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# 1. Longitudinal research in organizations: an introduction

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## SETTING THE STAGE FOR LONGITUDINAL RESEARCH IN ORGANIZATIONS

Researchers have attempted to grasp and understand processes, mechanisms, dynamics, causalities, life cycles, future prognoses, sequences, chains and orders of events, actions and activities, functioning logics, antecedents and consequences, the meaning of time, changes, shifts, evolutions and developments, periods, stages and phases, episodes, epochs and eras and numerous other topics, in business economics as well as other disciplines, for decades (e.g. Poole et al. 2000; Pettigrew et al. 2001). Some phenomena are only detectable through a longitudinal research design. Among the first authors to address the need for studying phenomena over time was N.D. Kondratieff in 1925:

The reasons for this attitude are to be found first in the nature itself of economic phenomena, which are always changing, perpetually in a state of flux. As a result, the static conception, however perfect in itself, is unable to give a complete explanation of economic realities and to satisfy our craving for their scientific analysis and understanding. In addition, with the general rise in the level of culture and technique, the pace of economic development tends to increase, and the changes acquire a growing importance. (Kondratieff 1925, p. 575)

Nearly 90 years later, his call is still relevant and has been resonated by numerous researchers ever since (Welch and Paavilainen-Mäntymäki 2013). As the speed of change and development is ever increasing, research contexts and phenomena are far from static, and there is a growing need for researchers to adopt more complex and dynamic research approaches to capture the reality they observe (see Van de Ven 1992; Ruspini 2002).

In recent times, longitudinal research has increasingly gained both academic and managerial interest. Although research methods are first and foremost researchers' tools, helping them to collect information and solve practical problems, practitioners have also begun to see their relevance in aiding organizational, managerial and strategic decision

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making. If we take a brief look at the field, just as Kondratieff remarked in 1925, economic development, and business information needs in particular, have accelerated tremendously. Side by side with this accelerated pace is constant change. Foreseeing the future, and anticipating and estimating upcoming events, have for years been the tools for gaining advantage for many firms, ranging from industrial manufacturing to consumer marketing to business-to-business consulting. However, these business intelligence activities are often only usable for a fleeting moment, due to constant, unpredictable moves in the markets (see e.g. Pettigrew 1990, p.270; Wright and Calof 2006). These activities also often rely on past knowledge, which is the only type of knowledge both researchers and practitioners alike possess, to make prognoses of the future (e.g. Van de Ven and Sminia 2012). It is indisputable that certain events and sequences reoccur periodically, such as large-scale economic fluctuations with upturns and crises, but their timing, explanation and detailed content often remain unknown, and it is most often exactly this timing, explanation and detailed content that researchers and practitioners need to know in order to foretell, let alone understand, future events (e.g. Van de Ven and Sminia 2012). Here, longitudinal methods could help to obtain holistic, dynamic and multifaceted information about topics in business economics. There is a need to understand change and development, as well as to study phenomena in their contexts (see Pettigrew 1990; Van de Ven 1992).

Longitudinal research is not a new topic and researchers have been publishing widely on the topic since the 1970s (e.g. Kimberly 1976; Goldstein 1979; Miller and Friesen 1982; Abbott 1983; Leonard-Barton 1990; Pettigrew 1990; Taris 2000; Menard 1991, 2008). Despite the extensive literature in this field, it is however still surrounded by numerous unanswered questions and a myriad of concepts and approaches covering scattered bits and pieces of the whole. For example, there are quite a few books covering longitudinal quantitative research methods (e.g. Goldstein 1979; Little et al. 2000; Taris 2000; Singer and Willett 2003) but there is far less literature on qualitative or mixed-method research methods (e.g. Leonard-Barton 1990; Pettigrew 1990; Van de Ven and Poole 1990; Van de Ven 1992) and even fewer publications approaching longitudinal research methods as an umbrella encompassing both qualitative and quantitative methods (e.g. Miller and Friesen 1982; Menard 2008). Many research approaches, such as the case study approach (see e.g. Mills et al. 2010) and process research (see e.g. Schultz et al. 2012), have already been addressed and documented rather comprehensively, whereas there have been few strong attempts to grasp the longitudinal research approach in a more systematic and holistic manner.

Many authors in the field of business research have called for more longitudinal research to cover temporal and even processual phenomena, but many refrain from actually going about it, and settle instead for mainly presenting the suggestion in the implications of their research (see e.g. Blazejewski 2011; Welch and Paavilainen-Mäntymäki 2013). Dedicating this book to longitudinal research methods in organizational studies addresses the call for dynamic research, partakes in the current wave of interest in longitudinal research – let us call it ‘the longitudinal turn’ – sheds light on the variety of research approaches under the longitudinal umbrella, discusses the practical applications, experiences and reflections of researchers employing longitudinal and process methods, as well as the central role of the methods in the organizational research tradition in terms of theory development and knowledge accumulation within the social sciences, and poses further questions to advance the approach.

Compared to other books on longitudinal research published so far, this handbook is the first to particularly accentuate and bring to the foreground researchers’ own experiences and reflections on designing, conducting, managing and studying longitudinal research. The book aims to provide readers – experienced academics and new researchers alike – with accounts on how longitudinal research has been conducted, what these undertakings have taught to their authors, what should be avoided and what preferred and why, what words of advice the authors can share with others, and why longitudinal research seems to be so tortuous that many hesitate to set about doing it. The book takes a broader methodological approach, encompassing research methods such as autoethnography (see Eriksson, Chapter 6) and narratives (see Paavilainen-Mäntymäki and Aarikka-Stenroos, Chapter 7). It also discusses questions in and around longitudinal research, and addresses conceptual and design dilemmas.

## WHAT IS LONGITUDINAL RESEARCH?

Different approaches to collecting and analysing qualitative and quantitative longitudinal data have been discussed and presented in methodological theorizing so far (e.g. Goldstein 1979; Miller and Friesen 1982; Pettigrew 1990; Leonard-Barton 1990; Van de Ven and Huber 1990; Menard 1991; Van de Ven 1992; Taris 2000; Little et al. 2000; Hunt and Ropo 2003; Singer and Willett 2003; Rindfleisch et al. 2008). However, the literature on the longitudinal research methodology still seems to be very divided between two paradigms, qualitative and quantitative research, and the questions related to longitudinal research settings, rhetoric and conceptualizations at a more general level have received less attention.

There are still many unresolved questions in the field of longitudinal research methods, such as, 'What is a truly longitudinal piece of research?', 'How long is enough in a longitudinal study?' and 'What differentiates longitudinal and process research?'

Longitudinal studies have been conceptualized in several ways, and the research designs encompass a number of different types of studies (e.g. Miller and Friesen 1982; Menard 1991; Pettigrew 1990; Leonard-Barton 1990; Van de Ven 1992; Dawson 1997; Langley 1999; Taris 2000; Menard 2008; Schultz et al. 2012; Van de Ven and Sminia 2012). Defining the longitudinal research approach is a challenging task, as the existing literature demonstrates a wide variety of applications. According to Kimberly (1976), longitudinal research can be defined as 'those techniques, methodologies and activities, which permit the observation, description and/or classification of organisational phenomena in such a way that process can be identified and empirically documented' (see also Miller and Friesen 1982). While this definition is quite broad and unspecified, Goldstein (1979) offers a much stricter conceptualization. According to Goldstein (1979), longitudinal studies are, in the broadest sense, pieces of research where data are collected from the informants at two or more points in time, and in the narrowest sense, pieces of research where research objects are measured on more than one occasion. Menard (2008) provides a simple conceptualization: 'In longitudinal research, data are collected on one or more variables for two or more time periods, thus allowing at least measurement of change and possibly explanation of change' (Menard 2008, p. 3).

It has been argued that, although longitudinal research designs can take on very different forms, the key denominator is that the data describe what happened to the research units across a series of time points (Taris 2000, p. 1). The most commonly used longitudinal research designs are repeated cross-sectional studies (trend), prospective longitudinal studies (panel) and retrospective longitudinal studies (event history or duration data) (e.g. Menard 1991; Ruspini 2002). While a repeated cross-sectional study is carried out regularly, each time using a largely different sample or a completely new one, a prospective longitudinal study is based on repeated data collection from the same subjects over a period of time. Finally, in a retrospective study, the interviewees are asked to remember, and reconstruct, events and aspects of their own life-course (Ruspini 2002, p. 3). Many other designs can be defined as longitudinal. For example, Taris (2000) identifies seven basic design strategies, such as the simultaneous cross-sectional study (data collected to describe change across age groups), the trend study (repeated cross-sectional studies), time series analysis (repeated measurements from the same set of participants), and

the intervention study (e.g. pre-test, post-test, control group). Menard (2008, pp. 4–7), on the other hand, describes four basic designs for longitudinal research: total population design (e.g. census data), repeated cross-sectional design (sample different every time), revolving panel design (some subjects are replaced during the study) and panel design (same sample throughout the research).

There has been a lot of discussion of what type of research can be considered ‘truly’ longitudinal (see Menard 1991; Taris 2000; Ruspini 2002). While longitudinal research can be defined broadly or in a narrower manner (e.g. Goldstein 1979; Taris 2000), and it can cover a wide variety of methods and approaches, it has been argued that researchers appear to neglect the requirements of longitudinal analysis (see Bergh and Holbein 1997). A minimum requirement for any truly longitudinal research design is that it should permit the measurement of differences or changes in a variable from one period to another, and in stricter terms, that data should be collected for each unit of analysis in two or more distinct time periods (see Menard 1991).

A clear indicator of longitudinal research is its sharp distinction from cross-sectional research (see Goldstein 1979; Menard 1991, 2008; Taris 2000). Longitudinal data presents information about what happened to a set of research units during a series of time periods, whereas cross-sectional data refer to the situation on one occasion or at only one point in time (Goldstein 1979, p. 1; Taris 2000, p. 1). While truly longitudinal research permits the observation of differences or changes in a phenomenon over time, in pure cross-sectional research, the observation occurs once for each individual, subject, country or case in the study. Furthermore, in longitudinal research, the temporal ordering of a relationship may be argued with more certitude than in cross-sectional studies (Menard 1991, 2008), as the data and methods allow for temporal examination.

It has to be noted that drawing a sharp line between longitudinal research and cross-sectional research is not, however, uncomplicated. In so-called ‘pure’ longitudinal studies, every individual should be systematically observed on every single occasion, a technique that generates panel data (Goldstein 1979, p. 2). In studies where measurements of different variables are taken, and each variable is measured only once for each case, or the respondents or interviewees change each time data are collected over time, the data cannot be applied in the simplest form of true longitudinal analysis. These studies may be defined as time-ordered cross-sectional design or mixed studies (Goldstein 1979, p. 2; Menard 1991, pp. 22–23; Menard 2008, p. 3).

In sum, longitudinal research is seen to be applicable in research focusing on change, development or process (see Kimberly 1976; Leonard-Barton

1990; Pettigrew 1990; Menard 1991; Van de Ven 1992; Bergh and Holbein 1997; Menard 2008). This is, at the same time, the most important characteristic differentiating it from cross-sectional studies. In a typical longitudinal study, the participants are asked to provide information on a number of variables (e.g. attitudes, behaviours) on a number of separate occasions in time (e.g. Taris 2000; Ruspini 2002). It has been suggested that, instead of trying to define a truly longitudinal research design at a general level (which might lead to a narrow definition that is not applicable in all fields of research), there is a need to define longitudinal research within the context of each specific discipline. Thus, while there is a lack of a generally accepted definition of a longitudinal study, regarding for example the bracketing of the research phenomenon, the timing of the data collection or how long data have to be collected for, this book attempts to tackle these issues specifically in the context of organizational studies. The next section will discuss in more depth the temporal aspect of longitudinal research.

## THE TEMPORAL ASPECT OF LONGITUDINAL RESEARCH DESIGNS

Time has received a great deal of attention in the methodology literature (see e.g. Bluedorn and Denhardt 1988; Hassard 1991; Halinen 1998; Heejin and Liebenau 1999; Zaheer et al. 1999; Avital 2000; George and Jones 2000; Ancona et al. 2001; Halinen et al. 2012). Time represents an essential factor in longitudinal research. It is the main differentiating factor between cross-sectional and longitudinal research. However, the meaning of time and its implications for theory building and methodology are seldom defined (see Halinen and Törnroos 1995; Halinen 1998; Avital 2000). In the field of process research and organizational change, the role of theories has been well acknowledged. For example, Van de Ven (1992) and Van de Ven and Poole (1995) introduce four basic theories that may serve as building blocks for explaining processes of change in organizations, namely life cycle, teleology, dialectics and evolution. There is a gap in longitudinal research, more generally, in terms of discussing the interplay and fit between dynamic versus static theories, and dynamic research design.

Although researchers acknowledge the importance of time in social action analysis, the temporal aspects are often ignored and rarely incorporated as primary factors, and the epistemological and ontological barriers are ignored (Avital 2000, p. 672). George and Jones (2000) propose six interrelated time dimensions that have important implications for

theorizing in micro- and macro-organizational behaviour: (1) the past, future and present, and the subjective experience of time; (2) time aggregations; (3) the duration of steady states and rates of change; (4) incremental versus discontinuous change; (5) frequencies, rhythms and cycles; and (6) spirals and intensity (George and Jones 2000, p. 659). According to Zaheer et al. (1999), time scales refer to the size of temporal intervals used to build or test a theory about a longitudinal phenomenon. Five types of time scales can be identified: existence, observation, recording, aggregating and validity intervals. The existence interval is related to the phenomenon under scrutiny. The observation, recording and aggregating intervals are related to the nature of the researcher's engagement with the phenomena. Finally, the validity interval defines the time scale over which relationships based on theory are said to hold (Zaheer et al. 1999, pp. 725–727).

On the other hand, Halinen (1998) proposes a framework of time in the overall research design. The framework of time in a research design comprises four domains. The 'philosophical domain' relates to the underlying assumptions researchers make about time in their studies (ontological questions). The 'conceptual domain' relates to the definition of the focal temporal phenomenon and the process theory applied. The third domain is the 'methodological domain', where the researcher has to decide upon the method of inquiry that best captures the temporal phenomenon under study. Finally, the 'substantive domain' refers to the specification of reality. The validity of the research process implies consistency between all four of these domains, that is, decisions in each research domain should fit together (Halinen 1998, pp. 114–115). The framework of time, the time dimensions and scales are all useful when planning longitudinal field research but are also necessary when building or testing a theory. In a truly longitudinal research design, time and temporality should be incorporated into all of the above-mentioned domains.

From a methodological perspective, time and timing are challenging when it comes to deciding when to enter the field and how to bracket the phenomenon. Studying an entire phenomenon thoroughly in real time is rather challenging, as the researcher is usually an outsider to the phenomenon, and thus does not have exact knowledge about the timing of when the research phenomenon might take place. While retrospective studies represent benefits such as ease and access, they have many challenges in terms of retrospective bias. It has been suggested that longitudinal phenomena should be studied by combining both real-time and retrospective perspectives (see Van de Ven 1992). Regarding the researcher's role in longitudinal studies, in retrospective studies the researcher has the power and control over the research phenomenon, in that they can select the boundaries for the duration of the study and the brackets of the topic. In real-time

studies, meanwhile, the researcher is a servant, taking what is available and filling the gaps with data and source triangulation (Jick 1979).

For how long should data be collected in order for a study to be defined as longitudinal? In her review of longitudinal case studies published in the *Journal of International Business Studies* over 2003–2007, Blazejewski (2011, p. 384)<sup>1</sup> found that the length of the studies labelled as longitudinal varied from a few months (an ethnographic field study) to over two decades (a larger research project including real-time and retrospective data). In a review of longitudinal studies in four key international business journals over 2000–2005 (Raukko and Paavilainen-Mäntymäki 2009),<sup>2</sup> the length of the longitudinal studies varied from seven days (real-time observation of stock trading during a policy change) to 130 years (secondary data on the evolution of strategy and scope in four case firms). These examples provide a broad range of temporal options; longitudinal research can vary from a few hours of laboratory experiments in chemistry or biology, to history studies arching over centuries in social and political science. One could even draw the conclusion that, in longitudinal research on organizations, any phenomenon can be labelled as longitudinal in terms of length; one can find longitudinal aspects in almost all organizational phenomena. As a consequence, this would imply that time has no meaning, if it is everywhere and thus can be used to explain anything. It would be intriguing to introduce a temporal definition, a recommended length for longitudinal research, similarly to how Eisenhardt (1989) presented the recommended number of cases in a case study. Nevertheless, we settle for a discussion on the formulation of ‘natural temporal boundaries’ for longitudinal studies.

All in all, clear justification for the time period, whether it is selected by the researcher for a particular practical or theoretical reason or it originates from the natural length of the topic studied, deserves to be reported, as the contextual and temporal factors are essential in explaining and forming the results and conclusions of longitudinal studies. Too often, the studied time period is not discussed at all, as time is abstracted away (e.g. Raukko and Paavilainen-Mäntymäki 2009; Schultz et al. 2012). Yet, the length of the study should be of great importance; hence, why a study is focusing on a particular set of years (e.g. 1990–2010) should be as important as why a study is longitudinal in the first place. Time must serve a purpose, one way or the other.

In light of the above discussion, it is quite challenging to set ‘artificial’ boundaries around a fluid phenomenon. As a result, instead of striving for a particular temporal boundary, such as a range from one minute to infinity, it could be seen as more purposeful to set the boundaries according to the process studied and its natural length, in relation to the research aim of the study and the research tradition of the discipline. The actual length of

the study is not crucial in terms of the studied topic; more important is the way the topic is treated and what terminology is applied when reporting on the study. The length of the research project may operate as a validating factor in terms of the amount of data gathered, the basis on which the conclusions are drawn, the generalizability of the results and the thoroughness of the observation period. Nevertheless, if the natural length of the phenomenon were, say, one day, extending this for external purposes would be artificial and difficult, and thus the justification for a short study would originate from the phenomenon itself in this case.

Identifying a temporal research topic at a relevant point in time, and timing the entry to the field, are aspects that researchers have struggled with for years (see e.g. Pettigrew 1990; Mitchell and James 2001). Some phenomena can be expected to take place at a certain point in time (e.g. changes in organizational culture after the nomination of a new chief executive officer, or changes in a company's market position after the launch of a new product) and some studies focus particularly on pre- and post-change circumstances (e.g. organizational change, restructuring, mergers and acquisitions, or the host country's World Trade Organization (WTO) membership), in which case the timing of the study is more straightforward. Nevertheless, researchers hoping to follow a phenomenon from its beginning to its end face a substantial challenge in attempting to bracket the phenomenon and design their research accordingly. This is a challenge that touches both real-time and retrospective studies, as the boundaries of a process are often vague and difficult to pinpoint, even with hindsight. Longitudinal research settings also impose particular commitment requirements on researchers. Longitudinal research using data, such as national census data that may have been collected for other purposes than measuring change, can encounter problems in terms of changes in how units or events are defined and counted. In some cases, changes in the definitions of variables and methods of collecting data may render some or all data sets unsuitable for use in longitudinal research. Sometimes, the secondary data do not lend themselves to the modelling of dynamic, longitudinal relationships (Menard 1991, pp. 21, 65).

In sum, time and temporality are essential but often neglected parts of longitudinal research designs (e.g. Van de Ven 1992; Schultz et al. 2012). Both the theoretical and empirical implications of time deserve more attention. In essence, it is not a question of how long a study ought to be in order for it to be counted as longitudinal research, but rather why a longitudinal study ought to be conducted in the first place. A longitudinal data set on its own, for example all the foreign direct investments to and from China since it joined the WTO, does not add value. There needs to be a reason why the researcher believes that a longitudinal data set is needed

to bring new knowledge. Often, this need will stem from the research questions and the development stage of the research discipline. It is highly recommended that researchers, when endeavouring to embark on a longitudinal research project, carefully assess the fit between the definitions, the theories and the research design (see Van de Ven 1992, p. 181; Van de Ven and Poole 1990, 1995).

## THE CONNECTION BETWEEN LONGITUDINAL AND PROCESS RESEARCH

As we defined earlier, longitudinal research encompasses a number of methodologies and research approaches. A longitudinal research design may encompass qualitative, quantitative or both methodologies, and adopt, for example, a case study approach. One of the approaches, namely process research, has received increasing attention (see Schultz et al. 2012). Nevertheless, further discussion of the relation between longitudinal and process research would still be of benefit.

Process research has, similarly to longitudinal research, been assigned a broad variety of meanings. Process research can generally be defined in three different ways: as a dynamic, as an explanation (Mohr 1982) and as a variable (Van de Ven 1992), of which the dynamic focuses on ongoing events, changes, activities, temporal evolution, mechanisms, movement, emergence and becoming over time (see e.g. Pettigrew 1992; Huber and Van de Ven 1995; Langley 1999, 2009). Van de Ven (1992, p.169) defines process as a logic that explains a causal relationship between independent and dependent variables, a category of concepts or variables that refers to actions of individuals or organizations, and a sequence of events that describes how things change over time. Process research may comprise real-time and/or retrospective elements (see Van de Ven 1992; Pettigrew 1990, 1997) and attempts to provide detailed descriptions of social settings, employing contextualized, situational and subjective information. These studies often adopt a qualitative research approach, using narratives, interpretive research and ethnography to produce temporal accounts of interaction and change (see e.g. Dawson 1997).

Longitudinal and process research serve two primary purposes: firstly, to describe patterns of change; and secondly, to establish and explain the direction and magnitude of causal relationships and change (e.g. Menard 1991, p. 5; Monge 1990). Another common denominator in longitudinal and process research is their frequent implicitness in research. Time is often abstracted away, the longitudinal and process nature of a study is

not addressed, and our ability to understand and construct phenomena temporally is diminished (see e.g. Schultz et al. 2012, p. 2).

Often researchers do not wish to label their research as longitudinal or processual as they want to avoid the possible limitations those labels can impose on usability and generalizability. However, process and longitudinal studies have several benefits in terms of, for example, explanatory power, holism and profoundness. Thus, applying either approach and labelling it accordingly should not be viewed as a drawback of a study, but rather as a strength, and a sign to other researchers trying to identify longitudinal and processual studies as models and means for comparison.

Longitudinal and process research can easily be grouped together, as they share many similar features. Literature discussing their relationship is scarce, but some clarification on the matter can be identified. It appears that longitudinal research is a broader term than process research and is often used to describe research projects and programmes within which process studies are conducted, and processes studied (see Kimberly 1976; Leonard-Barton 1990; Pettigrew 1990; Van de Ven 1992; Bergh and Holbein 1997). Longitudinal research is often connected to lengthy research undertakings that can contain several processes or process aspects, whereas process research is more often linked to 'process thinking'. As a summary, the above discussion would suggest that longitudinal research is an umbrella, underneath which process research can be positioned (see e.g. Langley 2009; Schultz et al. 2012).

## WHAT IS THIS BOOK ABOUT?

This book was motivated by the need to embrace the diversity in longitudinal research. As mentioned earlier, the literature on longitudinal research is heavily divided into the quantitative and qualitative paradigms. While there are very good books on applied longitudinal research methods (e.g. Little et al. 2000; Taris 2000; Singer and Willett 2003; Menard 2008), there are not many that describe 'how to do' longitudinal research based on researchers' experiences, lessons learned and reflections.

This book offers a collection of chapters taking different perspectives on longitudinal research. Some of the chapters provide reflective accounts and examples of conducting longitudinal and process research; some describe studies that apply longitudinal methods and data; some take a more hands-on approach to how to conduct such studies. In addition to the shared interest in longitudinal research, the chapters are based on the first-hand experiences of the authors in conducting longitudinal and process research in the field, they review the current state of the

field regarding how longitudinal and process research has been applied in organizational studies, and reflect on the preparation and completion of such research undertakings. The chapters were selected through a general call for chapters in 2010, and all chapters have been double-blind reviewed. Moreover, Toon Taris, the author of *A Primer in Longitudinal Data Analysis* kindly accepted to write his recent reflections on longitudinal research. His vignette 'Nonresponse in longitudinal research: charting the terrain' follows the introductory chapter.

The book is divided into four parts according to the focus of the chapters: the first focusing on quantitative applications of longitudinal research, the second on qualitative longitudinal research, the third dedicated to process applications, and the fourth focusing on longitudinal and process research strategies. Below, a brief overview of the chapters is provided.

### **Part I: Longitudinal Research as Quantitative Research**

In Chapter 2, 'Using quantitative longitudinal data to analyse the relationship between firm's internationalization and performance', Michael-Jörg Oesterle and Hannah N. Richta focus on the use of quantitative, longitudinal data in analysing the internationalization–performance relationship. This relationship has been investigated for more than 40 years, but research has yielded mixed results. While researchers have suggested that a longitudinal research approach would solve this problem, Oesterle and Richta disagree. They introduce in their chapter a theoretical model that reflects the process of internationalization and its performance effects, and argue that researchers need to be more aware of the trinity of theoretical modelling, data and statistical methods, and that using a longitudinal research approach requires appropriate statistical methods that capture the theoretical model.

Chapter 3, 'Planned missing data designs for longitudinal organizational research', by Mijke Rhemtulla and Todd D. Little, tackles an important aspect of longitudinal research, namely missing data. Rhemtulla and Little argue that planned missing data designs address the problem of attrition, and are an efficient way to reduce data collection costs, while producing more valid conclusions. According to them, if the researcher plans for missing data, the precision, power and generalizability of any research endeavour will be optimized. In their chapter, Rhemtulla and Little introduce three types of longitudinal planned missing data designs: multi-form designs, wave-based missing designs and two-method measurement. Rhemtulla and Little emphasize the need to consider missing data before beginning the research; planned missingness is more efficient than unplanned missingness.

Chapter 4, on ‘Temporal design in organizational research’, by James P. Selig, Robert Hoy and Todd D. Little, focuses on the temporal issues related to defining and measuring variables in organizational research contexts. The focus of this chapter is on issues related to objective time. Selig, Hoy and Little draw our attention to the time issues related to operationalizing and measuring variables, as well as to the temporal considerations in study design. This chapter offers a good overview of key issues in temporal design, and suggests several practical strategies for better addressing issues of time in organizational research.

## **Part II: Longitudinal Research as Qualitative Research**

In Chapter 5, ‘Studying strategy over time through the identification of patterns of actions: an illustrative case study of the strategies of Alcan and Alcoa from 1928 to 2007’, Yves Plourde presents a way to analyse the strategies of organizations over time, through the codification of historical facts from secondary data sources to identifying patterns of actions. This method offers a systematic approach to comparing the realized strategies of different organizations.

Chapter 6, ‘Longitudinal autoethnography’, by Päivi Eriksson, is a very interesting chapter, not only for its content but also for the way it is written. Eriksson takes a very personal stance, and shares with the reader an amazing journey through her own research. In autoethnography, the researcher analyses and writes about their own experiences, which serves as the data for the study. In this chapter, Eriksson introduces autoethnography with a longitudinal perspective.

In Chapter 7, ‘Narratives as longitudinal and process data’, Eriikka Paavilainen-Mäntymäki and Leena Aarikka-Stenroos discuss how narratives have remained among the minority in qualitative approaches in business research, despite their good fit with process and longitudinal studies. Paavilainen-Mäntymäki and Aarikka-Stenroos focus on narratives as a type of data that acknowledges and captures the temporal, contextual and processual characteristics of longitudinal and process phenomena. This chapter presents four qualitative research projects that follow a realist philosophy and apply narratives to gain rich insights and understanding, and discusses the benefits and challenges related to conducting narrative longitudinal and process studies.

## **Part III: Longitudinal Research as Process Research**

Chapter 8 introduces an interesting topic. ‘In search of generative mechanism: the grounded theory approach to process theory building’, by

Zsuzsanna Vincze, focuses on the generative mechanisms in process research. She uses her own research on foreign-market expansion (FME) as an example to demonstrate how grounded theory can be used to identify generative mechanisms. The mechanism-based explanation of the FME study captures the crucial elements of the process by abstracting irrelevant details. She concludes that, in cases of process-theory development, which may depend on the finding of generative mechanisms, the grounded theory approach may be a valuable option.

Chapter 9 is a review of longitudinal methods used in process research on business networks. In 'Challenges of longitudinal field research in process studies on business networks', Aino Halinen and Tuija Mainela focus on one type of longitudinal research, namely process research, and describe the challenges its application in an interorganizational business network setting entails. Their main contribution is to explain the methodological challenges specific to process studies in network research and, at the same time, to demonstrate how the definition of longitudinal research should potentially be extended to encompass the various qualitative research approaches used to study organizations longitudinally.

In Chapter 10, 'Temporal issues in process research', Carlo Mari and Olimpia Meglio continue with the same theme. This chapter focuses on the following question: 'What is the role of time within process research?', and it is based on a systematic narrative literature review of 72 empirical articles featuring qualitative process studies, drawn from top-tier management and organization journals. The authors suggest that process research would benefit from large-scale research undertaken by teams of researchers, and from more effort being devoted to negotiating access over the course of the fieldwork.

Chapter 11, 'How to escape an unprocessual legacy? A viewpoint from international business research', by Eriikka Paavilainen-Mäntymäki and Catherine Welch, addresses the problem of losing the process in a process study. Through an example of a thesis project, and a literature review focusing on the internationalization process of the firm, Paavilainen-Mäntymäki and Welch discover that process can be lost in a process study, among other things, due to a positivist philosophical and methodological legacy on the part of the researcher, or due to the researcher overlooking process when setting the aims, collecting and analysing data or reporting the contributions of a study. The chapter concludes with examples and suggestions on how to retain the process.

Chapter 12, 'The use of time in the design, conduct and write-up of longitudinal processual case study research', by Patrick Dawson, focuses on the way time is used to direct empirical practice and inform conceptual analysis, drawing on 30 years of fieldwork experience in conducting longitudinal

case study research on organizational change. The chapter examines temporality and processual research, the difficulties of and analytical need to identify the ‘before’, ‘during’ and ‘after’ of a programme of organizational change, the pragmatics of research design options given prevailing constraints and opportunities, and the conceptual, theoretical and methodological implications of viewing change as a temporal multi-story process.

#### **Part IV: Conducting Longitudinal Research**

In Chapter 13, ‘Dealing with unpredictability and change in longitudinal studies of organisations: a priori versus progressive focusing approach’, Eva A. Alföldi and Melanie E. Hassett explore some of the challenges that researchers face when doing longitudinal research in organizations, in particular when primary data about an organization are collected over a period of time. This chapter introduces the reader to approaches to longitudinal field research, namely a priori and progressive focusing, and the benefits and challenges related to these approaches. This chapter tackles a very important and interesting topic: how to deal with uncertainty, change and unpredictability in a longitudinal research design.

Chapter 14, ‘Planning data collection in longitudinal field research: small and not so small practical issues’, by Carlo Mari and Olimpia Meglio, focuses on longitudinal data collection. The ability to capture temporality relies largely on the quality of data and, in longitudinal field research, particular challenges and concerns related to this may arise. Mari and Meglio discuss the factors shaping the data collection process when researchers are studying an organizational setting in situ for a prolonged period of time. The authors argue that there is no a priori optimal data collection design, rather a series of dilemmas to live with. The chapter discusses the various alternatives, using the listening, observing and tracing (LOT) strategy.

Chapter 15, ‘Organizing and executing a longitudinally based research program’, by Michael A. Sartor, focuses on the organization and execution of a longitudinal research programme. This chapter describes the experiences garnered from the Ivey-JFDI Research Program, launched by Paul W. Beamish at the University of Western Ontario’s Richard Ivey School of Business, in 1994. The Ivey-JFDI database of Japanese foreign direct investment (FDI) activity spans a 20-year period (1986–2006) and comprises 157 variables and 324614 subsidiary-years pertaining to 38435 subsidiary investments, situated in over 125 countries. The chapter covers details of how the data were gathered and the publications that have emerged from the database. This chapter provides interesting insights into how to manage such a research program successfully.

## CONCLUDING REMARKS ON LEARNING HOW TO DO LONGITUDINAL RESEARCH

This book set out to address a gap in the existing literature on longitudinal research: how and why should we conduct the longitudinal research that many researchers call for but relatively few deliver, and that is currently topical but about which rather fragmented methodological theorizing and background understanding exist? The approach that this book has taken focuses on becoming conscious of the role and meaning of the time, process and longitudinal features of organization research. Moreover, to this day, the literature seems still to be relatively divided between the two paradigms, quantitative and qualitative (see Goldstein 1979; Miller and Friesen 1982; Leonard-Barton 1990; Pettigrew 1990; Van de Ven 1992), despite a move towards a more holistic approach that is observable (e.g. Menard 2008) and that is advocated by this book.

We sought to acknowledge the holism, pluralism and multidisciplinary nature that are hallmarks of longitudinal research and, consequently, to provide a broader view than books focusing solely on methods. The holism is reflected, among other things, in how time and temporality are considered and constructed in studies; we can look at the length and timing of the phenomenon and the research project, we can study the past in retrospect, the present in real time and the future in prospective terms, we can observe sequences of static and dynamic events to uncover mechanisms, we can study orders to reveal causalities, and we can include complexity, context and transience to allow for explanation. The pluralism, in turn, is reflected in the wide range of qualitative, quantitative as well as mixed and multiple method approaches, together with their numerous practical applications in collecting and analysing longitudinal and process data. The multidisciplinary nature is demonstrated in the richness of the reality under study – in how different perspectives, schools of thought, theories and models must often be brought together to provide an explanation, a grasp, or even a glimpse of a contextual and temporal phenomenon.

This book is composed of different perspectives on longitudinal research, and each chapter has raised many important issues. Altogether, seven main themes and research gaps have emerged through this book:

1. *General definition.* While the distinction between qualitative and quantitative longitudinal research prevails, there is a call for a more general definition of longitudinal research, at least at the disciplinary level (see Halinen and Mainela, Chapter 9).
2. *Research coherence.* Irrespective of the chosen research approach, a truly longitudinal research design is coherent in terms of the

definitions, theories and methodology used (see Oesterle and Richa, Chapter 2; and Paavilainen-Mäntymäki and Welch, Chapter 11).

3. *Time and temporality in longitudinal research.* There is a need to focus more on the temporal dimensions of the longitudinal research design and the different concepts of time during the research process (see Selig, Hoy and Little, Chapter 4; Mari and Meglio, Chapter 10; and Dawson, Chapter 12).
4. *Methodological concerns in longitudinal research designs.* There is a need for a more systematic approach to the pitfalls related to research design, methodology and research conduct, and how to avoid them in longitudinal research (see the Vignette of Taris; also Rhemtulla and Little, Chapter 3; Paavilainen-Mäntymäki and Welch, Chapter 11; Alfoldi and Hassett, Chapter 13; and Mari and Meglio, Chapter 14).
5. *Methodological richness.* A longitudinal research design can entail a number of different approaches and research methods. There is a need to discuss more widely the use of these methods, for example identifying patterns of actions (see Plourde, Chapter 5), autoethnography (see Eriksson, Chapter 6), narratives (see Paavilainen-Mäntymäki and Aarikka-Stenroos, Chapter 7) and grounded theory (see Vincze, Chapter 8).
6. *Process research* is very popular in organizational research, and this book has attracted a number of chapters under this topic, but the relationship between process and longitudinal research still seems to merit further investigation (see Halinen and Mainela, Chapter 9; Mari and Meglio, Chapter 10; Paavilainen-Mäntymäki and Welch, Chapter 11; and Dawson, Chapter 12).
7. *Longitudinal research programmes.* One of the main challenges of longitudinal research is the lack of resources in terms of time, money and people. A longitudinal research design is very labour-intensive, and requires skilful researchers. Longitudinal research programmes provide an excellent solution for overcoming many of these challenges, and can improve the quality of the research results (see Mari and Meglio, Chapter 10; and Sartor, Chapter 15).

This book has not attempted to have the final word or to reach an all-encompassing, definitive presentation of longitudinal research. In effect, we have attempted to advocate a mindset, understanding and change in research conduct that acknowledges and observes the intricacy and flux of reality, and may therefore lead to a more profound understanding, to justified, diverse interpretations, and to truthful, substantive conclusions. By bringing longitudinal research in to the limelight, we could possibly increase our exploitation of existing longitudinal research data sets, and

thereby publications and knowledge accumulation (e.g. Van de Ven and Poole 1990, pp. 315, 332), a good example of which is presented in Chapter 15 by Michael A. Sartor. This development would also aid the refinement of longitudinal approaches and is in line with earlier calls (Van de Ven 1992; Van de Ven and Poole 1990; Van de Ven and Sminia 2012) to increase the coherence in process studies by aligning research questions, perspectives and explanations (see also Chapter 2 by Oesterle and Richta; and Chapter 11 by Paavilainen-Mäntymäki and Welch).

In addition, it has been stated that conducting a longitudinal research project requires fortitude from the researcher (e.g. Van de Ven and Poole 1990, p. 315). Longitudinal research designs are often complex, yielding a great amount of data, and face numerous methodological challenges. Taris (see the Vignette in this book) raises important questions regarding nonresponse in longitudinal research. In a similar vein, Rhemtulla and Little (Chapter 3) discuss the problem of attrition in longitudinal research projects. Any researcher who has conducted longitudinal field research is painfully aware of these problems. Yet, while these are important methodological challenges, they are not the only ones. There are many methodological concerns that need addressing and solving in order to render longitudinal research more valid and robust. Methods, by themselves, when applied in an expedient manner in relation to the aim and focus of a study, provide rudimentary results; whereas when the study is designed, prepared and conducted with a mindset that supports and is in line with the studied topic, the researcher may attain richer data and more informed conclusions. In addition to the external requirements of excessive time and finances, longitudinal research thus also demands open-mindedness, flexibility, resiliency, methodological crafts and dedication from the researcher in order for them to be able to realize the full potential of the approach. Preparation and constant change often seem a discordant mismatch, but researchers, nonetheless, often emphasize the need to design longitudinal studies carefully, despite their tendency to change. Although the phenomena of interest may be going through constant change, the approaches used to study them, the timing of their use, and the accommodation of unexpected changes in them, their contexts and the research project as a whole, need to be prepared for so as to ascertain that the study will deliver what it aims to. For example, it must be ensured that the requirements set for panel data are met and that there is comparability between cases and observations from different points in time (see also Alfoldi and Hassett, Chapter 13). With a longitudinal mindset, comprehending the multiplicity of the research undertaking becomes more ingrained, and surviving setbacks and major upheavals due to constant changes that could otherwise negate the entire project becomes more plausible.

Concluding, longitudinal research is not about length but about ‘why’ and ‘how’ (e.g. Pettigrew 1997). A truly longitudinal piece of research adopts this design to serve the research questions. The timing and bracketing of the research phenomenon can be based on both theoretical and practical reasons. The concept of time and temporality are central issues at the different phases of the longitudinal research process (see also Selig, Hoy and Little, Chapter 4; Mari and Meglio, Chapter 10; and Dawson, Chapter 12). However, it is highly recommended to plan the research design and fieldwork well in advance, as data collected for another purpose seldom fit the criteria of longitudinal research. Additionally, as Oesterle and Richta conclude in Chapter 2, and Paavilainen-Mäntymäki and Welch in Chapter 11, longitudinal data are not a cure for a weak research design and data analysis (see also Menard 1991, p. 4). However, at its best, a longitudinal research design can provide a rich, pluralistic, contextual and deep understanding of an organizational phenomenon. While a lack of resources in terms of time, money and people has been mentioned as one of the most important challenges in conducting longitudinal research, our book (see Sartor, Chapter 15) and, for example, Van de Ven and Poole (1990, pp. 314–315) and Pettigrew (2012), advocate for the use of longitudinal research programmes. As Pettigrew (2012, p. 22) states, ‘big research themes demand big research teams, and big teams kept together long enough to make an impact’. Just as this book brought forward numerous questions to be addressed as its starting point, it has also introduced several new ones to raise awareness of the topic, to provide food for thought, to increase interest in conducting longitudinal research, and to develop the field and applications further. We hope this book will inspire more debate and research on this topic.

## NOTES

1. Only four out of 94 published empirical articles were longitudinal.
2. Among the total of 710 articles published during the period studied, 141 longitudinal studies were found: a proportion of 20 per cent.

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