.27
Rubber and Plastic Products	1.232	1.232	1.232	92.90
Non-Metallic Mineral Products	1.310	1.316	1.313	99.00
Basic and fabricated Metal Products	1.324	1.314	1.319	99.47
Machinery and Transport Equipment	1.215	1.234	1.224	92.33
Electrical Machinery and equipment	1.461	1.406	1.433	108.09
Other Manufacturing Industries	1.358	1.308	1.333	100.50
Total Manufacturing	1.358	1.308	1.333	100.50
Exchange Rate	1.326	1.326	1.326	100.00

Subsequently, the branch level UVRs have been calculated. Overall, only minor differences between the UVR at Canadian quantity weights and the US quantity weights exist (see: table 3). On average, the relative price level in Canada is almost the same as in the United States i.e. it exceeds the US price level with only 0.5 per cent. Within the branches, however, the relative price levels vary. A relative price level over 100 per cent indicates that prices in that particular branch in Canada are higher than those in the United States. In terms of relative prices, table 3 suggests that the Canadian manufacturing is most competitive in tobacco products and the least in beverages. Using the UVRs at major branch level, the gross value added figures from each national census can now be converted to either countries' currency. Table 4 presents the results.

Table 4 Gross Value Added (census concept) by Major Manufacturing Branch, 1987

	Canada/USA % (geometric average)
Food Manufacturing	8.7
Beverages	7.9
Tobacco Products	7.0
Textile Mill Products	7.9
Wearing Apparel	7.4
Leather Products and Footwear	12.4
Wood Products, Furniture and Fixture	12.7
Paper Products, Printing and Publishing	9.6
Chemicals, Petroleum and Coal Products	6.8
Rubber and Plastic Products	6.9
Non-Metallic Mineral Products	9.5
Basic and fabricated Metal Products	10.4
Machinery and Transport Equipment	6.1
Electrical Machinery and equipment	6.3
Other Manufacturing Industries	2.7
Total Manufacturing	7.6

In 1987, Canadian manufacturing value added was 7.6 per cent of the US level. With the exception of three branches, i.e. leather products and footwear, wood products, furniture and fixture, basic and fabricated metal products, all Canadian manufacturing branches had a gross value added below 10 per cent of the US level. The difference in either countries' quantity weights is very small.

The Canadian comparative 1987 manufacturing productivity level for each branch is obtained by dividing the gross value added figures per branch by either the number of persons employed or the actual hours worked for that specific branch. Table 5 provides an overview.

Table 5 Gross Value Added per Person Employed and Hour Worked by Major Manufacturing Branch, 1987

	GVA per Person Employed Canada/USA % (geometric average)	GVA per Hour Worked Canada/USA % (geometric average)
Food Manufacturing	60.7	62.8
Beverages	43.5	44.2
Tobacco Products	74.2	88.4
Textile Mill Products	91.2	100.3
Wearing Apparel	73.8	70.3
Leather Products and Footwear	77.1	80.5
Wood Products, Furniture and Fixture	85.9	88.6
Paper Products, Printing and Publishing	86.4	90.3
Chemicals, Petroleum and Coal Products	77.0	83.2
Rubber and Plastic Products	86.3	92.1
Non-Metallic Mineral Products	92.7	97.9
Basic and fabricated Metal Products	88.4	92.8
Machinery and Transport Equipment	80.5	77.5
Electrical Machinery and equipment	74.4	75.5
Other Manufacturing Industries	54.9	57.3
Total Manufacturing	77.4	79.4

The number of employees used for obtaining these results originally referred to the persons on the payroll of the manufacturing units excluding working proprietors. Employees working in auxiliary units (e.g. head and sales offices and research laboratories) are added for both countries. The hours worked refer to actual hours worked for both countries. In 1987 approximately 1.8 million persons were employed in the Canadian manufacturing while approximately a tenfold was employed in the

US manufacturing. For total manufacturing, the average number of working hours per person was estimated at 1,866 hours in Canada and 1,909 in the United States respectively. For the benchmark year, the Canadian manufacturing gross value added per person employed was 77.4 per cent of the United States. The Canadian comparative productivity level varied between 43.5 per cent for the branch beverages and 92.7 per cent for the branch non-metallic mineral products. When using the comparative productivity levels per hour worked, all but two Canadian branches (i.e. wearing apparel and machinery and transport equipment) show a somewhat higher productivity level. Overall the Canadian comparative productivity level measured with actual hours worked is 2 percentage points higher than when expressed in persons employed.

Trends in comparative labour productivity

The 1987 benchmark comparative productivity results were extrapolated backwards to 1961 and forwards to 1990 using the national time series for real output and labour input. For the US, until 1987 the series are in 1982 fixed weights and after 1987 in 1987 fixed weights. For Canada shifting weights are used. No separate series were available for the branches food manufacturing and beverages. Hence, these two branches are taken together in the branch food and kindred products. These trends were calculated for gross value added per employee as well as per actual hour worked. Table 6 below presents the results for some key years.

Table 6 Gross Value Added per Person Employed and Hour Worked by Major Manufacturing Branch, 1961-1990 (USA=100)

	Per Person				Per Hour Worked			
	1961	1973	1979	1990	1961	1973	1979	1990
Food and Kindred Products	72.2	70.2	66.6	57.8	75.5	73.4	68.9	62.3
Tobacco Products	42.3	49.8	46.6	97.9	43.1	55.4	51.9	116.0
Textile Mill Products	72.0	87.5	91.3	79.1	72.8	91.8	96.1	82.3
Wearing Apparel	78.8	68.4	81.8	66.8	76.3	67.6	78.5	63.6
Leather Products and Footwear	69.5	62.9	83.2	66.2	68.8	62.6	78.6	64.3
Wood Products, Furniture and Fixture	91.5	84.7	78.1	89.1	93.1	85.0	76.9	89.7
Paper Products, Printing and Publishing	99.3	86.3	90.0	82.3	91.0	80.7	86.1	84.9
Chemicals, Petroleum and Coal Products	87.3	97.5	95.9	86.0	83.6	101.3	101.0	95.2
Rubber and Plastic Products	66.4	94.0	111.8	74.5	69.2	97.8	112.3	78.1
Non-Metallic Mineral Products	76.4	98.3	106.5	78.6	74.4	101.3	109.7	82.5
Basic and fabricated Metal Products	76.9	86.6	86.2	88.1	70.1	82.9	82.4	92.2
Machinery and Transport Equipment	75.4	106.4	120.9	82.4	75.3	107.9	125.1	85.1
Electrical Machinery and Equipment	60.6	57.2	58.6	75.7	58.6	57.4	59.2	76.9
Other Manufacturing Industries	67.0	68.4	73.0	42.9	62.3	65.1	71.2	42.3
Total Manufacturing	76.1	84.7	88.9	75.4	76.2	86.7	90.5	77.9

Canada's post-war productivity level, expressed in persons employed, was 76.1 per cent in 1961, 84.7 per cent in 1973, 88.9 per cent in 1979, and 75.4 per cent in 1990 respectively. Expressed in hours worked, the relative productivity levels are somewhat higher.

In 1961, Canada's best performing branches relative to the USA were paper products, printing and publishing, wood products, furniture and fixture, and chemicals, petroleum, and coal products (for Canada, computers are included in the branch Machinery and Equipment). In 1973, this changed to the branches machinery and transport equipment and non-metallic mineral products. In 1979, machinery and transport equipment improved its productivity performance to 120.9 per cent of that of the United States. Furthermore, two other branches had a comparative productivity level over 100 per

cent i.e. rubber and plastic products (111.8 %) and non-metallic mineral products (106.5 %). In 1990, the best performing branch was tobacco products (97.9 %), followed by wood products, furniture and fixture (89.1 %) and basic and fabricated metal products (88.1 %), respectively. Hence, Canada's productivity performance for these selected years was the highest in three classical branches (i.e. wood products, furniture and fixture, paper products, printing and publishing, chemicals, petroleum and coal products), the heavy industry (i.e. basic and fabricated metal products, and machinery and transport equipment), and the miscellaneous products industries of rubber and plastic products and non-metallic mineral products.

C4. An international perspective

This section compares Canada's relative productivity performance over the past three decades with four other countries of the G-7 group. Table 7 presents the labour productivity results relative to the USA in terms of persons engaged for Canada, Japan, France, Germany, and the United Kingdom respectively.

Table 7. Gross Value Added Per Person Engaged Total Manufacturing

	1961	1973	1979	1987	1990
1. Canada	76.1	84.7	88.9	77.4	75.4
2. Japan	28.3	56.3	71.8	76.4	87.5
3. France	50.4	69.1	80.9	71.2	77.1
4. Germany	63.6	76.0	87.8	70.2	72.6
5. UK	46.5	50.8	49.9	53.6	58.0
6. USA	100.0	100.0	100.0	100.0	100.0

For these selected years, none of these countries shows a comparative productivity level which is more than that of the United States. In 1961, Canada's comparative manufacturing productivity level was 76.1 per cent of that of the United States. This was the highest compared to the other four G-7 countries. Germany was second-best but had a comparative productivity level which was more than 10 per cent lower than Canada. Remarkably, Japan had the lowest productivity level (28.3 %) in 1961. In 1973, Canada's productivity performance was still the highest. Compared to 1961, Japan's comparative productivity level increased with almost one third. By 1979, the productivity performance of the UK was approximately the same as in 1961. The comparative productivity level of Germany was almost the same as Canada's productivity level. As compared with the previous years, France showed a rapid increase in its productivity performance. In 1979, productivity in Japan's manufacturing was approximately the same as Canada. In 1990, Canada's productivity level was no longer the highest of these G-7 countries. Its productivity level decreased to approximately 75 per cent in 1990. Japan's productivity level continued to improve

up to 1990. By 1990, Japan's comparative productivity level was the highest in terms of output per person employed. Table 8 shows the comparative productivity levels in terms of hours worked.

Table 8. Gross Value Added Per Person Hour Worked

	1961	1973	1979	1987	1990
1. Canada	77.1	86.7	90.5	79.4	77.9
2. Japan	22.0	49.2	62.6	67.5	77.9
3. France	48.5	73.3	88.7	84.0	91.3
4. Germany	60.0	79.7	95.8	82.2	86.9
5. UK	43.7	52.4	53.5	58.6	66.0
6. USA	100.0	100.0	100.0	100.0	100.0

In 1961, Canada had the highest productivity level and Japan the worst. From 1961 onwards, however, Japan's productivity performance relative to the USA continuously increased. In 1990, Canada's and Japan's productivity level in manufacturing were approximately the same. At the end of the 1970s, Germany's productivity performance was the highest (95.8 %), followed by Canada (90.5 %). In 1990, this situation was reversed. Of all countries and selected years under consideration here, France had the highest relative productivity level (91.3 %). The United Kingdom increased its productivity level from 43.7 per cent in 1961, to 66.0 per cent in 1990. Hence, it continuously increased. Despite this, since the end of the 1970s the United Kingdom has had the lowest comparative manufacturing productivity level of the countries under consideration.

C5. Conclusions

This paper addressed Canada's post-war manufacturing performance as compared with the United States. For this international comparison of labour productivity it is required that both output and inputs are measured in common units. This study used the 'industry of origin' approach to calculate unit value ratios which are used to convert the output value in Canada and the USA into a common currency.

For the benchmark year 1987, a total number of 200 unit value ratios were calculated. The overall unit value ratio for manufacturing was 1.333 (Can \$/US \$, geometric average). For total manufacturing, the Canadian relative price level exceeded the US price level with 0.5 per cent. Within the branches, however, the relative price levels varied.

In 1987, Canada's comparative labour productivity was 77.4 per cent, measured in persons employed and 79.4 per cent measured in persons hours worked, respectively. In terms of persons employed, the relative productivity level varied between 43.5 per

cent for beverages and 92.7 per cent for non-metallic mineral products. The 1987 results were extrapolated backwards to 1961 and forwards to 1990 using the national time series for real output and labour input. On average, Canada's productivity performance gradually decreased but showed short periods of recovery.

In an international comparative perspective with four other countries of the G-7 group, Canada had the highest productivity level when measured in terms of value added per person engaged for a long period. By 1990, however, Japan as well as France exceeded Canada's relative productivity performance. In terms of value added per hour worked, France and Germany exceeded Canada's productivity performance since the late 1970s.

CHAPTER 5. AUTONOMY AND NATIONAL CULTURE

Summary

The subsidiary is playing an increasingly important role in generating competitive advantage for MNCs. The key objective of this study is to empirically disentangle the underlying causal structure that determines the autonomy of subsidiaries. We argue that the division of decision-making authority between the headquarters and the operational unit primarily responds to the institutional contexts of both, the parent company and the subsidiary. This is because an MNC is a governance structure that operates affiliates in many and widely different institutional contexts. Our propositions are tested on a database that includes 263 European subsidiaries of 18 MNCs in 25 European countries. The empirical results support our institutional perspective and show that the subsidiary's autonomy is strongly associated with the global strategy of the parent firm and the national business system in which the affiliate is embedded. The results hold while controlling for various key characteristics of the parent firm and for the subsidiary.

Keywords: autonomy, subsidiaries, European multinationals, national business systems

5.1 Introduction

The increasing level of global competition has caused international managers to define new strategies for multinational enterprises (MNEs). The relationship between the parent company and its subsidiary is becoming central to an understanding of the functioning of MNEs because subsidiaries play an increasing role in generating competitive advantages for the MNE (Birkinshaw et al., 1998). The decision-making autonomy of subsidiaries is at the centre stage in this debate. A multinational company can be conceptualized as a network of exchange relationships among organizational units, including the headquarters and the different national subsidiaries, which are embedded in what Zaheer (1995b) describes as the "meta-environment" or, more recently by George & Zaheer (2006) or de Jong et al. (2011) as the "geographic signature". That is, MNEs operate in multiple national environments, each with its own path-dependent institutional characteristics and this differentiates MNEs from domestic firms (Dunning & Lundan, 2009; Rugman & Oh, 2010). In this chapter, we present a first attempt to explain how variations in the home- and host country environments, next to and on top of parent company- and subsidiary characteristics, determine variations in the decision-making autonomy of subsidiaries. In so doing, we respond to the call for more interdisciplinary as well as more empirical work in this field (Geppert & Williams, 2006; Paterson & Brock, 2002).

A stream of relatively recent studies in organization science – following earlier work

in the 1980s (Garnier, 1982; Gates & Egelhoff, 1986; Goehle, 1980; Hedlund, 1981; White & Poynter, 1984) and the 1990s (Birkinshaw & Morrison, 1995; Birkinshaw & Hood, 1998; Blaine, 1994; Gnan & Songini, 1995; Jarillo & Martinez, 1990) – focuses on the analysis of the role of the subsidiary, in order to explain inter-organizational differences in MNE behavior and performance (Geppert & Williams, 2006; Paterson & Brock, 2002). Several studies (Chiao & Ying, 2013; Dörrenbächer & Gammelgaard, 2006; Gammelgaard et al., 2012a, b; Ferner et al., 2004) have pointed out that the level of decision-making autonomy of subsidiaries varies strongly. That is, some subsidiaries have relatively high levels of decision-making independence while others are tightly controlled by the headquarters. Furthermore, there is evidence that this strategy may change over time (Ambos et al., 2011; Dörrenbächer & Gammelgaard, 2006; Gammelgaard et al., 2012a). Gnan and Songini (1995), for instance, show that Japanese firms allow subsidiaries little decision-making freedom in the early stages of development, while there has been a significant relaxation of this position in recent years (cf. Dirks, 1995). Conversely, Blaine (1994) found that German-owned subsidiaries have lost important elements of their decision-making power. All in all, these studies point out that the relationship between the parent company and its foreign subsidiaries has become more important but also more complicated and sometimes even loaded with conflicts. Decision-making autonomy boils down to the essence of power. Given the increasing importance of subsidiary activities for headquarters performance the question of decision-making autonomy is omnipresent in headquarters-subsidiary relationships (Takeuchi et al., 2008).

When reviewing the subsidiary literature, two broad conclusions can be drawn, at least. First, previous studies of subsidiary offer a helpful but scattered picture of the subsidiary's decision-making position. These studies can be classified into those that primarily focus on characteristics of the parent company (e.g., size, the level of product diversification) or of the subsidiary (e.g., size, performance, ownership). For example, it has been argued that the size of the parent company or the level of its product diversification matters for decision-making autonomy (Johnston, 2005). In a similar vein, the size of the subsidiary, its performance and extent of ownership are related to its decision-making autonomy as well (Johnston & Menguc, 2007). In comparison to the various firm characteristics, however, there has been much less analysis concerning the effects of the local institutional environment on subsidiary decision-making autonomy. Hence, we specify hypotheses that detail effects on subsidiary decision-making autonomy of home- and host-country environments. Together with parent and subsidiary characteristics we integrate them into one framework. Our integrative research model allows us to disentangle how the division of decision-making autonomy between the headquarters and the operational unit responds to this complex set of factors. Herein lays the first contribution of this chapter.

Ample case study and survey evidence of decision-making autonomy are available. Case studies help to identify and explore processes, and for that reason subsidiary studies have used this method to investigate particular decision-making autonomy-related events. Using case studies, researchers revealed insights into the origin and flow of headquarters-subsidiary decision-making processes. Notwithstanding the importance of case studies, they focus on single events and therefore lack the scope needed to generalize findings. Due to differences in measures and samples survey results are difficult to compare. In particular the effects of parent-company characteristics on decision-making autonomy have been mixed and no clear understanding for these determinants has yet been developed. The evidence for the impact of subsidiary characteristics on their decision-making autonomy is somewhat more robust and shows a little more consistency than parent-company characteristics.

The second contribution concerns the empirical test of the integrated framework. This chapter intends to move beyond case-study literature and use secondary data-sources (that is, the Orbis database) to collect information for a sample of companies and their environments. We collected data from 263 subsidiaries of 18 MNEs in 25 European countries. Our European focus aims at complimenting existing work that analyses the relationship between US MNEs and their subsidiaries. In addition to that, the majority of the European studies on the topic generally include one or two specific European countries (for example, Birkinshaw & Hood, 1997; Hedlund, 1981; Jarillo & Martinez, 1990; Taggart & Hood, 1999). Our international coverage aims at going beyond the bilateral perspective. In so doing, we present three other novel twists to the literature. First, we present a relatively new proxy for the decision-making autonomy of the subsidiary. Based on the subsidiary literature, we assembled a list of ten different business functions and other activities that each requires management attention of subsidiaries and/or headquarters – i.e., R&D, manufacturing, marketing, sales, market scope, network activities, outsourcing, cooperation, export-import activities and the organisation of the subsidiary establishment (see also, for example, Jindra et al., 2009). We used detailed information available in the Orbis database for each of these ten dimensions to create our proxy for the overall decision-making autonomy of the subsidiary. Second, the headquarters is located in a particular national business context or system. We will analyse whether, and if so: how, this national context determines the amount of decision-making autonomy of subsidiaries. Third, we also include measures for the institutional environments of the host countries, i.e., the particular context in which the subsidiary operates. Decision-making autonomy is not only determined by home country contexts but also by national business practices in host country contexts of MNEs. Although our research method has limitations – which we will elaborate on in the discussion section – the data have enabled us to develop a good insight into the role of institutional environments in the decision-making autonomy of subsidiaries.

In sum, this chapter makes first steps in unravelling the relation between institutional environment and its effects on the determinants of different levels of subsidiary decision-making autonomy. More precisely, we investigate how home- and host institutional environments affect the degree of subsidiary decision-making autonomy. Section 2 in this chapter discusses the theoretical background and presents the model. Following this, the research methodology is summarized in Section 3. Section 4 presents the empirical results and associated discussion. Finally, the discussion, conclusion and limitations of this chapter are provided in Section 5 and 6, respectively.

5.2 Theory and hypotheses

The key proposition in this chapter is that subsidiary decision-making autonomy is partly shaped by the nature of the local institutional environment in which the headquarters of the MNE and the subsidiary are embedded. Institutional theory argues that, in order to survive, organisations need to gain legitimacy that is achieved through isomorphism with salient institutions (DiMaggio & Powell, 1983; Oliver, 1997). Firms will tend to conform to the rules and belief systems prevailing in their environment (Fenton-O’Creevy et al., 2008). As said, since the MNE is situated in both its country of origin and, through its subsidiaries, in a number of other countries, it operates under multiple, possibly conflicting, institutional pressures. In what follows we explain how different home- and host country environments determine the decision-making autonomy of subsidiaries.

Our first variable captures the impact of the home country environment on subsidiary decision-making autonomy. Home country environments determine the overall strategy of the MNE. Thus, the decision by e.g. a US MNE in regard to exerting centralised control of a subsidiary is motivated by deeply held assumptions concerning appropriate goal-setting that arise out of the parent company’s embeddedness in a particular (USA) home country institutional setting. This is called a home country effect in IB research.

In line with Soskice (1999) we take into account that the production regimes of advanced economies can be classified into two main patterns, namely coordinated market economies (CMEs) and liberal market economy (LMEs) (cf. Hall & Soskice, 2001). Firms operating in the former context (e.g., the US, the UK, Ireland and Australia) are regarded as significantly more institutionally constrained than those in the latter (e.g., Germany and Japan), in the sense that they operate within contexts whose legal frameworks and systems of industrial relations constrain managers’ decision-making autonomy in applying market-driven or technologically contingent management practices. Thus, the MNE headquarters in CME countries across the world have a local rather than a global focus and thus are less subject to centralized

control which impairs their ability to respond to local market pressures. For example, German MNEs have recently embarked on a cautious internationalization process but still follow a “local responsiveness” strategy of local differentiation among their foreign subsidiaries. Geppert and Williams (2006) argue that headquarters management representatives in Germany emphasize that subsidiaries worldwide have relative decision-making autonomy in running their own operations. Moreover, Lane (1989) shows that German and Japanese MNEs allocate more resources and responsibilities as well as organizational and financial decision-making autonomy to their subsidiaries to develop networks in host countries similar to those existing in German and Japanese industries. In short, we expect that international corporations that are in favour of imposing decentralized strategies on their subsidiaries, such as German, Japanese and Swedish MNEs, – all else equal – tend to respect the decision-making autonomy of local subsidiaries. In contrast, MNEs in Anglo-Saxon economies like to – all else equal – impose their standardized global strategies on their subsidiaries. Divergent interests and the local power resources of key subsidiary managers and employee representative bodies are played down or ignored. Therefore, we propose the following first hypothesis:

Hypothesis 1: Subsidiaries with headquarters located in CMEs are characterized by higher levels of subsidiary decision-making autonomy than subsidiaries with headquarters located in LMEs.

The second hypothesis in this chapter concerns the degree of institutional embeddedness of the subsidiaries in the host country. The degree of institutional embeddedness of the subsidiary in the host country represents whether the subsidiary operates in a country with a highly or weakly integrated national business system (Geppert & Williams, 2006). Nationally specific industrial orders and societal effects may create alternative paths for organizing businesses and management. The degree of embeddedness, interdependence, cohesion and integration of institutions and business organizations in the Anglo-Saxon model of capitalism is much lower than in other capitalist countries, such as Germany and Japan (Benito et al., 2003; Ferner et al., 2004). CMEs such as Germany or Japan have a highly integrated national business system whose key characteristic is that major institutions are more interdependent. For example, they have inter-linkages between national infrastructure, corporate strategy and firm behavior as a result of institutional complementarities. The strategic interaction is reflected by dense networks that connect the managers and technical personnel inside a company to their counterparts in other firms. The internal structure of the firm is based on collaborative and cooperative modes of action (Hall & Soskice, 2001). Moreover, these economies have developed enterprise-based unions in which labor union and government agencies have very strong influences on firms, such as participating in firm decision-making. Therefore, MNEs may face several difficulties

in implementing global practices in subsidiaries located in these countries. However, the LMEs of Anglo-Saxon countries have relatively low-level integrated national business systems (Whitley, 1999). They have a relatively low level of commitment and cooperation between firms and between employers and employees, and a high level of mobility of operations. The main characteristics of these LMEs are a lack of integration or systematic coordination of activities, limited legal constraints on management's use of labor resources and weak rights of employee representative bodies. Hence, MNEs are relatively easily able to apply a global strategy in subsidiaries located in these economies. As a result, we propose the following hypothesis:

Hypothesis 2: Subsidiaries located in CMEs are characterized by higher levels of subsidiary decision-making autonomy than subsidiaries located in LMEs.

The main reason for subsidiaries to have higher levels of decision-making autonomy in CMEs (compared to LMEs) is the higher need to be integrated in the local environment, which increases the need to be relatively autonomous (see also Chapters 5 and 6). Whereas the first hypothesis captures the home country effect, the second hypothesis aims to capture the host country effect¹.

5.3 Research methods

Data collection and sample

The data used to estimate the theoretical model are derived from Orbis. Orbis is the most appropriate single-source firm-level database for our research because it is one of the most comprehensive pan-European databases containing detailed information of many public and private companies in virtually all European countries. Overall, the database includes a wealth of information that represents a substantial amount of economic activity. The information is derived from financial reports of the subsidiaries and parent companies for 2007 including their product lines and trade activity description. This not only allows us to determine our key construct (i.e., subsidiary decision-making autonomy) but also to develop measures for headquarters and subsidiary characteristics that we included as control variables in our model (see below). We selected 263 European subsidiaries of the 18 largest MNEs from 25 European countries (including, for example, Germany, the United Kingdom, Denmark and Sweden). The data for these large companies allow us to construct datasets with complete observations (cf. Rugman & Oh, 2010). Orbis also specifies the geographic location of the MNE itself and all its subsidiaries which allows us to determine the peculiarities of the particular home and host country environments in question.

Dependent variable: subsidiary decision-making autonomy

The dependent variable is the degree of subsidiary decision-making autonomy. Our

data-collection approach does not allow to directly measure decision-making autonomy of subsidiary managers versus the headquarters as in a case-study or a survey-based research (as we will do in subsequent chapters). Nonetheless, we have been able to construct a proxy for subsidiary decision-making autonomy in this chapter based on the following three steps. First, we carefully reviewed the definitions and measures of subsidiary decision-making autonomy employed in leading subsidiary studies – i.e., Garnier (1982), Edwards et al. (2002), Hedlund (1981), Johnston and Menguc (2007), O'Donnell (2000), Vachani (1999), and White and Poynter (1984). We take the theoretical and empirical achievements in the extant subsidiary literature as the point of departure for our proxy of subsidiary decision-making autonomy. This review resulted in a list of ten decision dimensions that primarily relate to business functions of subsidiaries – such as R&D, manufacturing, marketing and sales – but also include other potentially important management activities such as outsourcing, export-import or the organisation of the subsidiary establishment self (cf. Jindra et al., 2009)². Second, based on the Orbis database we determined whether or not a subsidiary performs a particular business function or activity. Thus, we created a dummy variable for each of the ten dimensions, that is, R&D = 1 if the subsidiary undertakes R&D activities, and 0 otherwise; Manufacturing = 1 if the subsidiary undertakes manufacturing activities, and 0 otherwise; Marketing = 1 if the subsidiary undertakes marketing activities, and 0 otherwise; Sales = 1 if the subsidiary undertakes sales activities in the domestic market, and 0 otherwise; Market scope = 1 if the subsidiary serves foreign markets, and 0 otherwise; Network = 1 if the subsidiary engages in network activities within the MNE, and 0 otherwise; Outsourcing = 1 if the subsidiary engages in outsourcing activities, and 0 otherwise; Cooperation = 1 if the subsidiary cooperates with external organizations, and 0 otherwise; Export-import = 1 if the subsidiary engages in export and/or import activities, and 0 otherwise; Subsidiary establishment = 1 if the subsidiary has its own subsidiary, and 0 otherwise.

Third, we summed the scores of the ten different dummies into one overall construct. We used this construct – that ranges from 0 to 10 – as the proxy for the degree of subsidiary decision-making autonomy. There are three additional reasons that support the use of this construct as the overall proxy for subsidiary decision-making autonomy rather than, e.g., individual dimensions separately. Firstly, it stands to reason that the more business functions or activities a subsidiary performs, the higher its decision-making autonomy will be. A wide range of business functions implies greater managerial complexity and specialization opportunities for a subsidiary which will be translated in greater decision-making autonomy. Secondly, we performed exploratory factor analysis and cluster studies on the ten dimensions. These results showed that no sub-dimensions of decision-making autonomy exist. Thirdly, we estimated Logit and Probit models for each separate dimension. It might be that a subsidiary receives decision-making autonomy for a single dimension and not for (all) others which is

then masked in a summed scale. These estimates offered no significant results. The same applies to models in which we – despite the factor and cluster analyses – grouped dimensions into two or three separate scales for decision-making autonomy. Again, no significant results appeared. Taken together, this supports the use of our proxy for subsidiary decision-making autonomy.

Independent variables

We measured the first explanatory variable – the home country institutional effect – with a dummy variable. As mentioned above, studies in the national business system approach make a distinction between LMEs (e.g., the United Kingdom, Ireland) and CMEs (e.g., Germany, Japan). The classification of the countries is taken from Hall and Sockice (2001). We code 1 if the subsidiary belongs to a multinational corporation whose headquarters is located in a CME, and 0 otherwise (hence, if the subsidiary belongs to a multinational corporation whose headquarters is located in an LME). We also measured the second explanatory – the host country institutional effect – with a dummy variable. We code 1 if the subsidiary is located in a CME country, and 0 otherwise.

Control variables

We include two sets of control variables in our model. Although our sample includes the largest European MNEs there is, of course, variation in MNE characteristics that need to be accounted for. The first set of control variables accounts for MNE characteristics, in particular the degree of product diversification and company size (Garnier, 1982; Gates & Egelhoff, 1986; Vachani, 1999). First, MNE decentralization can be positively associated with product diversification³. That is, the greater the degree of product diversification of MNEs, the more the subsidiary management by MNEs becomes complex and more difficult to control, enabling their subsidiaries to assume more decision-making autonomy (Gates & Egelhoff, 1986; Vachani, 1999). The degree of product diversification is measured by the number of products to be counted through product codes from the annual reports of the subsidiaries. Second, increasing size of the parent company may lead to an increase in the decision-making autonomy of local managers because size leads to more decentralized structuring of activities which then facilitates decision-making autonomy (Garnier, 1982; Gates & Egelhoff, 1986; Goehle, 1980; Hedlund, 1981). The size of multinational firms is measured by the total number of employees of the MNE.

The degree of subsidiary decision-making autonomy is also influenced by subsidiary characteristics. The second set of control variables accounts for these, in particular subsidiary age, economic performance, extent of ownership and subsidiary size. First, we assert that after several years of operation subsidiaries are allowed more decision-making autonomy than those with little experience because subsidiaries that have

long been dependent on the multinational firm will have well-established connections with local stakeholders and extensive local experience. Thus, older subsidiaries are expected to be more autonomous than subsidiaries that have had a shorter affiliation with their foreign parent company (Chiao & Ying, 2013; Fenton-O’Creevy et al., 2008; Luo, 2006; Taggart & Hood, 1999; Young & Tavares, 2004). The age of the subsidiary is measured as the number of years since the subsidiary was founded. Second, it can be expected that successful local subsidiary managers will enjoy more decision-making autonomy than those who are less successful. Good company performance by the subsidiary within an MNE can provide local managers with greater bargaining power, even when the company seeks to use an imposed and centralized approach to develop an increasing global standardization of local practices. Subsidiaries with poor performance do not have the power to resist the implementation of an MNE’s global strategy (Ambos et al., 2011; Björkman & Piekkari, 2009; Geppert & Williams, 2006). The economic performance is measured as the subsidiary’s profit rate (in terms of a percentage) relative to that of the whole MNE, representing whether the subsidiary performs better or worse than any other across the whole MNE. Third, the extent of subsidiary ownership cannot be ignored in our thinking about subsidiary decision-making autonomy. It is defined as the equity holding authority of an owned subsidiary by the parent company. In cases of majority ownership, there are more chances of control and direction than in joint venture and minority ownership situations where the interests and resistance of local partners have to be taken in consideration. Furthermore, a majority ownership reflects a commitment of resources and a governance mechanism to control spill-over risks of firm-specific knowledge that creates sustainable competitive advantages (Chan & Makino, 2007; Männik, 2006). The extent of ownership of a subsidiary is measured by the percentage of the local shareholders’ ownership of the subsidiary. Fourth, the size of the subsidiary is important because increasing size will offer increasing tangible (e.g. capital) and intangible resources (e.g. managerial talent and knowledge) that the MNE can use to obtain sustainable competitive advantages provided that they are inimitable, rare, causally ambiguous and unique (Dierickx & Cool, 1989). We account for a non-monotonic relationship between subsidiary size and decision-making autonomy because as a small subsidiary builds up its resources, it becomes less strongly tied to the MNE and its decision-making autonomy increases. However, after a cut-off point a subsidiary becomes larger its role within the MNE becomes greater and the parent company increasingly controls its decision-making autonomy (Hedlund, 1981; Johnston, 2005; Johnston & Menguc, 2007). The size of the subsidiary is measured in terms of the number of employees of the subsidiary.

The final control variable in our model is the relatedness of the home and the host countries because we focus on European MNEs. It is defined in terms of the level of similarity between the business environment in the parent company’s country of origin

and the country where the subsidiary is located. In fact, if this similarity level is high, the head office managers of MNEs are able to use their knowledge to control foreign subsidiaries, while head offices depend on the local knowledge of foreign subsidiary managers in operating a local business where the similarity is low (for example, Edwards et al., 2002; Erramilli & Rao, 1990). Moreover, the external environment and the host-country environment determine the role of the MNE subsidiary, including its decision-making autonomy (Benito et al., 2003). Thus, we would expect that if the home and the host countries have similar business environments, the decision-making autonomy of the subsidiary will be low, and if there is little similarity the decision-making autonomy will be high. The relatedness of the host and home countries is measured by a dummy variable. We code 1 if both the home and the host countries are highly integrated national business systems (i.e., countries A and B are both LMEs or both CMEs), and 0 if the home and the host countries belong to different national business systems (i.e., country A is a LME and country B is a CME and vice versa). Again, the classification of the countries is derived from Hall and Soskice (2001). In Chapter 4 we will make a more elaborate distinction between differences in business environments.

Method

We apply negative binomial regression techniques to estimate the significance of the hypothesized determinants of subsidiary decision-making autonomy. The dependent variable is a discrete counting measure. Hence, we start from the assumption that decision-making autonomy follows a Poisson distribution. The Poisson model, however, imposes the restriction that the conditional mean of the dependent variable is equal to its variance. The negative binomial regression model generalizes the Poisson model by introducing an individual unobserved effect into the conditional mean, thus allowing for over-dispersion in the data (i.e., variance exceeding the mean). Extensive experimentation using both Poisson and negative binomial approaches revealed that the Poisson procedure was not suitable for our dataset. Therefore, we only report and discuss the results from the negative binomial model.

We used the robust Quasi-Maximum Likelihood estimation procedure using E-views, since this produces more consistent estimates of the parameters of a correctly specified conditional mean than the Maximum Likelihood estimation procedure does, even if the distribution is incorrectly specified (cf. Santos Silva & Tenreyro, 2006)⁴. Finally, we calculated the marginal effects at the mean values of the explanatory variables. These marginal effects can be used to obtain the economic meaning of the explanatory variables (see Sanders & Carpenter, 1998)⁵.

5.4 Empirical results

Means, standard deviations and correlations are provided in Table 1. Results from the

negative binomial regression analyses are summarized in Table 2. In preparing the data for the regression analysis, we performed the usual tests to obtain reliable estimates (Hair et al., 2006). The latter yielded satisfactory results: neither heteroskedasticity nor non-normality is an issue. The maximum value of the correlation coefficients is 0.35, which is far below the threshold value of 0.80 indicating that there are no issues with multicollinearity. We additionally tested for possible biases caused by collinearity among variables by calculating the variance inflation factor (VIF) for each of the regression coefficients. The maximum VIF value is 3.85 and thus well below the cut-off value of 10 recommended by Neter et al. (1985). The regression results are therefore reliable and unbiased.

Table 2 reports the results of the negative binomial regression analyses. These regression results offer two conclusions. First, the various fit parameters show that our models fit the data increasingly well. Model 1 is a model with control variables and a constant only. In Model 2, the main effects were included. The adjusted R-square improves for Model 2 compared to Model 1 justifying the inclusion of our key variables. Concerning the main effects, the empirical results strongly support Hypothesis 1 which predicts that the home country environment of multinational firms shapes their overall strategy concerning the decision-making autonomy of subsidiaries. Subsidiaries with headquarters located in CMEs are characterized by higher levels of decision-making autonomy than subsidiaries with HQs in LMEs ($\beta = 0.12, p < 0.01$). Hypothesis 2 is also supported ($\beta = 0.09, p < 0.05$). This result emphasizes the important role played by the national business environment in the host country. The degree of subsidiary decision-making autonomy is higher for subsidiaries located in CMEs than in LMEs.

Table 1. Descriptive statistics and correlation coefficients (n = 263)1

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6	7	8	9	10
1. Degree of subsidiary decision making-autonomy	3.25	0.95	1.00	6.00										
2. Home country is CME	0.70	0.46	0.00	1.00	0.13									
3. Degree of product diversification	9.08	7.05	0.00	50.0	-0.11	-0.09								
4. Host country is CME	0.73	0.44	0.00	1.00	0.18	0.04	-0.11							
5. Parent-company size (10,000)	0.14	0.08	0.01	0.25	0.14	-0.35	0.04	0.005						
6. Subsidiary age (log)	3.15	0.81	1.10	4.83	0.58	0.07	-0.09	0.07	0.10					
7. Economic performance	0.25	0.06	0.01	0.66	0.06	0.10	-0.07	0.02	-0.13	-0.01				
8. Extent of ownership	0.91	0.24	0.10	1.00	0.12	-0.20	-0.01	0.002	0.14	-0.09	-0.30			
9. Subsidiary size (log)	6.55	10.0	0.13	59.2	0.15	-0.10	0.12	-0.12	0.12	0.10	-0.08	0.09		
10. Subsidiary size squared	143.3	434.8	0.017	3504.0	0.12	-0.12	0.10	-0.07	0.10	0.10	-0.06	0.08	0.93	
11. Home and host same business system	0.44	0.50	0.00	1.00	0.04	-0.30	0.03	0.34	0.17	-0.04	-0.08	0.16	-0.04	-0.05

Notes: (1) Correlations above 0.12 are significant at $p < 0.05$.

Table 2. The determinants of subsidiary decision-making autonomy of European MNEs1

	Model 1	Model 2	Marginal effect
Constant	0.24** (0.11)	0.18 (0.14)	
Main effects			
Home country is CME (not LME)		0.12** (0.04)	0.34** (0.12)
Host country is CME (not LME)		0.09* (0.04)	0.31* (0.11)
Control variables: MNE characteristics			
Degree of product differentiation	-0.003 (0.002)	-0.01 (0.01)	-0.03 (0.01)
Company size (10,000)	0.18 (0.21)	0.41 (0.23)	1.38 (0.70)
Control variables: Subsidiary characteristics			
Subsidiary age	0.21** (0.02)	0.20** (0.02)	0.65** (0.05)
Economic performance	0.001** (0.002)	0.01** (0.02)	0.002** (0.001)
Extent of subsidiary ownership	0.24** (0.07)	0.26** (0.07)	0.86** (0.21)
Subsidiary size (log)	0.008* (0.004)	0.01* (0.04)	0.03* (0.01)
Subsidiary size (log) squared	-0.003 (0.000)	-0.01 (0.07)	-0.03 (0.000)
Control variables: Institutional relatedness			
Home-host both same business system	-0.02 (0.02)	-0.01 (0.03)	-0.03 (0.10)
Model Summary			
N	263	263	
Adjusted R-Square	0.39	0.43	
Log likelihood		-606.3	

Notes: (1) White's heteroscedasticity – consistent standard errors are given in parentheses. * $p < 0.05$, ** $p < 0.01$.

Second, the results for the control variables indicate that in particular the age of the subsidiary ($\beta = 0.20$, $p < 0.01$), its economic performance ($\beta = 0.01$, $p < 0.01$) and the extent of ownership ($\beta = 0.26$, $p < 0.01$) increase subsidiary decision-making autonomy⁶. Our results for the control variables are consistent with other empirical studies on subsidiary decision-making autonomy. While some previous studies have provided inconclusive and/or no significant results, none have contradicted the positive relationship supported by the present study. For instance, a significant positive relationship between the degree of decision-making autonomy and the age of subsidiary coincides with the findings of Ambost et al. (2011), Chiao and Ying (2013), and Luo (2006), while the finding of Fenton-O'Creevy (2008) was inconclusive. Table 3.2 also reports that the hypothesized non-linear relationship between subsidiary size and decision-making autonomy – suggested by Hedlund (1981) and Johnston and Menguc (2007) is not supported (with $\beta = 0.01$, $p < 0.05$ for the main term and $\beta = -0.01$, non-significance for the squared term). This means that subsidiary size

has a positive relationship with subsidiary decision-making autonomy. Finally, the result rejects the hypothesis that home-host both same business system is negatively associated with subsidiary decision-making autonomy.

5.4 Discussion and conclusions

Studies on subsidiaries have evolved over time with the research strategy becoming specifically concerned with headquarters-subsidiary relationships and subsidiary roles. Consequently, an important aspect of recent research is the degree of subsidiary decision-making autonomy. Our results emphasize that the institutional environment – both the home and the host – in combination with parent-company and subsidiary characteristics are important drivers of the decision-making autonomy of subsidiaries. Although individual characteristics have been addressed elsewhere, ours is one of the first that explicitly focuses on the institutional environment. Subsidiaries of MNEs in CME countries can be argued to have a relatively local focus and are therefore subject to decentralized and negotiated control. The head office management representatives in these MNEs are in favour of respecting the decision-making autonomy of local subsidiaries because of their understanding of local markets. MNEs (for example, German, Japanese) applying decentralized and negotiated strategies to their subsidiaries can be argued to delegate much decision-making autonomy to their subsidiaries, while MNEs from LMEs (for example, British, American) applying centralized strategies to subsidiaries are – *ceteris paribus* – likely to restrict the autonomy of their subsidiaries. Next to this home country effect, we also find support for a similar effect in host countries, with subsidiaries located in CMEs having higher levels of decision-making autonomy than subsidiaries in LMEs.

The result rejects the argument of Ohmae (1990) and others, which assumes that MNEs are becoming “placeless”, as national identity is replaced by the commitment to a single unified global mission in global corporations (Ohmae, 1990). This study suggests that MNEs have distinctive strategies for different subsidiaries. Indeed, subsidiaries in highly integrated NBSs such as CMEs enjoy more decision-making autonomy than those in NBSs such as LMEs with relatively low levels of integration.

We would like to mention that the findings of this chapter are consistent with the “sociopolitical” approach which emphasizes the role of the power, politics and strategic choices of local management in effecting the implementation of the global strategies of MNEs. First, the performance of a subsidiary is positively associated with its decision-making autonomy. In fact, the outstanding performance of a subsidiary provides its managers with huge bargaining power, which allows them to actively resist the imposition of global strategies by the parent firm and protect local practices (cf. Geppert & Williams, 2006). Second, the size of the subsidiary is positively associated

with its decision-making autonomy. In fact, parent firms suffer various difficulties in directly controlling their large subsidiaries (Taggart & Hood, 1999) because larger subsidiaries usually reside in large markets and engage in several complex activities, such as R&D or innovation. This can be interpreted as a threshold point at which the subsidiary begins to establish greater decision-making autonomy and eventually loosens its dependence on head office.

Finally, our study finds no support for the effect of the same national business system both the home and host countries on degree of subsidiary decision-making autonomy. Thus, for this chapter, the difference in business environments between the parent company's country of origin and the country where the subsidiary is located is not a determinant of subsidiary decision-making autonomy. One possible explanation for this insignificant effect is the measure of overlap, which is based on a dummy. In Chapter 4 we use a set of continuous measures of home-host distance.

5.5 Limitations and future research

There are certain limitations to this study making us careful in interpreting our findings. First, in this chapter the level of subsidiary's business functions was used as a proxy for subsidiary decision-making autonomy. Although used by others as well, this is not a perfect proxy for subsidiary decision-making autonomy. In fact, the measure may be picking up the scope and the level of autonomy. It would be better in future research to directly measure the degree of decision-making autonomy concerning specific business activities by subsidiary. This is in fact what we do in the next chapters. Second, this chapter only examines one factor concerning the characteristics of the host country – that is institutional environment. Several studies stressed that the control issues in the organizational network relationship between headquarters and subsidiary may be affected by distance between home and host countries (Wilkinson et al., 2008) and home-country characteristics (Gammelgaard et al., 2012b). We recommend that future research should take these factors into account. This is exactly what we do in the next chapter when we explore the relation between home-host distance and decision-making autonomy. Third, this chapter employed a cross-sectional dataset (in the year 2007) which raises limitations in relation to the generalization of the results. Birkinshaw (1996), for instance, developed the so-called "mandate life cycle framework" to describe the broad change in the roles of subsidiary units in MNEs. In this life-cycle framework, the role of a subsidiary changes across three periods: mandate gain, mandate development and mandate loss. Therefore, due to the changing role of subsidiaries over time, future research may apply panel data or time series in order to test the dynamics in the relationships between headquarters and subsidiaries. The decision-making autonomy of subsidiaries may also vary across developmental levels of foreign countries in which subsidiaries are located. For example, according to James

and Anthony (1995), MNEs are more important for overall economic activity when the host and home countries are more similar in incomes, relative factor endowments and technologies. This means that an MNE from a developed country would have more room to develop in foreign countries with high development levels than in those with low development levels. Thus, the subsidiaries of this MNE found in developed countries would be granted more decision-making autonomy than those in developing countries. However, this chapter does not make a distinction with respect to the level of decision-making autonomy found in subsidiaries existing in developed as opposed to developing countries, nor does it examine which of the decision-making powers granted by MNEs are the most critical. These limitations provide rich opportunities for further research.

Notes

1 We took four options into account, i.e., home CME – host CME, home CME – host LME, home LME – host LME, home LME – host CME. However, we did not present the hypotheses and results for each because i) no theory discusses or explains arguments concerning each of these four options, and ii) we checked the four pairs of home-host countries combinations, but the empirical results were not significant. To nonetheless address this issue, our model was controlled by a dummy variable to reflect whether home and host countries have the same business systems or not. This does not affect the result of the model.

2 White and Pointer (1984), for example, classify the decision-making autonomy of a subsidiary in three categories: market scope, product scope and value added scope. Market scope is the range of geographic markets available to the subsidiary, with market scope being broad when a subsidiary serves not only a domestic market but also foreign markets. Product scope is the latitude exercised by a subsidiary's business with regard to product line extensions and new product areas. The value added scope of the subsidiary will be limited when economies of scale are large, tariffs are low and customer acceptance of a globally standardized product is high. Therefore, value added scope refers to the range of ways in which a subsidiary adds value, whether through development, manufacturing or marketing activities. Value added scope is broad when the subsidiary is not limited to the manufacturing or marketing of established products but also has the capability to develop new products and processes.

3 In a similar vein, Bartlett and Goshal (1989) relate decision making power to the nature of the product. This information, however, was not available in the Orbis dataset.

4 We also applied OLS estimation because most empirical studies in the field apply OLS. The regression results for both estimation methods are virtually the same. In fact, the estimated coefficients of the explanatory variables from the OLS model are equal to three times those of the negative binomial regressions. This is perfectly in line with the statistical expectations for these models. Our empirical results are robust and do not depend on the statistical method that is used. Given the scale of the dependent variable we discuss the results with reference to the negative binomial regression estimates.

5 The Poisson regression model is: $\hat{Y}_i = e^{\beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \beta_4 X_{i4} + \beta_5 X_{i5} + \beta_6 X_{i6} + \beta_7 X_{i7} + \beta_8 X_{i8} + \beta_9 X_{i9} + \beta_{10} X_{i10}} + \varepsilon$

Taking the logarithm of both sides, we have:

$$\ln Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \varepsilon$$

We estimated the coefficient of i th variable through derivative this equation with respect to i th X , and thus obtained:
with the elasticity

6 For some of the variables in the model the variation is low in particular with respect to subsidiary ownership. In a robust test, we excluded subsidiary ownership. This does not affect the results.

CHAPTER 6. AUTONOMY AND INTERNATIONAL DIFFERENCES

Summary

We studied an underrepresented area in the international business (IB) literature: the effect of country context distance on the distribution of decision-making autonomy across headquarters and foreign affiliates. Foreign affiliates directly contribute to the competitive advantages of multinational enterprises, highlighting the importance of such intra-firm collaboration. The division of decision-making autonomy is a core issue in the management of headquarters-subsidiary relationships. The main contribution of our paper is that we confront two valid theoretical frameworks – business network theory and agency theory – that offer contradictory hypotheses with respect to the division of decision-making autonomy. Our study is among the first to examine this dilemma with a unique dataset from five Central and Eastern European transition countries. The empirical results provide convincing support for our approach to the study of subsidiary decision-making autonomy.

Key words: country context distance, headquarters-subsidiary relationship, decision-making autonomy, Central and Eastern European transition economies

6.1 Introduction

Multinational enterprises (MNEs) typically operate subsidiaries in different geographical locations to exploit location-specific advantages abroad. Today, it is acknowledged that foreign subsidiaries contribute to the competitive advantages of multinational enterprises (Anderson, Bjorkman, & Forsgren, 2005; Birkinshaw, Hood, & Jonsson, 2008; Cantwell & Mudambi, 2005), highlighting the importance of intra-firm collaboration. Operating in different geographical locations implies that MNEs face contextual differences between the home country in which the headquarters is located and the host country in which the foreign affiliate is located. These contextual differences between country contexts are associated with the liability of foreignness (Hymer, 1976; Zaheer, 1995), which suggests that MNEs face organizational challenges that domestic firms do not. Recent studies report great differences in the geographical portfolios of MNEs (De Jong, Phan, & Van Ees, 2011; Rugman & Oh, 2010). Consequently, IB scholars have addressed the impact of distance in country contexts on MNE strategy and performance (Dikova, 2009; O'Grady & Lane, 1996; Shenkar 2001, 2012a, 2012b; Tung & Verbeke, 2010).

With few exceptions, however, the authors of most prior studies ignore the role of country context distance in the distribution of decision-making autonomy between headquarters and foreign subsidiaries. The division of decision-making autonomy is a core issue in the management of headquarters-foreign affiliate relationships (Paterson & Brock, 2002; Verbeke, Chrismann, & Yuan, 2007). We argue that the division of decision-making autonomy is complicated by the distance in country

contexts of headquarters and subsidiaries that inherently characterizes the MNE's organization. The main contribution of our paper is that we confront two valid theoretical frameworks – business network theory and agency theory – that offer contradictory hypotheses with respect to the division of decision-making autonomy. On the one hand, for example, business network theory argues that headquarters may need to grant decision-making autonomy to subsidiaries in order to enable local managers to respond to changes in local circumstances. On the other hand, agency theory suggests that MNEs might seek to control subsidiaries in unknown contexts to reduce the risks of opportunism and uncertainty. However, the question of whether the division of decision-making authority responds to the distance between the home and the host country contexts remains unexplored to date. The study of country context distance in relation to subsidiary decision-making autonomy is our first contribution to recent contextual IB research. Through this contribution, we are responding to the calls for more interdisciplinary research to better account for the multifaceted nature of home-host country context distances and variations in subsidiary decision-making autonomy (Dörrenbächer & Geppert, 2006; Geppert & Williams, 2006; Verbeke, Chrisman, & Yuan, 2007).

This paper's second contribution is that it provides a stepping-stone towards investigating in detail core aspects of country context differences for decision-making autonomy in general, as well as for decision-making autonomy for certain business functions in particular, such as strategic management and marketing. In our particular research setting of Central and Eastern European countries, the empirical results help solving the dilemma between the opposite theoretical hypotheses concerning country context distance and the division of decision-making autonomy. We follow recent IB research that has advocated the use of a multidimensional perspective for country context distance in studies of MNE operations, building upon growing concerns of unidimensional approaches such as Hofstede's cultural distance measures or variations thereof (Kirkman, Lowe, & Gibson, 2006; Shenkar, 2012a, 2012b; Tung & Verbeke, 2010). We therefore test our research hypotheses in this study by regressing various country context distance dimensions – in terms of economic, religious, language, cultural, and geographic differences – on survey-based indicators of subsidiary decision-making autonomy from a sample of foreign affiliates based in five Central and Eastern European (CEE) transition countries: the Czech Republic, Hungary, Poland, Romania and the Slovak Republic. CEE countries offer a relevant research context for our study because they have experienced a strong inflow of foreign direct investment due to the liberalization of trade policies, the mass privatization of state-owned companies and the increasing opening up of markets resulting from EU integration (Jindra, Giroud, & Scott-Kennel, 2006; Meyer & Peng, 2005). The majority of CEE countries achieved privatization through divestment of state assets to strategic investors, in which MNEs played an important role (Nakos & Brouthers, 2002) and which raise questions of

country heterogeneity and MNE organization. Their communist heritage has had a substantial impact on the formal and informal institutions in these countries. This appears in distinct cultural traits such as a lack of initiative and risk aversion among CEE managers. Western companies investing in CEE countries need to deal with differences in language and social and cultural change processes, which carry with them differences in the 'liabilities of foreignness' and the solutions for handling them. Our unique multi-level database not only permits us to study to what extent the MNEs which have entered CEE markets used different patterns of ownership and control – reflected in differences in subsidiary mandates – but also whether, and if so, how, heterogeneity in country context distances plays a role in the stratification of decision-making autonomy across parents and foreign affiliates.

The outline of this paper is as follows. We begin by reviewing the subsidiary autonomy and the country context distance literature which serve as the foundation for our research. Next, building on this research background, we formulate our hypotheses about the effect of country context distance on subsidiary decision-making autonomy. That is, using business network theory and agency theory we develop new theory for decision-making autonomy. Then, we introduce this paper's research methodology, addressing issues related to the collection of our data and our measures of the variables. Following that, we present our empirical evidence. Finally, we conclude with an appraisal, discussing the study limitations and offering reflections on opportunities for future research.

6.2 Theory and hypotheses

Subsidiary decision-making autonomy

There are various reasons why subsidiary decision-making autonomy matters and is worthy of further study (Gammelgaard, McDonald, Stephan, Tüselmann, & Dörrenbächer, 2012a, 2012b; Johnston & Menguc, 2007; O'Donnell, 2000; Rabbiosi, 2011). First of all, it is a key reflection of the overall organizational structure of subsidiaries and the current power-dependence structures between headquarters and subsidiaries as well as the intra-organizational management of an MNE network. Second, it is among the most important variables determining the behaviour, strategy and performance of subsidiaries and therefore also of the overall MNE organization, given that MNEs are networks of interrelated affiliates.

Any study of this phenomenon requires a precise definition. Decision-making autonomy has attracted the attention of scholars in various fields and is usually studied at either the individual or the firm level. Depending on the context, the term 'decision-making autonomy' can have different meanings. According to Brooke (1984:9) for example, decision-making autonomy refers to an organization 'in which units and subunits possess the ability to take decisions for themselves on issues which are reserved to a

higher level in comparable organizations'. This is similar to Roth and Morrison (1992) who define decision-making autonomy as the extent to which the subsidiary managers are able to make decisions without headquarters' involvement. This definition aligns with other leading studies in the field, such as Young & Tavares (2004), who relate it to the constrained freedom or independence available to or acquired by a subsidiary, which enables it to take certain decisions on its own behalf. Accordingly, irrespective of the study foci, subsidiary decision-making autonomy generally refers to the degree to which an MNE subunit can make significant decisions.

A stream of relatively recent studies – following earlier work from the 1980s (Garnier, 1982; White & Poynter, 1984) and 1990s (Birkinshaw & Hood, 1998; Blaine, 1994; Taggart & Hood, 1999) – focus on an analysis of the role of the subsidiary to explain inter-organizational differences in MNE behaviour and performance (Birkinshaw, Hood, & Jonsson, 1998; Paterson & Brock, 2002). Several studies have pointed out that some MNEs allow their subsidiaries a great deal of decision-making independence, while others assume tight control of their subsidiary activities (Ambos, Asakawa, & Ambos, 2011; O'Donnell, 2000). Furthermore, there is some evidence to suggest that this strategy can change over time (Dörrenbächer & Gammelgaard, 2006). This line of research argues that autonomy is a necessary (though not the only) requirement for the optimal performance of subsidiaries and their contribution to an MNE's value chain. Autonomy is a key motivator for subsidiary management: decision-making power enables network links, innovation and resource accumulation. Like other relational features of intra-firm alliances, autonomy creates autonomy and will foster performance through co-evolutionary processes.

Although the subsidiary literature offers a somewhat scattered picture of the subsidiary's decision-making position, we can classify autonomy antecedents into three clusters. A first set of antecedents accounts for the strategic role of the subsidiary. This is reflected in a subsidiary's level of integration within a MNE network, the subsidiary's knowledge competences, and its size and performance. It has been argued that some subsidiaries are more important to their headquarters and the overall subsidiary network of the multinational enterprise than others. When subsidiaries are assigned a strategic position with extensive scope for adding value (in addition to more usual market and product scopes), they are more likely to take full responsibility for the production process of particular products. Such subsidiaries generate firm-specific competences resulting in more decision-making autonomy (Ambos & Ambos, 2009). Additionally, it has been suggested that subsidiaries vary in their distinctive resources and capabilities. Subsidiaries with a superior knowledge base compared to other subsidiaries are less dependent on their headquarters and the MNE network and therefore have greater decision-making autonomy (Rabbiosi, 2011). The autonomy literature also points to variations in the size of subsidiaries. A large subsidiary is able

to exploit economies of scale which permit larger returns on assets and sales. Such subsidiaries will be in a better position to obtain higher degrees of decision-making autonomy (Young & Tavares, 2004). Recent studies suggest that there is a decreasing marginal return of subsidiary size to decision-making autonomy (Johnston, 2005; Johnston & Menguc, 2007). However, irrespective of the precise form of the causality, it goes without saying that previous studies highlight that the size of an affiliate affects its decision-making autonomy. Regarding subsidiary performance, most studies indicate that high subsidiary performance is associated with high subsidiary decision-making autonomy.

A second set of variables used to explain differences in subsidiary decision-making autonomy concern the MNE's control structure reflected in, for instance, the number of parent company representatives on the subsidiary's management board or the extent of parent ownership. The empirical results in this line of research are generally consistent, with most studies finding a negative relationship between decision-making autonomy and more intense monitoring or direct control by headquarters (Johnston & Menguc, 2007; Maennik, Varblane, & Hannula, 2005). A higher level of ownership in a foreign subsidiary provides the MNE with a greater degree of control over subsidiary operations, leaving ample opportunities for subsidiary managers to make strategic or operational decisions (Gaur & Lu, 2007). The MNE's initial entry modes and motives are directly related to the control structures (Cantwell & Mudambi, 2005; Simões, Biscaya, & Nevado, 2002). Greenfield established that subsidiaries face particular risks – including the need to adapt to local circumstances and to increase their legitimacy through initiating, developing and maintaining ties with local customers and suppliers – thus requiring greater decision-making autonomy than other modes of entry such as acquisition. Entry motives such as market access or efficiency imply direct control and little autonomy for subsidiaries because an optimal alignment of activities is required to realize these strategic goals. MNEs with knowledge-based entry motives allow subsidiaries greater decision-making freedom because autonomy is perceived as a minimum requirement for successful innovation. The MNE divisional structure is another related control aspect; subsidiaries within MNEs with a divisional structure based on functional areas have lower levels of decision-making autonomy than other non-divisional structures.

A final set of autonomy antecedents accounts for the context in which the subsidiary operates. Gates and Egelhoff (1986), for instance, show that the centralization of decision-making between headquarters and subsidiaries differs significantly according to the primary industrial group in which the firms operate. Local circumstances determine the ability of subsidiaries to develop capabilities and competences (Geppert & Williams, 2006). For example, firms operating in a coordinated market economy are regarded as significantly more institutionally constrained than those in

liberal market economies, in the sense that they operate within contexts whose legal frameworks and systems of industrial relations constrain the managers' autonomy in applying market-driven or technologically contingent management practices. In a similar vein, the autonomy research suggests that some industries enable subsidiaries to develop competences more than others and hence optimally add value for the headquarters. Industrial structures or their life cycles are inadequate per se. What matters is the level of development reflected in advancements in technological knowledge and capabilities. Birkinshaw and Hood (2000) report that subsidiaries in leading-edge industries are more autonomous and more locally integrated and internationally oriented than subsidiaries in other sectors (Frost et al., 2002). In high technology industries, subsidiaries are expected to develop cooperative and close ties with suppliers and customers, experiment with new ideas and transfer some of their learning to headquarters, all of which require high levels of autonomy (Ambos et al., 2011; Asakawa, 1996, 2001; Maennik et al., 2005).

In summary, a review of the subsidiary literature offers a multitude of valuable explanations for variations in decision-making autonomy. However, the review also indicates that despite the crucial role played by distance in international business (IB) research in general, no study so far has explicitly addressed how distance and home country context affects subsidiary decision-making autonomy. Our study develops hypotheses on exactly this relationship, combining insights from distance studies with headquarters-subsidiary research.

Country context distance

Firms and managers confront additional challenges when crossing borders and becoming operationally active in a host country context that differs from their home country. Although a change in context could in principle also relate to intra-country variation, IB research is concerned with firms crossing national borders and the development of economic activities in other nations. To explore and exploit the location-specific advantages abroad, firms and managers have to overcome the distance between the home and the host country. These contextual differences in terms of geography, culture, institutions or economic development are associated with the liability of foreignness (Hymer, 1976; Zaheer, 1995), meaning that internationalizing firms incur costs that domestic firms do not have.

The debate concerning the conceptualization and measurement of country context distance is prominent in the IB research agenda (for a recent overview and review of theories and measures for cultural distance, perceived psychic distance and psychic distance stimuli see, for example, Drogendijk & Martín Martín 2015, Earley 2006, Ellis 2008 or Avloniti & Filippaios 2014). It is well accepted that every country has a unique institutional environment, which imposes formal and informal constraints on human

and organizational behaviour (North, 1990). Formal institutional constraints include laws, regulations and rules which affect the ability of organizations to enact and enforce contracts, and which may or may not provide a stable business environment. The fundamental argument in this institutional theory is that organizations functioning in similar environments will employ similar practices. The adoption of these common practices is explained by an organization's desire to conform to institutional pressures, driven by legitimacy motives. The legitimacy of an organization is reflected in its acceptance and/or approval by the environment, which in the case of MNEs consists of multiple environments. This includes the implication that organizations active in diverse institutional environments are likely to lack the information and capabilities needed to understand, interpret and evaluate environmental pressures correctly throughout the whole set of environments that they face.

Informal institutions, or codes of conduct as described by North (1990), can be viewed as corresponding to culture within the Hofstede (2001) framework¹. It is argued that leadership is culturally contingent and likely to determine the performance of individuals (Drogendijk & Slangen, 2006) and of organizations (Kirkman, Lowe, & Gibson, 2006). MNEs are likely to account for cultural variations when optimizing their sets of international opportunities. Hofstede (2001: 25) defined culture as 'the collective programming of the mind which distinguishes the members of one category of people from another'. The term 'collective programming' implies that members of a group are conditioned by shared characteristics such as language, history, religion and education in how they share norms and values, thus resulting in different perspectives on similar occurrences compared to other groups. There are certainly differences within a group and within a country, but Hofstede and related studies such as House et al. (2004) show that there are significant variations between countries in defining the diverging actions and interactions of societies. Divergent national cultures implicitly lead to the idea of cultural distances, which can be regarded as the difference between one national culture and another on the basis of a certain cultural parameter (De Jong & Van Houten, 2014). Cultural diversity is consequently perceived as the aggregate level of cultural heterogeneity with which a firm is brought into contact as a result of its international operations and subsidiaries.

Of all the potential dimensions of country context distance, cultural distance (CD) is an important focus, given the widespread use of Hofstede's database. CD has been applied to a wide range of research questions, including foreign direct investments, innovation and subsidiary performance (a review by Kirkman, Lowe, & Gibson, 2006 found 180 studies covering a multitude of IB topics). Despite its wide use, the concept itself and its measurement are subject to ongoing debate following the concerns Shenkar (2001, 2012a, b) raised and the mixed empirical findings that have been reported extensively (Beugelsdijk & Mudambi, 2013; Tung & Verbeke, 2010).

Shenkar's concerns apply to the conceptual and methodological properties of the CD construct. The former includes the so-called illusions of symmetry, stability, linearity, causality and discordance. The latter includes the assumptions of corporate and spatial homogeneity and of equivalence. Shenkar also presents various mechanisms that could widen and narrow CD, such as globalization, geographical proximity, foreign experience, accultivation and staffing. He recommends replacing distance with friction as the underlying metaphor for cultural differences, focusing on the interface between transaction entities. An advantage of using friction is that it explicitly refers to the contact between two sides of an intercultural encounter. However, it has been argued that friction is not a perfect solution because it separates the potential positive effects of intercultural contact (see Drogendijk & Zander, 2010 for an extensive commentary). Several authors have proposed and tested alternative measures of cultural distance. Drogendijk & Slangen (2006) offer an extensive comparative test (for a comprehensive comparison of various country-score diversity measures, see also Avloniti & Filippaios, 2014). They show that the Hofstede and Schwarz-based measures of national cultural distance explain establishment decisions by MNEs equally well. Further, they also find that the explanatory power of the perceptual measure, despite its statistical significance, is lower. This is particularly noteworthy given that common knowledge suggests that managers' perceptions drive their decisions. In a similar vein, very recent empirical CD studies attempt to design variation-based measures aiming to overcome some of the methodological limitations of mean-based CD measures (Beugelsdijk, Slangen, Maseland, & Onrust, 2014). Existing measures reflect mean country values and thus ignore variations within host countries. In so doing, mean-based measures could overestimate CD effects on MNE behaviour and performance. Due to the lack of raw underlying data, many researchers nonetheless continue to rely on arithmetical means to calculate their distances, which is further complicated by the alleged superiority of variance-based alternatives over existing mean-based measures (Beugelsdijk et al., 2014).

In summary, our positioning in the distance research is as follows. We acknowledge that country context differences are important for the successful organization of multinational enterprises. Country context difference is a multidimensional construct that can be measured on various dimensions including culture, language and political systems (Håkanson & Ambos, 2011). Given that ours is among the first studies to attempt this, we theorize about the relationship between overall distance and subsidiary decision-making autonomy, leaving the analysis of the particular dimensions thereof to the empirical section of this research. This refined empirical strategy is relevant because the countries in our CEE research context differ in, for instance, dominant language, religion and ethnicity. The measures used here are generally mean-based, given its proven added value in other distance studies (enabling a comparative perspective), the relatively immaturity of alternative variance-based measures and

their lack of large-scale data limiting international empirical studies such as ours. The relationship between country context distance and subsidiary decision-making autonomy can be analyzed from two theoretical perspectives: agency theory and business network theory. Agency theory highlights the costs of doing business abroad while business network theory emphasizes its benefits. In the following, we will explain how the costs and benefits of international activities are reflected in hypotheses concerning the relationship between country context distance and subsidiary decision-making autonomy.

Agency theory and subsidiary decision-making autonomy

Agency theory studies how information asymmetry and goal incongruence affects decision-making (Akerlof, 1970; Eisenhardt, 1989; Stigler, 1961). In our setting, an agency problem essentially emerges when subsidiary managers make decisions that are not desired by headquarters as a result of information asymmetry and incongruence between the goals of headquarters and the subsidiary. According to agency theory, greater distance between home and host countries is likely to increase agency problems in the headquarters-subsidiary relationship and therefore increase the control headquarters exerts over subsidiaries (Chang & Taylor, 1999; O'Donnell, 2000). There are various explanations for a negative hypothesized relationship between country context distance and subsidiary decision-making autonomy. First, great distance between two groups of individuals in a business network located in different contexts increases the cost of interpreting information flows between the parties and also increases the risks of misinterpretation. It means that the costs of doing business in foreign countries increase with distance, or at least outstrip the rate of increase of the benefits. Second, subsidiary managers will have an information advantage over their headquarters management (Vachani, 1999) when differences in characteristics between the headquarters market and a foreign subsidiary's market increase. This implies that agency problems arise when subsidiary managers make self-interested decisions incongruent with those of the foreign parent. Furthermore, with increased distance, complete and accurate information about a subsidiary's performance becomes more difficult and expensive to obtain, and subsidiary activities thus become more difficult to interpret (Roth & O'Donnell, 1996). Agency problems occur because subsidiary managers have greater specialized knowledge of the influence of the local environment and the strategic context on task performance (Gomez-Mejia & Balkin, 1992). Third, greater distance is likely to constitute a barrier to the headquarters' learning about a foreign environment, not only because there are differences in how business is conducted locally, but also because it impedes information flows towards headquarters (Gregersen & Hite, 1996; Roth & O'Donnell, 1996). These constraints result from the fact that headquarters faces high levels of uncertainty (Evans & Mavondo, 2002) and generic management difficulties in distant markets (Ellis, 2008). It is the root cause of inconsistencies in cognitive firm frameworks. Consequently,

distance between home and host countries increases uncertainty, which increases agency problems in the headquarters-subsidary relationship.

Taken together, the arguments above suggest that distance between home and host countries increases information asymmetry, which increases agency problems in the headquarters-subsidary relationship. To resolve these agency problems, the headquarters cannot relinquish decision-rights to the subsidiaries, since the local interests of a subsidiary might not always be in line with those of headquarters (Nohria & Ghoshal, 1994). Therefore, the headquarters will closely monitor and supervise the behaviour of a subsidiary, which limits the ability and the incentives of subsidiaries to engage in self-interested behaviour. We therefore propose the following hypothesis: Hypothesis 1: A greater distance between home and host country contexts is associated with lower levels of subsidiary decision-making autonomy.

Business network theory and subsidiary decision-making autonomy

Business network theory offers an alternative perspective on the relationship between country context distance and subsidiary decision-making autonomy (Andersson, Forsgren, & Holm, 2007; Ciabuschi, Forsgren, & Martín, 2011; Forsgren, 2008). From this perspective, it can be argued that increasing distance between home and host countries is likely to enhance subsidiary decision-making autonomy. Several explanations motivate this argument. First, each subsidiary operates in its own unique task environment in a host country, which constrains or determines the activities of that subsidiary. To survive, subsidiary managers need to conform and adapt to the rules, norms and belief systems prevailing in their local business environment (DiMaggio & Powell, 1983) – a process also referred to as normative rationality (Oliver, 1997). Accordingly, to increase a subsidiary's ability to understand its local business environment (Birkinshaw, Hood, & Jonsson, 1998), and to obtain local business legitimacy (Bartlett & Ghoshal, 1989; Prahalad & Doz, 1987), business network theory suggests that headquarters will delegate decision-making autonomy to distant subsidiaries to increase local legitimacy. Second, first-hand knowledge of local circumstances is a crucial competence within an MNE network because it allows subsidiaries to develop and adopt new products, processes or administrative systems locally using their own technical and managerial resources to respond to local circumstances (Forsgren, 2008). High levels of uncertainty accompany subsidiaries operating in a particular business network in markets distant from the MNE's perspective (Dikova, 2009; Evans & Mavondo, 2002). Headquarters will decentralize decisions to subsidiaries to reduce uncertainty. As a result, the subsidiary can undertake more extensive research and planning, which improves performance (Evans & Mavondo, 2002; Evans, Mavono, & Bridson, 2008).

To sum up, a greater distance between home and host country contexts increases

the advantages of trust by the headquarters in the subsidiaries. This fosters local legitimacy and results in obtaining optimal local resources. Therefore, according to business network theory, headquarters will decentralize decision-making autonomy to more distant subsidiaries. We therefore hypothesize:

Hypothesis 2: Greater distance between home and host country contexts is associated with greater subsidiary decision-making autonomy.

6.3 Research methods

Data collection

Our hypotheses relate differences in subsidiary decision-making autonomy to differences in the distance between country contexts. We therefore constructed a multilevel database incorporating firm-level and country context distance measures. This multilevel database is constructed from various sources of information. The firm-level and control variables derive from the 2011 Institut für Wirtschaftsforschung Halle (IWH) Foreign Direct Investments (FDI) micro-database (IWH, 2011). Our data sources for measuring country context distances were principally the Dow and Karunaratha (D&K) (2006) database and the Hofstede database. This section explains the databases' main features and details how we used them to measure our constructs. Internationally harmonized and compatible firm-level survey data which go beyond a limited range of standard statistical variables related to investments, sales and employment remains scarce in IB research (Driffield & Jindra, 2012). A notable exception is the IWH FDI micro-database (IWH, 2011). The IWH FDI micro-database offers bi-annual survey data on foreign affiliates based in the emerging economies of Central and East European countries from 2007. We use information from the 2011 edition. The 2011 survey edition is relevant for our research for different reasons. First, it offers a unique opportunity to directly measure the decision-making autonomy of foreign subsidiaries for different business functions. Large-scale empirical studies of general business ties and those of foreign subsidiaries in particular are few and far between. Prior empirical studies often use proxies for decision-making autonomy. The IWH 2011 database offers a direct measure of subsidiary decision-making autonomy and in so doing, responds to the calls for more empirical research from the field. Second, to the best of our knowledge, it is among the few that do so for foreign subsidiaries in multiple home countries in general and for CEE host countries in particular. The contrast between the CEE countries and the home countries of MNEs which have entered this region offer a broad range in country context distances and therefore a direct opportunity to test our research hypotheses. Third, the 2011 IWH database also offers the opportunity to measure a considerable number of firm and industry-specific control variables reported in the subsidiary literature as potentially important determinants of subsidiary decision-making autonomy.

The underlying population for the IWH FDI (2011) survey is drawn from the AMADEUS database (edition 2010). It consists of foreign affiliates with a minimum of 10 employees and at least one foreign investor (i.e. the headquarters) holding either a minimum of 10 percent direct shares/voting rights or a minimum of 25 percent indirect shares/voting rights. These enterprises are independent affiliates with their own legal entity or branches with their own commercial register entry. The total population includes 8,650 foreign affiliates, 52 percent of which are based in Poland, 22.4 percent in the Czech Republic, 10.7 percent in the Slovak Republic, 7.8 percent in Romania and 7.1 percent in Hungary. The sample was stratified by host country per foreign affiliate in industrial (NACE Rev.2: 05 to 39) and selected service (NACE Rev.2: 46, 49-53, 58-64, 66, 68-74, 78 and 82) sectors. Each sector was further stratified according to firm size in terms of number of employees.

The survey was conducted by means of computer assisted telephone interviews between September and December 2011. The questionnaire was pre-tested in each host country. The interviews were conducted by native speakers who received intensive training. The resulting survey sample has data on 637 foreign affiliates. The overall response rate was 7.2 percent but varied across host countries (5.3 percent in Poland, 12.6 percent in Romania, 9.8 percent in Slovakia, 6.3 percent in the Czech Republic, and 13.8 percent in Hungary). The resulting survey sample deviates significantly in the distribution across host countries from the underlying population: foreign affiliates in the Czech Republic and Poland are underrepresented compared to the population (-2.8 percent and -13.6 percent respectively) while Hungary is overrepresented (6.5 percent). However, within each host country the sub-samples do not deviate significantly from the underlying population in their distribution across sectors or firm size.

Measures: subsidiary decision-making autonomy

Following leading studies on subsidiary decision-making autonomy (Birkinshaw & Hood, 2000; O'Donnell, 2000), we determined the level of subsidiary decision-making autonomy by means of a particular questionnaire item. The subsidiary's management was asked the following: 'Please indicate to what extent decisions in the following business functions are currently taken by your enterprise or your foreign investor', for seven different business functions: 'finance and investment', 'strategic management', 'operational management', 'marketing and market research', 'purchasing and supplies', 'distribution and sales' and 'research and innovation'. The respondents provided their answers to this question for each business function on a four-point Likert-scale: 'Please choose between: decisions are taken (1) only by your enterprise, (2) mainly by your enterprise, (3) mainly by your foreign investor or (4) only by your foreign investor'. Therefore, the survey provides us with a direct measure of subsidiary decision-making autonomy. The Cronbach's alpha for the decision-

making autonomy of the seven business functions (0.83) is satisfactory because it is substantially above the threshold value of 0.70 (Hair, Black, Babin, Anderson, & Tatham, 2006). This indicates our key construct's internal consistency. A principal component factor analysis showed that the seven business functions load on one factor (with one eigenvalue greater than 1, i.e. 3.51). All seven business functions thus load on one unobserved variable and, therefore, follow one latent dimension. This permits us to use the resulting factor scores as an aggregate measure of the overall decision-making autonomy of subsidiaries as the dependent variable in our analysis.

Measures: home-host country context distance

We used four main steps to develop the country distance measures. We first determined the relevant dimensions of country context distance. Home-host country distance is a multidimensional construct and can be measured on various dimensions (Prime, Obadia, & Vida, 2009). We follow Håkanson & Ambos (2011), who suggest that language, religion, level of education, level of industrial development, political systems, geography and culture are among the most important dimensions of country context distance. We therefore applied these seven country context distance aspects in our study. This measurement approach aligns with recent empirical studies in the IB literature that suggest using macro-level measures of country contexts as the prime source to measure distance between nation states (Drogendijk & Martín Martín, 2105; Evans, Treadgold, & Mavondo, 2000)².

Determining the relevant country pairs is the second step in obtaining country distance measures. The IWH survey database enabled the identification of the country of origin (i.e. headquarters location) for each subsidiary. The subsidiaries themselves were located in five CEE host countries: the Czech Republic, Hungary, Poland, Romania and the Slovak Republic. The headquarters of these subsidiaries were located in 21 different home countries. Using this information, we were able to produce 55 country pairs.

Obtaining the data for each country context distance dimension for each of the 55 country pairs was the third step. We extracted data from the D&K database for differences in language, religion, education, industrial development and political systems for the 55 different home-host country pairs in our sample (see Appendix A for a detailed description).

The remaining two distance dimensions are cultural and geographic distances. Concerning geographical distance, we obtained information on the countries in which the subsidiary and the headquarters were located, but not on their exact location within each country (to maintain survey anonymity). We therefore measured geographic

distance as the logarithm of the distance in kilometres between the capitals (Håkanson & Ambos, 2010). The geographical information was obtained from the Centre d'études prospectives et d'information internationales (CEPII, 2012), which provided the pair-wise country kilometre distance for all the country capital pairs in our sample. The geographic distance measure ranges between 4.08 and 9.65, with higher scores corresponding greater geographic distance. With regard to cultural distance, following previous studies (e.g., Dikova, 2009; Dow & Karunaratna, 2006; Håkanson & Ambos, 2010) we used Hofstede's six updated cultural dimensions and applied the formula suggested by Kogut and Singh (1988) to measure cultural distance for each of the country pairs in our sample. The composite measure for cultural distance ranges between -1.28 and 4.13, with higher scores corresponding to higher cultural distance between home and host countries.

The fourth step was to determine whether our measures for each of the seven distance dimensions in turn continue not to cluster on one or more factors. This final step offers the opportunity to test the interrelatedness of our distance measures and take action accordingly. We therefore performed a factor analysis on the seven dimensions of country context distance. A principal component factor analysis with varimax rotation reports two factors with eigenvalues greater than 1 (i.e. 2.47 and 1.68 for factor 1 and factor 2, respectively). The factor analysis reports that educational and industrial development and political system distance between home and host countries are clustered on the first factor. The Cronbach's alpha is 0.81 for the first factor, which satisfies the threshold 0.70 (Hair et al., 2006). We therefore used the factor scores from the principal component factor analysis of these three dimensions as the measure of distance in our study. We labelled this factor as 'economic distance' which therefore consolidates distance in terms of education, industrial development (reflecting many economic aspects of national differences) and political systems. This economic distance measure ranges from -2.31 to 3.76 (standardized values), with higher scores corresponding to greater economic distance.

However, the Cronbach's alpha for the second factor capturing the other four dimensions is 0.54, which is below the threshold of 0.70. This implies that we cannot group religious, language, cultural and geographic distance into a single common factor. Therefore, these dimensions were included as separate distance measures in our analysis (using standardized scores for these four distance measures to maintain consistency with the economic distance measure).

Control variables

We included three sets of control variables in our model. The first set of control variables accounts for the effect of subsidiary firm heterogeneity on decision-making autonomy: the subsidiary's importance in the MNEs intra-trade structure,

the subsidiary's R&D capabilities, subsidiary size, and ownership interests in the subsidiary held by other companies. The first controls in this set account for the subsidiary's relative importance in the MNE's intra-trade structure. The underlying rationale is that a high share of intra-group trade is negatively correlated with a foreign affiliate's autonomy (Andersson & Forsgren, 1996), since the subsidiary would be tightly integrated into the intra-group labour division. This potentially curtails the autonomy associated with local market orientation or the freedom to coordinate local suppliers. Along these lines, we controlled for the annual share of the total sales of the foreign affiliate returning to headquarters or other units of the foreign investor in 2011 ('Subsidiary relative MNE sales'). We also controlled for the annual share of total supplies and intermediate goods sourced from headquarters or other units of the foreign investor in 2011 ('Subsidiary relative MNE supplies'). The next subsidiary control variables address R&D. Subsidiaries with greater R&D capabilities, for example, could be less technologically dependent on headquarters and could therefore display greater autonomy. To control for a subsidiary's R&D capabilities, we included a dummy variable equal to one when the subsidiary made any labour, other current or capital expenditure for intra-mural R&D between 2009 and 2011, and zero otherwise ('Subsidiary R&D capabilities'). In addition, we controlled for the subsidiary's technological dependence or its integration with the parent company in terms of knowledge flows. We did so by measuring the importance of headquarters or other units of the foreign investor's enterprise group abroad as sources of knowledge relevant to R&D and innovation in the focal subsidiary ('Subsidiary dependence HQ R&D capability'). We included subsidiary size ('Subsidiary size') as a control variable measured using the natural logarithm of the number of employees at the focal subsidiary – because larger subsidiaries have better bargaining positions and therefore greater decision-making autonomy (Gates & Egelhoff, 1986; Johnston & Menguc, 2007; Schüler-Zhou & Schüller, 2013). Our final subsidiary control variable is a dummy variable set at one where the focal subsidiary holds direct or indirect ownership in terms of equity/voting rights in other legally independent enterprises located abroad, and zero otherwise ('Subsidiary owner FDI'). This applies, for example, to cases when the focal subsidiaries themselves operate as regional headquarters of the overall enterprise group. Arguably, this additional coordination function could grant greater decision-making autonomy to the subsidiary in question.

The second set of control variables concerns headquarters characteristics. First, subsidiary decision-making autonomy can inherently differ with respect to the MNE's initial entry mode (Gammelgaard et al., 2012b; Luo, 2006). We include a dummy set at one when the foreign owner established the focal subsidiary as a greenfield investment, and zero otherwise (i.e. in cases of full or partial acquisition) ('Headquarter greenfield entry mode'). Second, the complexity of internationalization, combined with environmental uncertainty and institutional changes in transition economies,

could increase the probability of strategic errors leading to mistrust between managers and the new principals (Peng, 2000). To mitigate the risk of managerial incompetence, foreign investors could employ different control channels reflected in different ownership levels (Filatotchev, Stephan, & Jindra, 2008; Hoskinson, Eden, Luo, & Wright, 2002). Where the foreign ownership is partial, the local managers of the focal subsidiary could enjoy greater independence from foreign owners reflected in greater decision-making autonomy than in situations of full ownership. We included the share of equity held by the foreign investor in the focal subsidiary as a variable to control for this heterogeneity ('Headquarters ownership in subsidiary').

The final control variable covers sector specific effects. For this we used the NACE Rev.2 industry structure classification (2008) and classified the subsidiaries into either an industrial or a services sector. We included a dummy which was set to one when the subsidiary belonged to an industrial sector, and zero otherwise ('Subsidiary industrial sector').

A final remark concerns the potential risk of common-method biased results. This risk emerges in particular when the data for a dependent and explanatory variable are collected from the same survey data sources. In such cases, self-report data can create false correlations if the respondents have a propensity to provide consistent answers to survey questions which are otherwise unrelated. In our research, we consider the risk of common-method biased results negligible because we used different data sources for the measurement of the dependent variable (IWH, 2011) and for the measurement of the key explanatory variables (i.e. the D&K and the Hofstede databases) (Chang, Van Witteloostuijn, & Eden, 2010; Siemsen, Roth, & Oliviera, 2010). Nevertheless, we took procedural precautions in the construction of our multilevel database using the survey data. The IWH (2011) survey included a number of items about other aspects of subsidiary strategy and structure which were ordered randomly throughout the survey. We used a selection of the available items in the survey. We also used different scale anchors for different measures. Taken together, we can conclude that the risk of common-method bias is nil.

6.4 Empirical results

The first step is to determine whether there is variation in decision-making autonomy. A histogram of decision-making autonomy measured using factor scores reports a bell-shaped normal distribution and shows that there is substantial variation in decision-making autonomy among CEE subsidiaries. Table 1 reports the distribution of decision-making autonomy per business function for subsidiaries in CEE countries.

Table 1. Variations in decision-making autonomy of CEE subsidiaries

Decision-making...	Low autonomy functions				Medium autonomy functions				High autonomy functions					
	Finance and Investment		Strategic Management		Marketing and Market research		Research and Innovation		Operational Management		Purchases and Supplies		Distribution and Sales	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Only by affiliate	58	11.44	103	20.24	179	36.16	156	33.19	299	57.39	275	53.40	242	47.27
Mainly by affiliate	158	31.16	169	33.20	128	25.86	137	29.15	174	33.40	138	26.80	144	28.13
Mainly by investor	191	37.67	163	32.02	99	20.00	99	21.06	26	4.99	58	11.26	64	12.50
Only by investor	100	19.72	74	14.54	89	17.98	78	16.60	22	4.22	44	8.54	62	12.11
<i>Total</i>	<i>507</i>	<i>100</i>	<i>509</i>	<i>100</i>	<i>495</i>	<i>100</i>	<i>470</i>	<i>100</i>	<i>521</i>	<i>100</i>	<i>515</i>	<i>100</i>	<i>512</i>	<i>100</i>

Table 1 shows that the distribution of decision-making autonomy varies noticeably across business functions. We identified three different groups of business functions which show similar levels of decision-making autonomy. The first is the low autonomy group which embraces the 'finance and investment' and 'strategic management' business functions. The second is the medium autonomy group which consists of the 'marketing and market research' and 'research and innovation' business functions. The third is the high autonomy group which includes the 'operational management', 'purchases and supplies' and 'distribution and sales' business functions. The decision-making autonomy of CEE subsidiaries is greatest for the 'operational management' business function on average, given that 84 percent of all CEE subsidiaries indicated that the decision-making autonomy for this business function lies only or mainly in their hands. Decision-making autonomy is least on average for 'finance and investment'. Fifty-seven percent of the CEE subsidiaries indicate that the decision-making autonomy for this business function lies mainly or solely with their foreign parent company.

Now that we have determined that there is considerable variation in subsidiary decision-making autonomy, the next step is to determine whether country context distance is a determinant thereof. Means, standard deviations and correlations are provided in Table 2. In preparing the data for the regression analysis, we performed the usual tests to obtain reliable estimates. The latter yielded satisfactory results: neither heteroscedasticity nor non-normality is an issue. The maximum value of the correlation coefficients is 0.34, which is well below the threshold of 0.80, indicating that there are no issues with multicollinearity (Neter, Wasserman, & Kutner, 1985). We also tested for possible biases caused by collinearity among variables by calculating the variance inflation factor (VIF) for each of the regression coefficients. The VIF values for all variables in the model are below 2.0 and thus well below the cut-off value of 5.6 recommended by Hair et al. (2006). The likelihood ratio tests of the chi-square distributions for all models were significant, indicating that our final model fits

the data significantly better than a model without any predictors. The results from the hierarchical ordinary least squares (OLS) regression analyses are summarized in Table 3.

Table 2. Descriptive statistics and correlation coefficients

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Autonomy	-0.20	0.93	1.000														
Subsid. Sales	30.34	2.10	-0.337	1.000													
Subsid. Supplies	32.59	1.98	-0.263	0.286	1.000												
Subsid. R&D	0.48	.028	0.197	-0.051	-0.215	1.000											
Subsid. HQ Kn.	0.57	.028	-0.255	0.195	0.329	-0.089	1.000										
Subsid. OFDI	0.04	.011	0.094	-0.027	-0.019	0.136	-0.101	1.000									
Subsidiary size	4.30	.068	-0.097	0.124	-0.076	0.163	0.058	0.118	1.000								
HQ Greenfield	0.63	.027	-0.152	0.097	0.204	-0.120	0.169	-0.078	-0.106	1.000							
HQ Ownership	88.21	1.27	-0.238	0.090	0.117	-0.047	0.174	-0.061	0.154	0.072	1.000						
Industrial Sector	0.47	.028	-0.107	0.109	-0.106	0.165	-0.028	0.022	0.308	-0.138	0.063	1.000					
Economic Dist.	-0.15	.039	0.188	-0.203	-0.211	0.070	-0.193	-0.000	-0.252	-0.146	-0.080	-0.052	1.000				
Language Dist.	-0.10	.055	-0.028	-0.004	-0.074	-0.010	0.021	0.042	0.067	-0.044	0.077	-0.045	0.140	1.000			
Religious Dist.	-0.11	.044	-0.035	-0.059	-0.016	0.017	-0.015	-0.044	0.027	-0.020	0.006	-0.010	0.281	0.008	1.000		
Cultural Dist.	0.02	.052	-0.035	0.151	0.102	-0.004	0.048	-0.024	-0.034	0.004	0.064	-0.015	-0.338	0.127	0.087	1.000	
Geographic Dist.	-0.03	.054	-0.049	-0.014	-0.113	0.102	-0.034	0.007	0.065	-0.048	-0.092	0.041	-0.246	0.196	0.360	0.123	1.000

Correlation coefficients larger than |0.15| are significant at $p < .05$ and larger than |0.20| significant at $p < .01$.

The regression results offer two conclusions. First, the various fit parameters show that our models fit the data increasingly well. Model 1 is a model with control variables and a constant only. The dimensions of country context distance were added in Model 2. The R² improves from 29.2 percent in Model 1 to 32.2 percent in Model 2 (the F-values improve from $F = 18.14$; $p < .01$ for Model 1 to $F = 14.20$; $p < .01$ for Model 2). The estimates remain robust in terms of signs and significance levels. This implies that taken alone, country context distance has explanatory power alongside and above an explanation of subsidiary autonomy based on control variables. Second, the empirical results in Model 2 offer support for our distance measures. Two dimensions receive significant support, with both indicating that greater country context distance will limit subsidiary decision-making autonomy. Economic distance has a significant and negative effect on autonomy ($\beta = -0.205$, $p < .05$). Note that economic distance is a factor of many economic sub-dimensions, and is therefore a strong indication that the negative effect is relevant in our research setting. Along similar lines, geographic distance has a strongly significant and negative effect on autonomy ($\beta = -0.189$, $p < .01$). Two other dimensions report positive but non-significant effects, indicating that decision-making autonomy does not respond to differences in language ($\beta = 0.041$, n.s.) and religion ($\beta = 0.020$, n.s.). Cultural distance reports a negative effect – in line with economic and geographic distance – but this effect is not significant ($\beta =$

-0.033, n.s.), implying that in our research setting, distances in terms of culture are not relevant to the distribution of decision-making autonomy between headquarters and subsidiaries.

Table 3. The effect of country context distance on overall decision-making autonomy

	Overall Autonomy (1)	Overall Autonomy (2)
Country context distance		
Economic distance		-0.205** (0.081)
Language distance		0.041 (0.052)
Religious distance		0.020 (0.049)
Cultural distance		-0.033 (0.059)
Geographic distance		-0.189*** (0.052)
Controls		
Subsidiary relative MNE sales	-0.009*** (0.001)	-0.009*** (0.001)
Subsidiary relative MNE supplies	-0.003** (0.001)	-0.004*** (0.001)
Subsidiary R&D	0.183** (0.089)	0.205** (0.091)
Subsidiary dependence HQ R&D	-0.160 (0.101)	-0.151 (0.102)
Subsidiary ownership FDI	0.319* (0.184)	0.428*** (0.149)
Subsidiary size	-0.032 (0.040)	-0.028 (0.040)
HQ greenfield entry mode	-0.112 (0.095)	-0.136 (0.094)
HQ ownership in subsidiary	-0.009*** (0.002)	-0.009*** (0.002)
Industrial sector	-0.181* (0.095)	-0.144 (0.095)
Constant	1.232*** (0.213)	1.179*** (0.217)
Observations	318	310
R2	0.292	0.322
F-value	18.10***	14.20***

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The results we obtained for our control variables were as expected. Many of these results are in line with existing findings, as discussed in our literature review. Table 2

shows that the level of subsidiary autonomy is indeed limited by the level of subsidiary integration. We found strongly significant and negative effects for both indicators related to this rationale (with $\beta = -0.009$, $p < .01$ for subsidiary integration in terms of relative MNE sales and with $\beta = -0.004$, $p < .01$ for relative MNE supplies). We also found a strongly significant and positive effect of subsidiary R&D capabilities confirming the importance of this control variable ($\beta = 0.205$, $p < .01$). The final two significant results account for variations in MNE networks. Headquarters vary in their level of ownership interest in foreign focal subsidiaries that, in turn, have varying degrees of ownership interest in other foreign subsidiaries. We explicitly controlled for these variations in ownership types, expecting that greater headquarters control of subsidiaries would make these headquarters-controlled subsidiaries less dependent, and the reverse where the focal subsidiaries control other foreign subsidiaries. Table 2 confirms these opposite effects on decision-making autonomy. A strongly significant and positive effect is reported for subsidiaries with ownership interests in other subsidiaries ($\beta = 0.428$, $p < .01$). A strongly significant and negative effect is reported for headquarters ownership ($\beta = -0.009$, $p < .01$). In our sample, subsidiary decision-making autonomy is not significantly related to a subsidiary's dependence on headquarters R&D knowledge ($\beta = -0.151$, n.s.), subsidiary size ($\beta = -0.128$, n.s.), an initial greenfield entry mode for headquarters ($\beta = -0.136$, n.s.) and industrial sector ($\beta = -0.144$, n.s.). A non-linear relationship between subsidiary size and subsidiary decision-making autonomy as suggested by recent autonomy studies (Johnston, 2005; Johnston & Menguc, 2007) can also not be identified in our sample: if the squared term and the linear term of size are included in our model, these report non-significant effects while all other effects remain the same.

Our statistical evidence indicates that the agency perspective is most relevant to our setting: when country context distance increases, the decision-making autonomy of a subsidiary decreases at least in terms of economic and geographic distance. The MNEs in our sample respond to distance by increasing control and, in so doing, attempting to reduce information asymmetry and goal incongruence that is to their disadvantage. The question is whether this finding for overall decision-making autonomy also applies to each and every business function for which decision-making autonomy applies. We had a unique opportunity to test this using our multi-level database and in doing so, offer a fine-grained perspective of (i) different dimensions of country context distance on (ii) different dimensions of business functions for which the distribution of decision-making autonomy between headquarters and their foreign subsidiaries in CEE countries is relevant. Table 4 provides these regression results. As explained, the extent of decision-making autonomy for each business function is measured on a four-point scale (ranging from decisions are made 'only by foreign parent', 'mainly by foreign parent', 'mainly by foreign affiliate', to 'only by foreign affiliate'). Following Wooldridge (2002), we used ordered probit estimation methods to estimate the seven

models using a categorically scaled dependent variable. To evaluate whether the models as such are significant, we performed the Wald-test under assumptions of consistency and asymptotic normality. The latter results indicate that our final model fits the data significantly better than a model without any predictors. The tests for multicollinearity and heteroscedasticity also indicate no issues for each of the seven models.

Table 4. The effect of country context distance on decision-making autonomy per business function

	(1) Finance and Investment	(2) Strategic Management	(3) Marketing	(4) Research and innovation	(5) Purchases and supplies	(6) Distribution and sales	(7) Operational Management
Country context distance							
Economic distance	-0.231** (0.091)	-0.246** (0.104)	-0.151 (0.115)	-0.251*** (0.097)	-0.226** (0.112)	0.065 (0.096)	-0.072 (0.091)
Language distance	0.021 (0.066)	-0.002 (0.066)	0.079 (0.064)	-0.060 (0.069)	0.082 (0.068)	-0.052 (0.065)	0.249*** (0.064)
Religious distance	0.067 (0.058)	0.096 (0.064)	0.083 (0.063)	0.140 (0.087)	-0.002 (0.065)	0.079 (0.073)	0.108 (0.083)
Cultural distance	-0.058 (0.071)	-0.075 (0.067)	-0.122* (0.069)	-0.159** (0.068)	0.009 (0.067)	-0.044 (0.066)	-0.046 (0.077)
Geographic distance	-0.241*** (0.066)	-0.255*** (0.074)	-0.233*** (0.070)	-0.150** (0.072)	-0.140* (0.076)	-0.139** (0.070)	-0.138** (0.059)
Controls							
Subsidiary MNE sales	-0.005*** (0.002)	-0.007*** (0.002)	-0.013*** (0.002)	-0.006*** (0.002)	-0.003* (0.002)	-0.019*** (0.002)	-0.004** (0.002)
Subsidiary MNE supplies	-0.003* (0.002)	-0.003 (0.002)	-0.001 (0.002)	-0.006*** (0.002)	-0.008*** (0.002)	-0.001 (0.002)	-0.004* (0.002)
Subsidiary R&D	0.198* (0.118)	0.174 (0.120)	0.110 (0.117)	0.398*** (0.123)	0.204* (0.118)	0.273** (0.125)	-0.118 (0.122)
Subsidiary HQ R&D	-0.209 (0.131)	-0.160 (0.128)	-0.047 (0.132)	-0.375*** (0.134)	-0.111 (0.125)	0.078 (0.135)	-0.088 (0.132)
Subsidiary ownership FDI	0.122 (0.233)	0.063 (0.207)	0.433 (0.304)	0.687* (0.360)	0.044 (0.266)	0.646* (0.338)	0.227 (0.308)
Subsidiary size	-0.020 (0.051)	-0.002 (0.055)	-0.037 (0.056)	0.038 (0.054)	-0.053 (0.054)	-0.139** (0.055)	0.081 (0.052)
HQ greenfield entry mode	-0.238* (0.125)	-0.063 (0.127)	-0.131 (0.128)	-0.092 (0.125)	-0.167 (0.126)	0.104 (0.136)	0.005 (0.132)
HQ subsidiary ownership	-0.013*** (0.003)	-0.010*** (0.003)	-0.005* (0.003)	-0.008*** (0.003)	-0.006** (0.003)	-0.004 (0.003)	-0.009*** (0.003)
Industrial sector	-0.204 (0.132)	-0.075 (0.127)	-0.425*** (0.124)	0.145 (0.132)	-0.139 (0.130)	-0.250* (0.135)	0.121 (0.124)
Observations	360	369	369	347	372	371	374
Pseudo-R2	0.073	0.066	0.111	0.106	0.057	0.188	0.0498
Wald-Chi2	91.29***	75.27***	97.03***	115.50***	57.11***	166.8***	46.13***
Log Likelihood	-435.6	-430.0	-436.2	-411.7	-423.4	-390.3	-395.5

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The estimation results for each of the seven business functions yield four main conclusions. First, agency theory continues to be supported by geographic distance. For this particular dimension of country context distance, subsidiary decision-making autonomy is limited with varying degrees of significance, irrespective of any particular business function. Second, agency theory is also supported by economic distance, albeit that here the effects are not systematically significant per business function. In other words, whether decision-making autonomy is limited when economic country context distance increases depends on the particular business function. This latter limiting effect is found for finance and investment, strategic management, research and innovation, purchases and supplies, but not for marketing, distribution and sales and operational management. This is an interesting finding as it suggests that headquarters and their foreign subsidiaries carefully decide about the distribution of decision-making autonomy when this feature of country context distance emerges. Third, in adopting a fine-grained perspective, we are also able to identify an effect for cultural distance. Again, the agency theory perspective dominates over the business network perspective, given that cultural distance, when significant, reduces decision-making autonomy in terms of marketing ($\beta = -0.122$, $p < .10$) and research and innovation ($\beta = -0.159$, $p < .05$). Finally, a business network perspective does offer added value in understanding the distribution of decision-making autonomy. Table 4 shows that the decision-making autonomy of subsidiaries with respect to operational management increases with language distance ($\beta = 0.249$, $p < .01$). This would appear to make sense given that operational management requires many day-to-day decisions which subsidiary autonomy renders efficient for both headquarters and subsidiaries, and less challenging for headquarters given the relative mundanity of operational issues compared to other more strategic business functions. Taken together, we conclude that country context distance limits the decision-making autonomy of subsidiaries though that this can depend on i) the particular dimension of country context distance and ii) the particular business function to which the autonomy applies.

Robustness analysis

As a test of robustness, we performed several additional analyses. First, we estimated the models using an alternative measure for decision-making autonomy. Recalling that decision-making autonomy was originally measured on a factor score, an alternative measure, we summed the individual scale items for this construct. The resulting aggregated index ranges from a minimum of 7 to a maximum of 28: the higher the score on the index, the greater the extent of a subsidiary's decision-making autonomy. This does not affect the regression results, neither when using OLS estimation techniques nor for negative binomial estimation methods (the latter following a suggestion that scale can be interpreted as a count variable).

Second, we also estimated our model using a Tobit estimation approach, since both measures of the dependent variable (i.e. in terms of (i) factor scores or (ii) a summed scale) are potentially left and right censored, which could affect the results. We found that the corresponding Tobit estimation results do not differ from the OLS estimates in terms of the signs and significance of the estimated parameter coefficients.

Third, we tested for the possibility of non-linear relationships between our variables of interest. Given that the theory predicts opposite signs, a combination of the two could result in a hypothesized decreasing or increasing marginal return of country context distance to subsidiary decision-making autonomy. The estimation results for this robustness test do not indicate any statistically significant non-linear relationships between decision-making autonomy and any of the country context distance measures. Fourth, we also tested whether or not our results remain robust after the inclusion of host country controls. The estimation results for this robustness test report unchanged values for the estimated parameter coefficients, indicating that our main results are not affected by unobserved host country heterogeneity.

Fifth, in our model we do not take time zone differences and colonial ties between home and host countries into account because (i) time zone difference and geographic distance in our sample are highly correlated ($r = 0.92$, $p < 0.01$), and (ii) Central and Eastern European countries have no or very few colonial ties. As an alternative, we estimated models with two other frequently used measures concerning the relationships between two countries: (i) whether or not a bilateral investment treaty between a home and a host country was in force at the time of entry to the CEE country by the foreign investor (based on UNCTAD classifications), and (ii) whether the home country was one of the 27 European Union member countries at the time of entry. Given that all the host countries are European countries, these additional variables control for the potential effect of coming from another member of the European Union has on facilitating the MNE's investment. The robustness tests show that these effects are not significant while all other results hold.

Sixth, our model includes various headquarters characteristics. Notwithstanding the added value of our data, we were unable to control for specific headquarters senior management team characteristics, which is an acknowledged limitation of this study offering opportunities for future research. However, in a robustness test we were able to measure other headquarters characteristics that measure international experience in general and for our European transition economies in particular. Heterogeneity in international experience is potentially important for the distribution of decision-making autonomy. Based on ORBIS, we constructed three new variables to measure this: i) the international experience of the headquarters (measured by the natural logarithm of the total number of other foreign affiliates worldwide per

relevant foreign affiliate investor), ii) the experience of the headquarters in the host country (measured by the natural logarithm of the number of other foreign affiliates within the respective host country per relevant foreign affiliate investor), and iii) the experience of the headquarters in other European transition economies (measured by the natural logarithm of the number of other foreign affiliates within other CEE transition economies per relevant foreign affiliate investor). The robustness tests show that these effects are not significant while all other results hold.

6.5 Discussion and conclusions

Contributions to IB research and implications

This study investigates the relationship between country context distance and subsidiary decision-making autonomy. In the context of CEE countries, we find support for the contention that greater country context distance limits subsidiary decision-making autonomy. We elaborate on our main conclusion and our main findings below. First, this study develops our understanding of the differences between home and host countries and how this matters for MNE strategy and behaviour (Verbeke, 2010). This topic is important because geographic expansion is one of the most important strategies for MNEs growth in the modern world economy. Entering new markets enables firms to increase their production volumes and business outcomes (Slangen & Beugelsdijk, 2010). Taking advantages of international markets enables MNEs to optimize their country-specific asset profiles. We have highlighted that MNEs increasingly use and adapt firm-specific assets available from foreign subsidiaries (Rabbiosi, 2011). We argued that the role of foreign subsidiaries changes from enabling access to cheap labour and production processes to knowledge centres and innovation partners (Birkinshaw & Hood, 1998; Gammelgaard et al., 2012a, 2012b). Notwithstanding the potential important opportunities that an expansion of a company's activities into new geographic markets offer, and the resulting innovation alliances with foreign subsidiaries which might be forthcoming, we suggested that such strategies also align with disadvantages and breakdown risks. These are reflected in the IB literature in terms of the liabilities of foreignness and of newness (Hymer, 1976). MNEs constantly assess and readjust their portfolios of countries and foreign subsidiaries. The production and management of their value-adding chains is a dynamic process and one in which the interrelatedness between headquarters and subsidiaries increasingly becomes important in order to meet the increasing demands faced by headquarters to design and introduce new products and services in their markets. For these reasons, we argued that MNEs can be reflected as constellations of intra-firm alliances in which the coordination and control of all activities remain crucially important (Ciabuschi et al., 2011). We conceptualize MNEs as a network of globalizing relationships enabling them to draw on the benefits of international intra-firm links, such as improved performance or access to new or less costly intermediate inputs.

We have extended the IB literature by disentangling valid theoretical arguments, empirically identifying distinct dimensions of country context distance and reporting their effects on subsidiary decision-making autonomy in the context of CEE countries. Second, this study adds meaningfully to the existing body of research on subsidiary decision-making autonomy (e.g. Gammelgaard et al., 2012a). As noted earlier, given the increased importance of subsidiary activities for headquarters performance, the question of how much decision-making autonomy subsidiaries have has become a key issue. Heterogeneity in concepts, definitions, research settings and methods restricts a comparison of our research to existing subsidiary studies. We build on the subsidiary literature that highlights the importance of decision-making autonomy in the relationship between headquarters and foreign affiliates (Gammelgaard et al., 2012a, b; Johnston & Menguc, 2007; O'Donnell, 2000; Rabbiosi, 2011). Research on subsidiary decision-making autonomy has focused on MNE and subsidiary characteristics (Fenton-O'Creevy, Gooderham & Nordhaug, 2008; Schöler-Zhou & Schöler, 2013), industry peculiarities (Birkinshaw & Hood, 2000) and the embeddedness of the subsidiary in the host country (Ambos, Asakawa, & Ambos, 2011; Chiao & Ying, 2013). Our study complements this domain by showing that distance between home and host country contexts is another essential yet largely overlooked determinant of decision-making autonomy.

Third, we supplement the distance literature, which suggests different concepts for identifying and measuring geographic and other barriers for MNE performance and behaviour (Ambos & Håkanson, 2014; Brewer, 2007; Dow & Karunaratna, 2006; Evans, Mavondo, & Bridson, 2008; Nordstrom & Vahlne, 1994; O'Grady & Lane, 1996). Existing research has analyzed the role of distance in the selection of foreign markets and location choices (Berry, Guillen, & Zhou, 2010; Stottinger & Schlegelmilch, 1998; Whitelock & Jobber, 2004), entry strategies (Ellis, 2008) and MNE and subsidiary performance (Dikova, 2009; Evans & Mavondo, 2002; O'Grady & Lane, 1996). We contribute to this literature by showing how country context distance also matters for one of the key features of successful MNE organization, namely the distribution of decision-making autonomy between headquarters and subsidiaries.

Fourth, we add to the IB literature by offering new theoretical foundations. Our study is among the first to intertwine the theoretical perspectives bridging country context distance with subsidiary research and to further advance our knowledge by testing two key hypotheses which result from our interdisciplinary perspective. Agency theory suggests that great distance between home and host countries is likely to increase agency problems in headquarters-subsidiary relationships, and therefore increase the control of headquarters exerts over subsidiaries. Business network theory offers an alternative perspective, since it can be argued that headquarters delegate much decision-making autonomy to their distant foreign affiliates, enabling them to adapt

to local circumstances by building local networks with different stakeholders and as such, become a legally embedded and legitimate strategic partner. The need to do so is less acute for foreign subsidiaries in host country contexts similar to the home country. Accordingly, in theory, we showed that the arguments go both ways, leading us to predict ex-ante both a positive and a negative association between country context distance and subsidiary decision-making autonomy.

Fifth, our empirical setting offers novel contributions to existing subsidiary and country context research. We designed and used a unique database with firm-level information on subsidiary autonomy based on a carefully designed questionnaire and a data collection strategy in five of the most prominent EU accession countries in the Central and Eastern European region – the Czech Republic, Hungary, Poland, Romania and the Slovak Republic. These countries are in a transition from being centralized government-owned economies to market-based nation states. As a result, a new class of entrepreneur has established business activities, often in collaboration with foreign multinationals. European transition economies offer an interesting research setting to test our hypotheses: they are characterized by an environment of economic and institutional change associated with significant risks (Meyer & Peng, 2005; Peng, 2000). Foreign investors who use local foreign affiliates from this region as export platforms or as knowledge suppliers within their own vertical production network can have great advantages over those who do not, but also face substantial risks related to securing and enforcing contractual obligations such as timely deliveries and quality standards (Filatotchev et al., 2008). MNEs entering these CEE countries have their headquarters and main operations in advanced economies, making country context distance a prominent factor for decisions about independence, which is all the more so because such market entry strategies often involve substantial investments, contributing to a need for above-average performance for CEE based subsidiaries. Our study builds on CEE studies (Meyer & Peng, 2005) and presents a unique database that further develops our understanding of MNE organization. The design of this database builds on empirical achievements in the IB literature relevant for our research aim and question. The country-level information predominantly derives from the Dow & Karunaratna (2006) and Hofstede (2001) databases. The former offers us the opportunity to assess and combine distance features such as differences in language, religion and economic development and the latter, cultural differences. What is new here is the combination of data sources in one multi-level database. The combination of firm-level survey-based data with country-level distance measures from different sources minimized the bias from common method variance (Chang et al., 2010). In line with Podsakoff et al. (2003), we collected measures for the independent and independent variables from different sources and as such, ex ante minimized any potential common method bias.

Sixth, our empirical efforts lend support to recent perspectives that country context distance is a multi-dimensional concept (Håkanson & Ambos, 2011; Prime et al., 2009). Rather than adopting a unidimensional perspective such as cultural distance alone, we include various different distance features in our empirical assessment of our focal causal relationship. Such a multidimensional contextual perspective is valuable because any single-unit context perspective could overlook other potentially important explanatory contextual factors for our research question. This study further develops our understanding of the characteristics of country context distance. Factor analysis of seven potential country context distance aspects revealed five distinct dimensions: economic, language, religious, cultural and geographic distance. By including all of the original factors we were able to identify these characteristics as separate dimensions of country context distance in our research setting. This enriches our understanding of country context distance and its effects on subsidiary decision-making autonomy.

Seventh, our empirical results help solving the dilemma between the opposite theoretical hypotheses concerning country context distance and the division of decision-making autonomy. Our empirical study lends support to subsidiary research that has indicated that some MNE affiliates have great decision-making autonomy whereas others are under strict control by the headquarters (Cantwell & Mudambi, 2005). Following this fact, the current paper demonstrates empirically that particular dimensions of country context distance do indeed matter to the amount of formal control imposed upon affiliates. From our results we conclude that country context distance limits decision-making autonomy, at least in terms of economic and geographic distance (with economic distance consolidating distance in terms of education, industrial development and political systems). As noted earlier, subsidiary research identified various underlying mechanisms determining the level of subsidiary decision-making autonomy. What is new here is that we demonstrate empirically that country context distance also matters for the distribution of decision-making autonomy.

Eight, we also make an important contribution by disentangling decision-making autonomy for seven distinct business functions: finance and investment, strategic management, marketing, research and innovation, purchases and supplies, distribution and sales, and operational management. Ours is among the first to offer such a finegrained perspective for subsidiary decision-making autonomy. Our empirical achievements here show that our main conclusion largely holds when analysing decision-making autonomy for the particular business functions: the greater the distance, the lower the decision-making autonomy. Our study at business function level also reports interesting results because it shows that particular dimensions of country context distance affect particular business functions more strongly than others, including the notable exception of a positive effect for language distance

on operational management. Economic distance materializes in lower autonomy for finance and investment, strategic, research and innovation, and purchases and supplies decisions. This is complemented with the findings for geographic distance that limits autonomy for all business functions and for cultural distance that limits subsidiary autonomy for marketing and research and innovation decision-making autonomy. Our study provides evidence that the impact of distance on subsidiary decision-making of foreign affiliates differs depending on the business function in question. Similar findings have been reported elsewhere. Berry et al. (2010), for example, find opposing effects of political and demographic distance on the location for affiliates in manufacturing and distribution. There is also evidence that geographic distance has a weaker impact on the location of R&D compared to manufacturing activities (Castellani, Jiminez, & Zanfei, 2013). The in-depth and new functional approach to study decision-making in MNEs presented here therefore seems promising.

These findings offer some important implications for subsidiary and headquarters managers. Our in-depth analysis helps subsidiary and headquarters managers in designing strategies to obtain the optimal level of subsidiary decision-making autonomy that best fosters subsidiary performance, and thus enhances the MNEs competitive advantages. Subsidiary managers may have an incentive to decentralize decision-making as this increases their absolute and relative power within the MNE network. However, headquarters managers may have the opposite incentive. The risk is that MNEs will end up with medium levels of decision-making autonomy as an attempt to satisfy both groups of managers potentially contributing to ambiguous roles of subsidiaries. To reduce the potential tension between headquarters and subsidiary managers both need to be aware of the fundamental underlying causal mechanisms that influence the distribution of decision-making autonomy. The insights generated in this research help to increase this understanding: it helps managers to design appropriate governance structures and strategies, which reduce the autonomy-control tension inherent in many relationships between headquarters and subsidiaries. Our empirical results clearly show that the level of decision-making autonomy may be different depending on the distance between home and host countries. A subsidiary with larger economic and geographic distance from the headquarters country has a lower level of decision-making autonomy for the purpose of reducing information asymmetry between headquarters and subsidiaries. Our study also shows that this distance effect varies per particular business function enabling managers to review their case for each of these. At a short notice, changing geographical distances between headquarters and subsidiaries may perhaps not be viable because this requires a relocation of business (albeit that this aligns with the recent trends of insourcing implying that headquarters return parts of the added value chains originally outsourced to foreign subsidiaries to their home country basis). The economic distance dimension can be dealt with by managers with enhanced knowledge, experience and learning (Sousa &

Bradley, 2008).

Limitations of this study

We would like to mention a number of limitations which offer opportunities for future research. First, the use of cross-sectional data from firms in CEE countries limits the generalizability of our results. Although our data circumvents common method variance and enables the attainment of good insights into the role of distance in driving the decision-making autonomy of foreign subsidiaries, it remains cross-sectional in nature and therefore inhibits a causal analysis of the processes that determine the outcomes observed. A firm-level panel dataset would offer the opportunity to address this limitation. New data from a similar set of companies would enable testing whether country context distance has an impact on autonomy over time. Our assessment relies on the questionnaire-based personal judgements of one respondent per company. Although management research like ours often obtains reliable information from single respondents, biases can arise owing to a person's vested interests. Future research could incorporate information from multiple subsidiary respondents and from headquarters management. The latter enables the verification of differences in decision-making autonomy and whether headquarters managers respond differently to distance issues than subsidiary management.

Second, despite the unique nature of our database and the inclusion of important distance measures, the number of available observations requires that we nonetheless estimate parsimonious models. For example, data limitations hampered an opportunity to study the impact of each of the six Hofstede dimensions that we used to construct the measure for cultural distance using the Kogut and Singh approach. New data would enable additional tests of robustness to analyse if and to what extent distance in terms of, for example, long-term orientation or uncertainty avoidance has similar relationships with the distribution of decision-making autonomy than reported for the overall Kogut & Singh measurement. In a similar vein, it would be worthwhile to study whether, and if so, how, within country variations matter for the distribution of decision-making autonomy. Following recent methodological innovations (Beugelsdijk & Mudambi, 2013; Goerzen, Rasmussen & Nielsen, 2013), future research could construct variance-based measures for those applied in this study and, in doing so, offer an opportunity to test whether the distribution of decision-making autonomy responds differently to mean-based or variance-based measures. Furthermore, the types of activity performed by a subsidiary – for example design, marketing or production activities – could also be affected to different extents, as some are more reliant on tacit knowledge and information (Gereffi, Humphrey, & Sturgeon, 2005) and therefore more subject to the impediments or enrichments that cultural distances can produce.

Third, the CEE region offers a natural laboratory to test our propositions. The countries differ in market structures, state ideologies, institutional frameworks and entrepreneurial vividness. Nonetheless, a logical subsequent step would be to test our model in other regions and, in so doing, determine whether the role of contextual distance for MNE organization is similar. New data from MNEs operating subsidiaries in, for example, Asian countries would allow testing of the general validity of our findings in other regions.

Finally, although this study includes a number of parent firm characteristics (including measures that address heterogeneity in international experience, as reported in the robustness tests) other potentially important firm and/or individual level data which allows us to understand how national objective factors will impact differently on firms' strategies needs to be included. For example, Smith, Dowling and Rose (2011) provide a framework which considers differences across firms, even when they face the same national-level factors and have the same information about a foreign market at their disposal. This is because, at the individual level, managers will receive stimuli differently and they will react to them according to their personal histories and characteristics, so that in the end, their firms' international strategies may develop in dissimilar ways. The personal relationships between managers in an MNE network form a central determinant of success, both within the firm and in its external interactions (Conklin, 2011). Long-standing interpersonal relationships and trust between managerial levels in an organization could also facilitate the renegotiation of contracts. These aspects are likely to trigger different responses in internationalization strategy, including decisions about the control and decision-making autonomy of foreign affiliates.

Conclusion

In this study, we identified a major gap in the existing international business literature regarding the understanding of subsidiary decision-making autonomy. The level and speed of inter-country convergence due to the increasing globalization or internationalization of for-profit and government activities are subject to a debate which leaves the conclusion that there are inter-contextual differences in home and host countries largely unchanged. Such differences do exist and still matter in the strategy and structure of MNEs. What is new here is that we have studied whether, and if so, how, country context distance also matters for the distribution of decision-making autonomy. As such, we argue for an interdisciplinary, refined and multi-level perspective. By combining subsidiary and distance literature, we contributed to closing the existing research gap. We theoretically advanced the IB literature presenting new hypotheses from two valid but opposing theoretical frameworks: agency theory and business network theory. In our particular research setting of Central and Eastern European countries, the empirical results help solving the dilemma between

the opposite theoretical hypotheses concerning country context distance and the division of decision-making autonomy. Country context distance negatively affects overall subsidiary decision-making autonomy. With a notable exception, this finding is supported when the multifaceted nature of both concepts is accounted for. We find evidence for our main effects while controlling for a large number of parent company, affiliate, industry and country characteristics. The results are robust with respect to alternative control variables, measurements and estimation techniques, which builds confidence in our main conclusions. With the limitations acknowledged, we are confident that this study makes an important contribution to IB research by explaining how the relations with various dimensions of country context distance and various dimensions of subsidiary decision-making autonomy varies.

Appendix A.

We use the Dow and Karunaratha (D&K) (2006) database for a subset of our country distance measures following among others Avloniti & Filippaios (2014) who argued that the D&K indicators are among the most consistent of all country-distance measures. The D&K database presents various drivers of 'psychic distance'. The drivers of psychic distance have value in themselves and are a solution to the lack of data for perceptual measures of distance (Avloniti & Filippaios, 2014). The D&K measures of distance comprise macro-level factors identified by other distance researchers (Boyacigiller, 1990; Evans et al., 2000; Evans & Mavondo, 2002; Johanson & Vahlne, 1997). A major language for a given country is defined by D&K as any language spoken by more than 20 percent of the population, or a language that holds a special official status within the country. The D&K value for language distance in our sample varies between -3.38 and 0.52, with low values indicating a little linguistic distance and high values indicating great linguistic distances between home and host countries.

The second dimension concerns differences in the major religions between home and host countries. A major religion is defined by D&K as any religion to which more than 20 percent of the population claims affiliation. Furthermore, within a major religion, only divisions that represent at least one quarter of that religion's adherents are considered relevant. The D&K value for religious distance in our sample varies between -1.29 and 1.27, with low values indicating little religious distance between countries and high values indicating great religious distance between home and host countries.

The third dimension concerns differences in the educational level between home and host countries. Differences in the educational levels between countries in the D&K database are measured using three scales, i.e. the difference in the proportion of literate adults between home and host countries, and the differences in the proportions of the populations enrolled in secondary- and tertiary-level education. The D&K value

for educational distance in our sample varies between -1.25 and 2.25, with low values indicating little educational distance between home and host countries and high values indicating great educational distance between home and host countries.

The fourth dimension concerns differences in industrial development between home and host countries. This dimension in the D&K database is measured by differences in the degree of industrial development between home and host countries through nine different aspects: GDP per capita, the consumption of energy, vehicle ownership, the percentage of employment in agriculture, the percentage of GDP from manufacturing, the difference in the degree of urbanization and differences in communication infrastructure development (numbers of newspapers, radios, telephones and televisions per 1,000 population). The D&K value for industrial development distance in our sample varies between -1.78 and 1.78, with low values indicating little industrial development distance between home and host countries and high values indicating great industrial development distance between home and host countries.

The fifth component concerns differences in the political system between home and host countries. In the D&K database, two distinct aspects measure the difference in the political systems between home and host countries: the degree of democracy and the political ideology of the group in power. The D&K value for political system distance in our sample varies between -0.50 and 2.04, with low values indicating little political system distance between home and host countries and high values indicating great political system distance between home and host countries.

Notes

1 This is similar to the concept of psychic distance (Avloniti & Filippaios, 2014). Psychic distance refers to perceptions of managers and was originally defined as ‘the sum of factors’ contributing to perceived differences in home and host country contexts following ‘differences in language, culture, political systems, level of education, level of industrial development, etc.’ (Johanson & Wiedersheim-Paul, 1975: 308). The concept emphasizes the extent to which environmental differences between home and host countries present information flows and generate barriers to learning about these markets (Dikova, 2009; O’Grady & Lane, 1996). The greater the psychic distance between home and host countries, the more difficult it is to collect, analyze and correctly interpret information about these differences (Håkanson & Ambos, 2010). For that reason, firms tend to select overseas markets in accordance with the psychic distance from the home country; a lower psychic distance means that a country is more likely to be selected, and vice versa. In a similar vein, Sousa and Bradley (2008) argue that psychic distance incorporates elements of cultural distance. Dow and Karunarathna (2006) also stress the importance of cultural distance in psychic distance following empirical evidence that higher cultural distance leads to higher levels of psychic distance. This choice aligns with Avloniti and Filippaios (2014) who highlight the differences in country context distance measures but also show that the Dow and Karunarathna’s psychic distance stimuli measures are among the most consistent. They conclude that this is important for the debates involving the distinctions between cultural distance and psychic distance measures by indicating that even though both concepts are distinct, they can provide consistent and reliable findings for the diversity among different countries. They also recommend that a combination of psychic distance and cultural distance measures is used because this enables capturing a wider and more complete interpretation of the effect of national diversity on MNEs (Drogendijk & Martín Martín, 2105). Following Dow and Larimo (2009) they conclude that ‘the psychic distance stimuli is not a substitute of cultural distance or vice versa, but rather both conceptualizations are helpful in determining the intricate effect of culture on various activities and fractions of a MNE’ (2009: 673). This is precisely what we do in our work.

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