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Summaries**

Editor
Agnes Zsokà

Foreword from the President

EDAMBA, the European Doctoral programmes Association in Management and Business Administration has the mission to support and facilitate cooperation by providing and managing a network to exchange information, disseminate best practices and raise the quality of doctoral education among its members in Europe and beyond. For the past quarter century, **EDAMBA** has helped the participating schools to increase the quality of their Doctoral programmes, as well as to create an environment of excellence with a European perspective, all the while pursuing diversity. In many ways it has proved to be an unparalleled forum of discussion to schools that have a long established tradition of doctoral education and also to those who have recently started this new practice. The ultimate goal is to have the **EDAMBA** network reach as far and wide as possible, while at the same time maintaining the integrity of the various programmes within the network.

Currently EDAMBA has 60 doctoral programmes as members of the Association coming from 24 countries. It is governed by the General Assembly, which elects each year an Executive Committee. The main current activities of the Association are the Annual Meetings, the Research Summer Academy, the Consortium on Doctoral Supervision, the Thesis Competition.

The Annual meetings have become during the years the main platform for discussing common problems and issues, discussing impressive changes in the doctoral landscape and promoting best practices among the Directors of Doctoral programmes in the association. The Summer Academy operating since 1992 with its international dimension has been the privileged forum for dialogue on research paradigms and methodologies while building a strong scholarly network among doctoral students coming from a broad range of programmes and disciplines.

The Winter Academy launched in 2008 aims at improving the quality of doctoral supervision by fostering a dialogue among senior and junior faculty and developing competent supervisors for addressing the shortage of qualified faculty in Business and Management studies in the European Universities and Business Schools. In the steps of the Winter Academy, as a joint initiative between the EIASM and EDAMBA in shaping the new landscape of global doctoral education, EDAMBA runs a Consortium on the importance of supervision in doctoral education. A European Code of Practice for Doctoral Studies in Management and Business has just been published for consultation with our membership and wider community.

The Thesis Competition was first launched in 2003. It aims at distinguishing high-quality doctoral dissertations which have significantly contributed to new knowledge in all areas of business studies and management. The top-3 peer reviewed abstracts are given prizes and the short-list of selected abstracts is published in this EDAMBA journal. With this publication, we hope to contribute to the dissemination of distinguished doctoral dissertations from throughout our network in Europe and worldwide.

Dimitris ASSIMAKOPOULOS
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FIRST AWARD

The Conundrum of Home-Country Political Embeddedness: Impact on Reverse Knowledge Transfer in Emerging-Market Multinationals

Su Cong, Uppsala University

Abstract

This thesis investigates the effects of the home-country political embeddedness of emerging-market multinational corporations (EMNCs) on reverse knowledge transfer (RKT). The findings show that headquarters' political embeddedness acts as both a driver and a barrier to RKT in EMNCs, which creates a paradox. Specifically, on one hand, headquarters' political embeddedness triggers strong intentions to acquire knowledge from subsidiaries. On the other hand, it hampers RKT practices in EMNCs by engendering several organizational barriers, including headquarters' low absorptive capacity, inferior performance of headquarters' entrepreneurial role, less willingness of subsidiaries to transfer knowledge, and larger organizational distance between HQ and subsidiary.

1. Research Significance and Objective

Emerging-market multinational corporations (EMNCs), particularly state-owned ones, have been increasingly active players in the global arena. Research on EMNCs has focused on their distinctive features, particularly on their politically embedded nature in home institutions, because firms' embeddedness in political relationships and power is prevalent in emerging markets' commercial environment (Luo et al., 2012). However, these studies have so far limited their focus to the effects of political factors on EMNCs' internationalization issues, such as location choices, entry modes, internationalization motivations and speed (e.g., Buckley et al., 2007; Cui & Jiang, 2012; Wang et al., 2012). Little attention has been paid to the impact of political relationships on the international managerial and operational issues of EMNCs after undertaking overseas investments. Moreover, most of these studies argue that political connections and involvement play a positive role in the international expansion of EMNCs (e.g., Buckley et al., 2007; Duanmu, 2014; Luo et al., 2010; Wang et al., 2012). In contrast, there is relatively little research into the negative effects of political relations associated with the managerial and organizational activities of EMNCs, such as the ability to conduct foreign strategic asset-seeking activities (Li et al., 2014; Meyer et al., 2014).

Another important feature of EMNCs is the aim of knowledge-related asset augmentation overseas via outward investments, conceptualized as a springboard perspective (Luo & Tung, 2007). In this vein, reverse knowledge transfer (RKT) from subsidiaries to

home-country organizations is an important desired outcome of EMNCs and becomes critically significant to achieve the innovation catch-up. However, RKT in EMNCs has not received much attention, despite a few recent attempts to provide insights into RKT in EMNCs in the context of Brazil and India (e.g., Awate et al., 2015; Borini et al., 2012; Nair et al., 2015, 2016). These studies are still a long way from understanding RKT in EMNCs from both theoretical and empirical perspectives. Specifically, most of the antecedents (e.g., subsidiary role, absorptive capacity and knowledge characteristics) of RKT investigated in those studies have been extensively examined in the literature on advanced-market MNCs and these findings are, unsurprisingly, similar to previous literature.

There is clearly a lack of scholarly understanding and knowledge about the effects of EMNCs' political embeddedness (PE) in the home context on RKT. Indeed, headquarters (HQ)' PE is a key to understanding EMNCs' cross-border knowledge acquisition. Several studies indicate that strategic asset-seeking investment, particularly acquisitions in advanced markets, is more likely to be conducted by state-owned/connected EMNCs (Deng, 2009; Petersen & Ivarsson, 2015; Sutherland & Ning, 2011). The rationale behind this is that emerging markets' governments tend to have an interest in promoting openings and integration into the global economy, and upgrading national technological capabilities (Wang et al., 2012), while state-connected firms are more eager, or face pressure to achieve these political interests due to the firm-government interdependence. From this point of view, EMNCs' home-country PE seems to play a positive role in their international knowledge acquisition. But little research investigates this topic, leading to poor knowledge on it. Against this background, this thesis is to investigate the impact of HQ' home-country political embeddedness on RKT from subsidiaries in EMNCs. I am to achieve this research objective by answering the following research questions:

Research question 1: *How can the political embeddedness of a firm be conceptualized and, in particular, what characterizes political embeddedness in SOEs and in emerging-market firms?*

Research question 2: *In EMNCs, how does the HQ's home-country political embeddedness influence reverse knowledge transfer from subsidiaries?*

2. Theoretical Background

Research on RKT originates from the concepts of the differentiated network MNC (Nohria & Ghoshal, 1997) and the embedded MNC (Forsgren et al., 2005). Central to these two concepts is the premise that the subsidiary exists as a semi-autonomous entity (Birkinshaw & Hood, 1997) and has its own embeddedness, competence and power. Inspiring from these two views, research on RKT emphasizes subsidiary embeddedness, power, and role within MNCs, while underestimating the role and embeddedness of HQs. This neglect does not mean that the HQ and its embeddedness are not crucial. As the corporate management centre, the MNC HQ acts as a resource allocator involved in value-adding activities (Dellestrand & Kappen, 2012) and as the network orchestrator and integrator of the intra-organizational knowledge flows amongst diverse subsidiaries (Awate et al., 2015). Hence, HQs still play important roles in MNCs' competence development.

EMNCs have two distinctive characteristics: the infant nature and the politically embedded nature, which may enrich the theoretical contributions of the research on EMNCs. As infant MNCs (Cuervo-Cazurra, 2012; Ramamurti, 2012), EMNCs generally focus on their home markets and have fewer international experiences and a lack of international managerial skills (Rugman & Nguyen, 2014). This easily leads EMNCs to lacking managerial attention and skills in national responsiveness as well as in international knowledge management and systems integration (Rugman & Nguyen, 2014). In this case, EMNC HQs are more likely to be strongly embedded in diverse network relationships in the

home country, and their international strategies and behaviour are more easily influenced by HQs and the conditions of home markets, such as HQ embeddedness in the home context. In this sense, EMNC HQs may play significant roles in MNCs' knowledge transfer and integration.

Moreover, most EMNCs are politically embedded with home governments to a varying degree. This is because government authority over business is still great in emerging markets (Deng, 2009). In contrast to their position as infants in global business, EMNCs with strong political ties generally enjoy much better home country-specific assets and possess monopolistic positions and substantial influence in domestic markets (Meyer et al., 2014). This motivates politically embedded EMNCs to undertake relatively high-risk or large overseas investment (e.g., M&As) with less concern over loan repayments (Child & Rodrigues, 2005; Rudy et al., 2016). From the resource-based view, PE represents a unique type of strategic resource and asset (Sheng et al., 2011; Xin & Pearce, 1996). However, EMNCs' home-country PE may not always bring beneficial effects to internationalization and international management. As Luo et al. (2012) suggest, unbalanced investment in social capital can transform a potential advantage into a liability. In the same vein, over-embeddedness with political institutions can also transform a potential advantage into a liability that can generate different barriers to EMNCs. More specifically, the state can provide politically embedded MNCs with monopolistic advantages or leading positions in domestic, which causes HQs some difficulties in terms of understanding and managing their subsidiaries in more market-oriented and competitive countries. This in turn inhibit the ability of the EMNCs to develop competitive advantage overseas (Rudy et al., 2016). Furthermore, PE is a source of illegitimacy for EMNCs in host countries with different political ideologies (Meyer et al., 2014). As Rugman and Nguyen (2014) stated, EMNCs – particularly those from China – that are controlled by the state have more potential conflicts with host governments, because they may pursue political objectives that will trigger national-security concerns in host countries.

The term “political embeddedness” has recently been used in a number of studies to investigate business-government relations. A review of these studies on PE shows that the existing papers have failed to reach a consensus on PE, and they highlight that PE of firms is inherited in one political element, either political-legal arrangements or political network. For instance, several studies (e.g., Okhmatovskiy, 2010; Sun et al., 2010) focus on the relational aspect and simply regard PE as political connections and political ties. If PE means or is equivalent to the established terms such as political ties or connection, using a relatively new term such as PE becomes meaningless. Given the multiple roles (i.e. regulators, economic actors and designers of political ideology) played by governments, I employed an integrated perspective to conceptualize PE of a firm in local context, following Zukin and DiMaggio's (1990) classification of embeddedness and Dacin et al.'s (1999) view on the simultaneous existence and interplay between and among the different sources and mechanisms of embeddedness.

3. Research Method

China is arguably the most active internationalizing economy among emerging economies (UNCTAD, 2017), and was therefore chosen as the empirical context. I adopted a sequential mixed-method approach; an initial qualitative exploratory phase via a single case study is followed by a quantitative stage with a survey. The mixed-method strategy, which combines a case study and a survey, is feasible and justifiable. The survey allows itself to be standardized and conducted among a large number of sampling; therefore, it is easy to compare and generalize the results. Whilst the case study, through semi-structured interviews, obtains deeper insights into the issues so as to aid understanding of the underexplored

research field – the effects of HQs' PE on RKT in EMNCs. This procedure enables the researcher to analyse rich qualitative data collected from a case study to supplement the information obtained from a survey and to mitigate the potential drawbacks of their use (Tashakkori & Teddlie, 1998). In this case, it can gather complementary views about my research topic, which enables me to obtain a more complete picture of the investigated phenomenon and to ensure accuracy and reliability. This two-stage data collection was conducted by my project colleague and myself.

In the first stage, we conducted a qualitative case study in one Chinese state-owned MNC (ABC firm) and its four knowledge-seeking subsidiaries in Germany and the Netherlands, to explore the effects of home-country PE in relation to RKT barriers. We used a purposive sampling approach to select the case firm. ABC is a suitable and interesting case to explore the research topic. First, ABC is 100% owned by a city government and has been an SOE since it was founded in 1989. Second, ABC is one of the leading enterprise groups in China's construction-machinery industry, and this industry is a key strategic industry with a high level of political involvement. Third, ABC is an innovative SOE that pays particular attention to seeking advanced technology from overseas and has four diverse knowledge-seeking subsidiaries: three are acquired and one is greenfield; three are small-medium enterprises and one is an MNC.

We relied on face-to-face semi-structured interviews as the main source of data. We conducted 53 interviews with both MNC HQ and overseas subsidiaries between October 2014 and April 2015. First, we conducted 32 interviews with 14 interviewees, consisting of managers, directors, and engineers in the most relevant business areas at Chinese HQ of ABC. We then conducted 21 interviews with 10 respondents (including managers and engineers) in the four subsidiaries in Germany and the Netherlands. These 10 respondents included six local people and four Chinese expatriate managers. For archival data, we collected information from ABC's internal archives and coverage from media specializing in the construction machinery industry. These sources were triangulated to maintain the integrity of the analysis (Miles & Huberman, 1994). All the interviews were transcribed to text, and we translated all of the Chinese interview transcriptions into English. We adopted thematic analysis technique to summarise the interview data, identify constructs, and investigate relationships.

In the second stage, we conducted a survey among Chinese MNCs and their overseas subsidiaries from 2015 to 2016. Based on the research findings of the case study and the extensive literature review, the two structured questionnaires (one is for MNC HQ, the other is for subsidiary) were developed. The questionnaires were designed in English and then translated into Chinese. We developed the questionnaires following the conventional and well-accepted back translation process (Brislin, 1986). After finalising the translated Chinese questionnaires, we conducted a pilot test of the questionnaires in four Chinese MNC HQs and their four subsidiaries, in order to check the validity and intelligibility of the questions.

The target sampling of the survey is Chinese MNCs with at least one subsidiary that has been operating in advanced markets for at least three years, while the target sampling subsidiaries are the overseas subsidiaries of the Chinese MNCs investigated. We adopted a purposive sampling procedure to choose the sampling MNCs from the 2679 listed Chinese firms on three stock exchanges: the Shenzhen Stock Exchange, the Shanghai Stock Exchange, and the Hong Kong Stock Exchange. We began by collecting HQ questionnaires mainly through face-to-face interviews with the top managers of Chinese MNC HQs. We then collected the subsidiary questionnaire through online social tools under the support of HQ respondents. The majority of the subsidiary respondents were Chinese expatriate managers, while a few were local top managers, assistants of general managers and functional managers.

We obtained an initial sample of 185 subsidiaries of 106 Chinese MNCs. After we dropped the samplings which did not fulfil the criteria, our survey sample includes 177 subsidiaries in 99 Chinese MNCs located in 20 Chinese provinces/cities. The sampled MNCs and subsidiaries exhibit good variance across key demographic variables. In terms of 99 MNCs, 69 firms have state ownership with good varieties, while 30 firms do not have state ownership. A total of 95 MNCs are in manufacturing, with a full range from low-tech industries to high-tech industries, while four are in non-manufacturing industries. As for the 177 subsidiaries, 141 are located in 20 advanced markets (mainly in the USA, Germany, Singapore, and Australia) and 36 in 14 developing markets (mainly in Brazil, India, Thailand, and Vietnam); 49 are acquired, while 128 are greenfield. The survey data was analysed with Partial Least Squares - Structural Equation Modelling through SmartPLS software.

4. Main Findings

This thesis contains four individual papers. Paper I, as a conceptual paper, develops the concept of the PE of firms, responding to the first research question. Based on the concept of PE developed in Paper I, Papers II, III, and IV address the second research question using the empirical context of Chinese MNCs. In more detail, Paper II is a qualitative paper based on the case study, which is published in *Industrial and Corporate Change* (2017). This paper provides the qualitative foundation for the subsequent quantitative papers (papers III and IV), which are based on the survey.

Paper I proposes that a firm's PE is multidimensional construct and embodies three forms of embeddedness: political-legal influence, political network, and political cognition. The PE of a firm refers to its interactions and relationships with government in the form of political-legal arrangements, political network ties, and political ideology. That is, these three dimensions determine the variation of a firm's PE. These three dimensions of firms' PE are exclusive and distinct in nature, but are intertwined and interrelated. For instance, firms' increased alignment with political ideologies can enhance legitimacy and attractiveness in eyes of government, which can help to maintain ties with government.

The empirical findings of this thesis suggest that HQs' PE acts as both motivator and hindrance to RKT in EMNCs, which creates a paradox in cross-border knowledge acquisition. Specifically, a high level of HQs' PE triggers strong intentions to acquire strategic assets such as technology from subsidiaries, particularly in advanced markets, by aligning with government objectives or by shaping organizational distance between HQ and subsidiary. However, HQs' PE reduces HQs' absorptive capacity, HQ entrepreneurial role, and subsidiary willingness to transfer knowledge, and increases the organizational distance between HQ and subsidiary, which hinders RKT practices. Despite its positive impacts on HQs' intentions to seek subsidiary knowledge, HQs' home-country PE engenders many more organizational-level barriers that impede RKT. Apparently, HQs and their home-country PE play an important but damaging role in RKT in EMNCs. In contrast to previous literature, which mostly considers political involvement as positive factors influencing EMNCs' international expansion (e.g., Buckley et al., 2007; Duanmu, 2014; Luo et al., 2010; Wang et al., 2012), the present thesis identifies a dark side of PE in relation to EMNCs' cross-border knowledge management.

This research extends the resource-based view and Penrose's (1959) view on managerial limits to firms' expansion by emphasizing the importance of HQ's capability. PE provides EMNCs with substantial resources to undertake costly strategic asset-seeking investments, thereby increasing the opportunities to acquire advanced knowledge to maintain EMNCs' competitive advantages. Meanwhile, HQs' PE simultaneously hampers their capability (that is, their managerial capability, absorptive capacity, ability to act as an entrepreneur) to leverage and take advantage of the resources and knowledge that EMNCs process in

overseas. Thus, HQs somehow fail to leverage from their strategic asset-seeking investments, which are regarded as HQs' resources and assets. This suggests PE creates an advantage paradox in which the assumed strength stemming from resources and knowledge generated through home-country PE are ineffective when managing knowledge integration across multiple contexts at different organizational levels within the MNC. Therefore, without strong managerial and operational capabilities, only substantial resources stemming from PE are not enough to implement knowledge acquisition from overseas, and clearly the pursuit of cross-border knowledge integration and a "catch-up" strategy is not an easy path to take and may result in a longer process in politically embedded EMNCs.

5. Theoretical and Practical Implications

This thesis enriches the understanding of the importance and role of PE in EMNCs and HQ parenting role, and extends the views of differentiated network MNCs and embedded MNCs, while also contributing to the literature on MNC embeddedness. Also, by linking PE with RKT, this thesis contributes to the research on RKT.

This thesis contributes to the research on EMNCs in several ways. First, this thesis generates an understanding of PE in EMNCs by identifying an advantage paradox related to cross-border knowledge acquisition. The overarching results suggest that PE acts as both asset and liability in managing international knowledge transfer within EMNCs. This contrasts with prior studies, which have found political relations to be a source of competitive advantage for international expansion (e.g., Buckley et al., 2007; Duanmu, 2014; Luo et al., 2010; Wang et al., 2012). The paradox effects of PE illustrated in this thesis align with the view of political relations as a double-edged sword in research in firms' corporate governance (Hillman & Hitt, 1999; Rajwani et al., 2015). Second, this thesis helps to better understand the conditions to strategize springboard internationalization (Luo & Tung, 2007) in EMNCs by providing the relevance of HQs' political relationships and organizational distance between HQ and subsidiary. This thesis also highlights that HQs' political relationship is a key to the success or failure of springboard model of internationalization in EMNCs, which enhance our understanding of the antecedents and difficulties in achieving the springboard model of internationalization.

The thesis provides grounds for critically reconsidering the parenting advantage of HQs when HQs have strong PE in the home country, and enriches the insights into HQs' role in EMNCs. Specifically, the findings indicate that the entrepreneurial and administrative roles of HQs both have a strong influence on RKT. This presents new evidence supporting the ideas in the parenting literature that HQ roles are becoming increasingly involved and hands-on, especially in complex organizations (Goold & Campbell, 2002; Poppo, 2003). Moreover, this thesis identifies how the home-country PE of EMNC HQs constrains HQs' entrepreneurial role and ability to create benefits in subsidiaries. This thesis presents evidence in support of a pessimistic view of HQs' parenting advantage by challenging their ability to perform entrepreneurial functions within MNCs (e.g., Ciabuschi et al., 2011, 2017; Forsgren & Holm, 2010) from an HQ embeddedness perspective. This adds a new perspective to what Goold and Campbell (2002) referred to as "parenting in complex structures" by demonstrating that PE of HQs is an important attribute of parenting theory when applied to the EMNC context because it helps to explain the value-creating/destroying role of the HQs. This thesis adopts a top-down perspective and enhances the understanding of HQs' roles from an HQ level, thereby complementing previous studies (e.g., Bouquet & Birkinshaw, 2008; Ciabuschi et al., 2017) that employed a bottom-up approach to explore HQs' roles by incorporating a subsidiary perspective (e.g., subsidiary local embeddedness and competence).

This thesis contribute to the research on MNC embeddedness. Specifically, this thesis advances the concepts of the differentiated network MNC and the embedded MNC, which

have focused almost exclusively on subsidiary embeddedness and ignored headquarters' embeddedness in a home context. By identifying the impact of the home-country PE of the HQ on RKT, this thesis highlights that HQ embeddedness in the home country is an important variable in understanding the international behaviours of EMNCs and suggests that MNC embeddedness should incorporate HQ embeddedness in the home context. This advances the literature on MNC embeddedness with a sole focus on subsidiary embeddedness. Furthermore, it is suggested that different types of embeddedness existing at different organizational levels have different impacts on knowledge transfer. More specifically, the research findings show that HQs' PE hampers RKT. This contrasts with earlier studies made at the subsidiary level, which found subsidiary external embeddedness to be conducive to intra-MNC knowledge transfer (e.g., Andersson et al., 2002; Najafi-Tavani et al., 2014).

This thesis also contributes to the research on RKT in several ways. First, this thesis links RKT to PE and finds a new factor influencing RKT. This opens up a new and potential research area on international knowledge management in relation to political factors. Second, by stressing that political ties and organizational distance create a paradoxical effect and drive mixed motive issues in RKT dyads, this thesis contributes to knowledge on mixed motives in RKT dyads, which are predominantly explained by agency theory and knowledge-based view. Third, this thesis enriches insights into the positive side of organizational distance in RKT. The paradox of organizational distance in the motivations of parties of knowledge-transfer dyads challenges the dominant view of organizational distance being a barrier to RKT practices (Ambos et al., 2006; Simonin, 1999).

This research also generates the practical implications. The findings suggest that high levels of home-country PE "lock" EMNCs into a room – a protected and less-market-oriented business environment in the domestic sphere by providing policy and resource support. This eventually hampers HQs' managerial capability and autonomy, leading to a loss in value of the resources possessed. Moreover, high levels of PE may lead to over-embeddedness in terms of repetitive learning from domestic context, and to too little attention being paid to managerial activities in subsidiary relationships and to value-adding activities to further develop subsidiaries. That is, PE creates complexities in EMNCs and makes it difficult to achieve a higher level of knowledge transfers and integration. On the other hand, previous studies suggest that too low levels of PE of EMNCs may hamper the possibilities of expanding internationally, due to a lack of firm-specific advantages (Rugman & Li, 2007; Luo et al., 2010). Hence, HQs' PE appears to act as a resource and an asset for EMNCs to exploit, but it also acts as a liability, which creates a dilemma for EMNCs' HQs. HQ managers need to balance the firm's degree of embeddedness vis-à-vis political actors by considering the benefits and drawbacks of PE in relation to the firm's situation.

For governments of emerging markets, they should provide a more competitive environment for EMNCs to operate and compete in domestic and global markets, in order to help them exercise their managerial capability and initiative-taking capability to gain the resources and knowledge from the market by themselves. This can help EMNCs maintain a good learning environment from which to access and learn knowledge from subsidiaries, and thus grow sustainably in the global market for a longer time.

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SECOND AWARD

Early-Phase Market Organizing in Subsistence Settings

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Abstract

This thesis addresses the global challenge of poverty, and explores what kind of market organizing could provide a solution. The aim is to study early-phase market organizing in subsistence settings and its implications on capabilities for achieving well-being. The key findings shed light on the establishment of market practices in early market organizing, the establishment of agency for early market organizing in subsistence settings, the process of facilitating market organizing in subsistence settings, as well as the influence of market organizing on capabilities for achieving well-being. The thesis contributes with conceptual tools to study and evaluate early phase market organizing, which have relevance beyond the empirical settings.

Introduction

Despite considerable global progress in raising living standards, poverty is still widespread (Wilkinson & Pickett, 2009). As a consequence, approximately a decade ago the development cooperation sector received an increasing amount of criticism for its failure to achieve the aim of poverty eradication (Easterly, 2006; Moyo, 2009). In response to this failure, entrepreneurial and market-driven solutions were proposed to address global poverty (Hart, 2005; Hammond, Kramer, Trang, Katz & Walker, 2007; Prahalad, 2005; Simanis & Hart, 2008; UNDP, 2008). This led to poverty-related research intensifying and spreading to different streams of business research, including entrepreneurship (Mair & Marti 2006, 2009; Web, Kistruck, Ireland & Ketchen, 2010), innovation (Anderson & Markides 2007; George, McGahan, & Prabhu, 2012;), strategy (London & Hart, 2011; Prahalad, 2005), and marketing (Viswanathan, Rosa & Ruth, 2010a).

Following more than a decade of research, there is still a call for holistic approaches to understand the current changes in subsistence settings (Viswanathan et al, 2010a). Subsistence refers to a state of barely having enough resources to sustain life. Subsistence settings describe individuals and communities that struggle to fulfil their most basic needs (Viswanathan & Rosa, 2007). In addition, researchers also call for ways to evaluate the impact of entrepreneurial solutions on reducing poverty (Ansari, Munir, & Gregg, 2012; Kolk, Rivera-Santos, & Rufin, 2013). These fundamental questions have remained unanswered because they are very challenging.

This dissertation develops a new research perspective to the phenomenon of entrepreneurial and market-driven approaches to poverty reduction by studying market organizing in low-income settings. The research builds on a new stream of marketing research that study the ongoing process of market organizing rather than marketing activities (Araujo, Finch & Kjellberg, 2010; Araujo and Kjellberg 2016; Kjellberg & Helgesson, 2007a, 2006; Storbacka & Nenonen, 2015). By combining this with the capability approach from development economic that conceptualized multidimensional poverty (Sen 1999), this thesis provides conceptual tools for evaluating entrepreneurial and market-driven approaches.

Understanding the early stages of market organizing is important because it sets the direction for the market organizing process. In 2017 the total world population is estimated at 7,6 billion people, and by 2050 it is expected to reach 9,7 billion (UN, 2017). The majority of this increase will take place in what currently is low-income subsistence settings. The future of these communities will influence social stability and refugee flows globally.

Purpose of the dissertation and research approach

The purpose of this research is to study early-phase market organizing in subsistence settings and its implications on capabilities for achieving well-being. To this end, three research questions are asked.

- 1) How do companies innovate for low-income markets?
- 2) How are markets formed in subsistence settings?
- 3) What should be evaluated to understand how early-phase market organizing influences capabilities for achieving well-being?

The research questions where address trough empirical studies and the results are published in articles. Table 1 outline the field visits, the data collection and how these relate to the dissertation articles and research questions.

Table 1 Overview of Field Visits and Data Collection

Fieldwork:	Data collection:	Article:
Interviews in ABB Interviews in Nokia Field Visit 1 for Study 1 Ethiopia: Addis Ababa and Dembi Dolo 3 weeks, February 2008	Primary data: Semi structured and unstructured interviews with 13 informants for each case, observation, e-mail correspondence with key informants, free-form discussions, telephone conversations, 200 pages of field notes. Secondary data: Internal memos, press releases, articles in customer and in-house magazines, other archival data covering the innovation under study	Article 1, RQ 1: How do companies innovate in low-income markets?
Field Visit 2 for Studies 2 and 3 Tanzania: Dar es Salaam 3 weeks, August 2009	Primary data: Ten in-depth interviews, 6 expert interviews, 30 ad-hoc interviews, 3500 pictures, 4 hours of video, 8 observation locations, 30 pages of field notes, 7 pages of memos	Article 2. RQ 2: How are markets formed in subsistence settings? & Article 3, RQ 3: When does market organizing in subsistence settings reduce poverty?
Field Visit 3 for Study 2. Brazil: Belo Horizonte 3 weeks, October 2009	Primary data: Ten in-depth interviews, 12 expert interviews, 10 ad hoc interviews, 1000 photos, 6 hours of video, 8 observation locations, 30 pages of field notes, 6 pages of memos	Article 2. RQ 2: How are markets formed in subsistence settings?
Field Visit 4 for Study 3 Tanzania: Dar es Salaam 4 weeks, October 2011	Primary data: Fifteen in-depth interviews, 20 shorter interviews, 3 observation sites, 1500 photos, 40 pages of filed notes, 20 pages of filed memos	Article 3, RQ 3: When does market organizing in subsistence settings reduce poverty?

The studies in this thesis were conducted from an exploratory point of view; i.e., the researcher deliberately places herself in a place where discovery is possible (Stebbing, 2001). The research is characterized by personal concern and interest in the topic being studied. There is limited reliable statistical data about subsistence settings, and consequently, qualitative research methods were a necessary choice for this work.

Ethnography was chosen as the qualitative research approach because it is theoretically robust and methodologically rigorous (Sunderland & Denny, 2007; Arnould 2006). The dissertation includes data from four field visits to subsistence settings in Ethiopia, India, Tanzania, and Brazil. In the fieldwork, a mix of ethnographic methods were used for integrated data generation. The primary data include memos, field notes, photos, videos, ad

hoc interviews, expert interviews, in-depth interviews, emails, phone and Skype conversations, observation of practices, meetings, and sites. In addition to the primary data collected through ethnographic methods, secondary data were collected for the first study. These data included, for example, internal memos, press releases, and articles in customer and in-house magazines.



Particular emphasis was placed on obtaining authentic, deep information. To this end, I used qualitative methods in an integrative manner, made sure the research team had a positive as opposed to a destructive impact on the data quality, engaged in trust and atmosphere building in the field work situations and sought whole-bodied and genuine interactions with the informants.

Figure 1 Building an atmosphere of trust in home visits: Local male guide helping women with cooking chores.

Rather than suggesting one fixed research philosophy for the entire dissertation, a more accurate description is that the philosophy and approach to the research evolved and matured during the course of the work. Guba and Lincoln (1994) outline a spectrum of research paradigms ranging from positivism, post-positivism, critical theory, constructivism to participatory. In retroreflection, my approach to research has evolved from critical theory to constructivism and participation, and finally, beyond that to relational ontology (Blaser, 2010).

Theoretical framework

The theoretical framework draws on two streams of marketing literature: Subsistence marketplaces and market studies. These literatures are both explanatory, and were chosen because they complement each other and provide support for the study of market organizing in subsistence settings.

The subsistence marketplaces literature, which builds on the tradition of consumer research, provides detailed micro-level knowledge of the exchange practices and relationships in low-income, informal settings (e.g. urban slums). (Sridharan & Viswanathan, 2008; Viswanathan et al., 2010a; Viswanathan et al., 2010b; Viswanathan et al. 2012). Market studies, on the other hand, provides concepts to explain the market organizing process (Araujo et al 2010). Based on economic sociology (Callon, 1998; Callon & Muniesa, 2005) market studies takes a systemic perspective, where multiple stakeholders and multiple levels of organizing are taken into account. Through the use of practices as the unit of analysis, the research can iterate between the micro level and more aggravated levels of market organizing (Kjellberg and Helgesson 2007a; Shatzki 1996).

Market organizing is studied as the interplay between exchange, representational and normalizing market practices (Kjellberg and Helgesson 2006, 2007b). The subsistence marketplaces literature provides support for understanding the particularities of exchange practices in subsistence settings (Viswanathan, Sridharan & Ritchie 2010b; Viswanathan et al 2012).

Through the notion of market agency, market studies scholars explain and study influence and power relations in market organizing processes. However, the explanatory nature and research tradition in market studies does not provide tools for taking an evaluative stance with regards to whether market organizing leads to empowerment and poverty reduction. Issues such as sustainability and inclusion are typically addressed in an explanatory fashion by market studies scholars for example as values, which influences market organizing (cf. Kjellberg and Helgesson 2010).

For these reasons, it was necessary to complement the selected explanatory marketing theories with a normative theory that provides tools for evaluating poverty reduction. The capability approach literature from the field of development economics is used because it provides well-established concepts for evaluating poverty reduction (Sen, 1999; Nussbaum, 2000).

The combination of these three literatures provides a theoretical framework for the study of market organizing in subsistence settings and its implications on poverty reduction. More specifically, the integration of the above-mentioned theories is done through the concepts of agency, practices, power and well-being.

Agency is a central concept in both market studies and the capability approach. However, the definition of agency differs somewhat. The capability approach takes a more traditional definition of agency as the human capacity for choice and action. Market studies, on the other hand, studies agency as distributed between humans and devices, and expands from the focus on the individual to the agency of larger networks of humans and devices (Agencements, see e.g. Callon 2016). This dissertation adheres to the broader definition of agency in market studies.

Practices is a central concept and unit of study in market studies. Market studies scholars are interested in understanding the real practices and processes underlying market organizing. Similarly, the capability approach places great emphasis on real doings (functionings) and real hindrances that people face with respect to realizing de facto opportunities (capabilities) (Sen 1999). This conceptual focus on doings and the realities of everyday life fits with the practices perspective taken in market studies (Kjellberg and Helgesson 2006, 2007b). Practice theory provides detailed conceptualizations for understanding everyday activities (Shatzki 1996), while the capability approach provides conceptualizations for distinguishing between practices that increase well-being and practices that do not (Sen 1999).

Without explicitly using the term ‘power’, research in both market studies and the capability approach address power relations. Through the concepts of market agency and agencements (Callon 2016), one can study the practices that influence in market organizing. The capability approach, on the other hand, focuses on empowerment. Through the concept of capabilities for well-being, one can study the practices that create empowered individuals that experience well-being. In this dissertation work, these two notions are combined to conceptualize the impact of market organizing on empowerment through increase of capabilities for well-being. The core of the capability approach evaluative framework is the concept of well-being, and

several conceptual distinctions in relation to well-being are incorporated in this dissertation work.

Well-being is conceptualized in the capability approach by makes a distinction between doings and beings (Robeyns 2005; Robeyns and Crocker 2010). In this thesis, doings are conceptually aligned with practices. Beings, on the other hand, opens up a new notion for market studies. Beings are experiences states, such as being healthy, being nourished, being safe and so forth. Poverty reduction is conceptualized as the increase of capabilities for well-being.

Articles and key findings

Three articles are attached to the dissertation. The empirical cases studied in the articles will be described briefly, where after the key findings from all articles will be presented.

The first article studies two inclusive innovation processes inside two larger companies, Nokia and ABB. The innovation cases are the Nokia Village Connection and ABB minihydro power. Nokia Village Connection is an innovation that enables mobile grid expansions into remote areas, and it was developed in India. The ABB minihydro power case is a new business development project in Ethiopia, that aimed to create an innovative distributed renewable energy solution for un-electrified rural areas. The study takes the intrapreneurs perspective, and both cases describe situations where the innovations require market creation.

The second article investigates market dynamics and market formation in subsistence settings. It empirically studies informal waste practices in two midsized cities: Dar es Salaam in Tanzania and Belo Horizonte in Brazil. The two cases represent different degrees of organizing into market governance. In the Belo Horizonte case, waste collector organizing had been going on for 15 years with support of a local NGO, and it has resulted in the formation of an association of waste collectors as well as the establishment of national regulation on waste collection in Brazil. The situation in Dar es Salaam, on the other hand, was comparative to the situation 15 years ago in Belo Horizonte. The studies take a birds-eye perspective to early phase market organizing.

Third article bridges the conceptual gap between the phenomenon of escaping a life in poverty and the phenomenon of market organizing. The empirical case shows how slum dwellers evolved from being victims of eviction to becoming a driving force in organizing affordable housing in innovative ways. The study takes the perspective of the subsistence persons, and focuses on the practices of the informal community-based organization, and its local support NGO. In particular, the study looks at how these organizations together initiated and executed a pioneer affordable housing project in Chamazi, Dar es Salaam, that influences the housing sector nationally.

There are four key findings that relate to (1) the establishment of market practices in early market organizing, (2) the establishment of agency for early market organizing in subsistence settings, (3) the facilitation of market organizing in subsistence settings, and (4) the influence of market organizing on capabilities for achieving well-being.

The establishment of market practices in early market organizing. Previous research identifies three market practices that interplay in market organizing processes: Exchange,

representational, and normalizing market practices (Kjellberg & Helgesson 2006, 2007a). This thesis adds to these findings by showing that in early-phase market organizing, only exchange practices may be present and that capabilities for the other practices need to be established.

The findings from all articles demonstrate that the establishment of representational and normalizing practices around existing exchanges characterizes early-phase market organizing. Article 2 shows that the informal waste trade in the subsistence setting of Dar es Salaam was characterized by exchange practices and an absence of representational and normalizing practices. The findings suggest that exchange practices were not standardized or disciplined by a unified aggregated order. This lack of market governance (i.e., the absence of normalizing and representational practices) placed subsistence traders in a vulnerable position. Article 1 shows how the lack of market governance places the intrapreneurs from Nokia and ABB in a position where they have to influence relevant local stakeholders in order to push for the establishment of necessary laws and practices.

Articles 2 and 3 show how new local market actors were created, in order to establish representational and normalizing practices. The subsistence actors were able to organize themselves into a cooperative or association, and through these new aggregate market actors, the subsistence-level individuals gained the agency to engage in representational and normalizing market practices—they gained market agency and were thus able to shape the markets. Normalizing practices were established through first creating internal rules for the new market actors and then disciplining the members' exchanges based on the rules. Furthermore, the agency for market organizing through normalizing practices grew when the internal rules of the new market actors started to spread (Article 2 and Article 3). Representational practices were established by engaging in negotiations with other market actors, such as city and national governments.

The establishment of agency for early market organizing in subsistence settings. The findings confirm the important role of intermediaries in subsistence settings that was suggested previously in the literature (Kistruck, Beamish, Qeshi & Sutter, 2013; Kolk, 2014; Kolk & Lenfant, 2015), and they provide further knowledge regarding how intermediaries can empower subsistence people to gain agency for market organizing. Articles 2 and 3 found that local NGO-led interventions were instrumental in initiating the process of increasing local agency for market organizing and had a transformative influence on local communities. Article 3 shows that the increase in market agency was due to a multilevel empowerment process consisting of individual-, group-, and system-level organizing. In addition to these multiple levels of organizing, multiple types of capability were identified as being critical for increasing market agency. These areas were capabilities for economic discipline and control, capabilities for social relations and rules as well as capabilities for self-expression and representation. Depending of the level of organizing, these were manifested in different ways. On a systems level of organizing the typed of capabilities identified correspond to the three market practices identified in previous research (Exchange, normalizing and representational practices). Capabilities on lower levels were found to be necessary for developing the respective capabilities on higher levels of organizing.

The facilitation of market organizing in subsistence settings. It was found that market organizing in subsistence settings require actors who are capable of mobilizing resources that become enabling means in the process of market organizing. For example, in Articles 2 and 3, the NGOs demonstrated this ability, and these studies illustrate how the NGOs engaged in resource mobilization on multiple levels, with the local community, the city, and national

authorities. Similarly, in Article 1, business developers expressed this ability by engaging in entrepreneurial bricolage; i.e., creatively bundling scarce resources. Across the different organizational settings that were studied, the findings suggest that contextual familiarity and ability to connect previously disconnected actors and means are important when engaging in mobilizing for market organizing.

The influence of market organizing on capabilities for achieving well-being. The findings of Article 3 show that a mix of contextually determined basic capabilities are necessary for individuals and families living in subsistence settings to keep themselves out of extreme poverty. These findings confirm prior research in development economics (Morris 2010, Robeyns 2005, Robeyns & Crocker 2010, Sen 1999). Earlier research on subsistence marketplaces has concluded that there is a lack of aggregate forms of organizing in subsistence settings (Viswanathan et al., 2012). The thesis sheds light on why it is so. Articles 2 and 3 show that organizing requires a significant increase in capability, and without interventions to increase capabilities, individuals and micro entrepreneurs in subsistence settings remain in a state of multiple deprivations that inhibits higher forms of economic organizing. The multiple deprivations of basic capabilities, combined with a lack of opportunities, stabilizes trade into an exchange-dominated dynamic where people struggle to make ends meet.

The increase of capabilities was found to be a result of the integration of opportunities, means, and abilities. The opportunities, means, and abilities differ depending on the level of organizing and the area of activity. New opportunities, such as new roles in society, new ways of influencing society, and new ways of engaging with society, were found to be of particular importance. Most articles to date that have discussed how organizing in subsistence settings influences poverty reduction have been framed around the question of how subsistence dwellers can benefit from markets (Venugopal, Viswanathan & Jung, 2015; Viswanathan et al., 2009) or what intermediaries can do to improve market conditions for subsistence market actors (Kistruck et al., 2013; Kolk, 2014; Kolk & Lenfant, 2015). However, no study has addressed the influence that increased capabilities to shape markets has on the well-being of subsistence dwellers.

The findings of this dissertation suggest that increasing subsistence market actors' agency to organize markets has an effect on their well-being in two ways. First, when subsistence market actors gain agency to organize markets, they create exchange structures and practices that fit subsistence market actors and support their increase of capabilities for achieving well-being. Second, when subsistence market actors gain agency to organize markets, this generates well-being in itself, as people begin to feel a sense of increased power and position in their society.

The credibility, dependability, and transferability of the findings. The data was generated through several empirical studies, using methods that are suitable for the setting. The field work covers different geographical locations, sectors as well as market actor perspectives. During the data generation and analysis, attention is given to ensure the quality of the data. The generated data capture the phenomenon of market organizing on a micro level. The conclusions that are drawn based on these data explain early-phase market organizing. This aspect of market organizing in subsistence settings involves both local and micro level activities, which suggests that the results are acceptable representations of the data. (Wallendorf & Belk, 1989; Guba & Lincoln, 1994).

The results from the three studies show consistency in the themes that emerged from the data, such as organizing for increased agency. This consistency is present across different subsistence settings and different sectors, which increases the dependability of the findings. The broader themes identified related to early-phase market organizing, appear transferable across contexts, since empirical research from different contexts support these abstractions. Furthermore, the findings are likely to be transferable also to processes of early phase market organizing in contexts other than subsistence settings. Such context could be e.g. early phase market organizing around highly innovative new solutions that challenge dominant market practices.

Main theoretical contributions and concluding words

The main contribution of this thesis to the market studies literature relates to the understanding of agency. Previous research has identified three market practices (Kjellberg & Helgesson, 2007b). This thesis contributes to the understanding of how agency for representational and normalizing market practices is established. The thesis shows that establishing agency for market organizing requires an increase of capabilities at multiple levels of organizing. Science and technology studies (Callon, 1998; MacKenzie, 2009) have introduced the notion of distributed agency; i.e., agency is distributed between people and devices/tools. Recent literature emphasizes the role of new agencements – constellations of actors and devices - in market re-organizing (Callon, 2016; Araujo & Kjellberg, 2016; Onyas & Ryan 2015). This thesis contributes to the discussion on agency by showing how agency is built on many levels of organizing. To fully understand the expressions of market agency or agencements, a multilevel analysis of its foundations is necessary. The thesis further contributes by showing how agencements in early-phase market organizing may need to create new market actors, such as cooperatives and associations, that have the capacity to engage in normalizing and representational practices in order to organize the markets.

The market studies literature has discussed issues of sustainability and responsibility in an explanatory way in terms of values that underpin market organizing (Geiger et al., 2014; Kjellberg, 2008). This thesis introduces the capability approach, and shows both conceptually and empirically how to use it to identify what to evaluate in order to assess the implications of early-phase market organizing in subsistence for poverty reduction.

The main contribution of this thesis to the literature on entrepreneurial and market-driven solutions to poverty is an improved and systemic understanding of the impact on poverty reduction. Poverty has largely been addressed as a lack of disposable income (Prahalad, 2005; Hammond et al., 2007) or a lack of income, employment, and skills (London, 2009). Adhering to the capability approach implies a shift of thinking toward focusing on the agency and capability of individuals and communities and away from aiming to objectively determining poverty reduction.

The thesis introduces a market organizing perspective to the study of subsistence marketplaces. This perspective helps to situate the analysis of both the people living under subsistence conditions and the organizations engaging in these markets within a broader process of social organizing. It highlights the nondeterministic nature of organizing in subsistence settings and enables the study of power relations in subsistence marketplaces through the notion of agency. This improved understanding of agency in subsistence

marketplaces creates the foundation for a theoretically rigorous evaluation of the impact on poverty reduction.

Furthermore, the thesis contributes to the capability literature (Sen, 1999; Robeyns, 2005), by outlining the process of resource mobilization on multiple levels which comes before capability integration.

To conclude, this work required a deep reflection on poverty and capabilities for well-being. It reveals an incapacity in market organizing theories to distinguish agency that increases well-being. This thesis has attempted to clarify, what should be compared and evaluated when markets in subsistence settings are organized for the purpose of poverty reduction and sustainability. The results suggest a democratization of market organizing and provides conceptual tools to evaluate the degree to which influence to shape markets is distributed across stakeholders.

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THIRD AWARD

Impact of Energy Consumption on Economic Growth in Developed and Post-Transition Countries of European Union

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Abstract

The paper explores links between consumption of renewable and non-renewable energy, economic growth, capital and labour. The study covers 28 European Union (EU) countries divided in developed and post-transition EU countries. Based on the results in both groups of countries there is a statistically significant impact of changes in consumption of renewable and non-renewable energy on economic growth. However, in post-transition EU countries changes in the consumption of non-renewable energy have a negative impact on economic growth. In the case of developed EU countries, the relative impact of consumption of renewable energy on the economic growth is higher than in post-transition EU countries. Regarding growth rate of energy consumption, there is also evidence that the post-transition EU countries are converging to developed EU countries.

Introduction

Energy is a necessary element in strengthening and maintaining the level of economic growth of a country. Economic and total development of an economy and society is unthinkable without the use of various forms of energy as basic inputs in the production process. Discovering various forms of energy, from fire, over electric and nuclear energy to the use of renewable energy sources has often had a crucial impact on the development of human civilization.

Analysis of the impact of energy consumption on economic growth is closely linked to the oil shocks in 1970s and 1980s, which contributed to the development of the energy economy as a specialized branch of research. Disruption in the energy supply raised the public and academic awareness of the importance of energy in the economic growth of countries. The basic dilemma of the investigation is whether the reduction in energy consumption leads to lower economic growth. This issue is in the spotlight today, but for different reasons. In the 1970s and 1980s reducing energy consumption was the inevitable result of the oil shocks. Today the main cause of reducing energy consumption is an international struggle for the reduction of greenhouse gas emissions.

The EU is the largest importer of primary energy in the world. More than half of energy consumption in the EU comes from imports, and the high proportion of imports is

concentrated on a small number of countries. Furthermore, there is little diversification of supply lines and diversity in the use of energy resources. This makes the EU more sensitive to the political and economic impacts of countries from where they import energy and more sensitive to seasonal oscillations in energy production, which negatively affects investment decisions and economic stability. Among this, EU is also facing challenges such as high and unstable energy prices, rising global energy demand, security risks affecting producer and transit countries, rising threats to climate change, slow progress in energy efficiency, challenges brought by an increasing share of renewable energy sources and the need for greater transparency, further integration and interconnection of the energy market.

This suggests the importance of theoretical and practical knowledge of energy as an important basis for economic growth. Not only because it improves the productivity of labour, capital, technology and other factors of production, but also due to the fact that increased energy consumption may affect the economic growth, and vice versa. In the strategic development of each country, the supply of energy from its own sources is one of the bases of a stable economic system. Also it is an indicator of the country's independence and sustainability of external influences on the price movement of energy raw materials. Insufficient availability of energy, disruption of energy supplies and strong changes in energy prices may become a limiting factor for economic growth.

In order to mitigate climate change and meet goals defined by Kyoto Protocol and the Paris agreement, the EU has set different target values to be achieved by 2020 and 2030. These target values include direct and quantified reduction of greenhouse gas emissions and specific target values for increasing renewable energy production and energy efficiency. By achieving these goals, a path would be opened for achieving the main goal by 2050 - reduction of carbon dioxide emissions in all EU member countries by 80-95%. Achieving these goals represents a particular challenge for the post-transition EU countries due to a number of specific characteristics of the region's current energy system. Most importantly, carbon intensive fuels account for a much higher share of the energy mix in the post-transition compared to developed EU countries. This is primarily due to a considerably higher overall reliance on solid fuels. While solid fuels, in 2015, accounted for only 12% of gross inland energy consumption in developed EU countries, they represented 33% of the energy mix in post-transition EU countries. As a consequence, post-transition EU countries emit significantly larger amounts of greenhouse gases relative to the overall quantity of energy consumed.

In the last twenty years the EU countries have been working on the creation of the internal energy market and Energy Union. The package of measures for the Energy Union aims to ensure the EU, and its citizens, a favourable, safe and sustainable energy. Specific measures include, among other things, energy security, energy efficiency and decarbonisation. However, the EU includes a heterogeneous group of countries. Between developed and post-transition EU member countries there are huge differences in the availability of own sources of energy, infrastructure, distribution system, price structure, as well as in many other factors. Post-transition EU countries have come a long way in the past 20 years. The gross domestic product (GDP) growth rate of post-transition EU countries has nearly doubled compared to the original EU member countries. They have improved their energy efficiency vastly, and are narrowing the gap with the old EU member states. However, part of that improvement was due to abandonment of Soviet-era heavy industry. Further reductions in energy intensity are harder, and with development of renewable energy, will require large financial investments.

Research problems

Energy is a necessary and crucial generator of overall human development, and at the same time energy consumption is considered the main cause of excessive emissions of greenhouse gases. This paradoxical situation requires attention and search for quality solutions. There is a growing interest in renewable energy sources as an alternative to fossil fuels due to the concerns regarding carbon dioxide emissions, energy security issues, and the dependence on imported energy. The EU's unique energy policy focused on the greater use of renewable energy sources and has significantly defined reforms in all EU countries. Differences in consumption between developed and post-transition EU countries have a major impact on the overall EU energy policy.

The typical characteristics of the new member countries are their higher energy intensity, accompanied by somewhat lower economic level than in the original member countries. The apparent ambition for the convergence in the energy consumption might be appealing. However, the question is if reduced energy consumption (or increased energy efficiency), will go hand in hand with the economic growth. In other words, if all the countries follow this common policy, will they all experience the same effects? Is the common policy more beneficial for one of the country groups, while being inexpedient for the other? What is the difference between consumption of particular energy source in developed and post-transition EU countries.

This dissertation is focused on examining the impact of renewable and non-renewable energy consumption on economic growth in developed and post-transition EU countries. For a comprehensive analysis of the future development of the energy system, especially from the point of view of creating a single energy market, it is also necessary to determine whether the growth rates of energy consumption in post-transition EU countries are converging to the growth rates of developed EU countries. Convergence occurs if the countries with low energy consumption are catching up with the countries with higher energy consumption. The use of per capita energy consumption in testing energy convergence is important since it indicates not only whether convergence occurs, but it also motivates to study the reasons for convergence or the potential sources of divergence. Since energy is an important but not free input in the production process, it is important to know whether it is used in an efficient and sustainable way. Moreover, because energy consumption is known to be by far the most pollutant gas emitting activity, and climate change and shortage of energy the main challenges today, a deep understanding of the energy convergence process may offer useful policy suggestions for sustainable energy consumption and efforts to decrease carbon dioxide emissions.

In contrast to previous studies in this area, this study considers the consumption of renewable and non-renewable energy sources in order to distinguish their impact on economic growth. It strives to correct the shortcomings of the majority of studies published so far, primarily referring to the use of the multivariate framework and the corresponding quantitative method. Second, to avoid the potential problem of omitted variables, the research applies the Cobb-Douglas production function which includes capital and labour. Thirdly, the sign and size of individual coefficients is evaluated in relation to comparative models in which the relationship between consumption of renewable and non-renewable energy sources and economic growth is investigated. Fourthly, the presence of energy consumption convergence

(renewable and non-renewable energy sources) between post-transition and developed EU countries is tested.

Hypotheses and methodology

In order to better address these problems, it is crucial to define two scientific hypotheses related to the research segments which are carried out in this doctoral dissertation.

H1: Energy consumption has a positive and statistically significant impact on economic growth.

By examining empirical research on interconnections between energy consumption and economic growth, it can be concluded that there is no consensus on existence or direction between energy consumption and economic growth. Although new and sophisticated econometric methods have been developed for identification and understanding of relationship between energy consumption and GDP, an increasing number of published empirical studies have inconsistent results, thus disabling the creation of credible energy programs and measures.

Most studies that analyse the relationship between energy consumption and economic growth are focused on developed countries, developing countries and the so-called countries with emerging markets. Studies related to the post-transition EU countries are numerically inferior. Reforms in the energy sector in the post-transition EU countries are carried out as part of the broader process of transition and structural adjustment. Macroeconomic framework of these reforms varies considerably between developed and post-transition EU countries. Therefore, this dissertation analyses the impact of the renewable and non-renewable energy consumption on economic growth. Analysis is carried out separately for developed and post-transition EU countries. For this reason several auxiliary hypotheses are formulated:

AH1a - In developed EU countries, renewable energy consumption has a statistically significant positive impact on economic growth.

AH1b - In developed EU countries, non-renewable energy consumption has a statistically significant positive impact on economic growth.

AH1c - In post-transition EU countries, renewable energy consumption does not significantly affect economic growth.

AH1d - In post-transition EU countries, non-renewable energy consumption has a statistically significant positive impact on economic growth.

In dissertation static and dynamic panel-regression analysis is applied and the results are compared. In order to prove the main and auxiliary hypotheses, two models were developed to determine the impact of renewable and non-renewable energy consumption on economic growth in developed and post-transition EU countries. The empirical data is expressed in per capita for a simpler comparison of the results between countries.

H2: Regarding growth rate of energy consumption, the post-transition EU countries are converging to developed EU countries.

Most of preceding studies considered the issue of energy consumption convergence in the context of total energy consumption per capita, electricity consumption or energy intensity in developed and OECD countries. There is a lack of research and knowledge about the

existence of energy consumption convergence (renewable and non-renewable energy) for the EU, especially post-transition and developed EU countries. If there are divergent trends between the post-transition and the developed EU countries, the adoption of an appropriate mix of economic energy measures can be difficult or even single EU energy policy can be brought into question.

In order to test the H2 hypothesis, regression panel model with fixed effects is applied and the presence of the convergence process is further examined by analysing the coefficients of variation.

For the analysis of the impact of energy consumption on economic growth, a large number of researches use the non-classical Cobb-Douglas production function to integrate energy consumption with production function. Energy can be classified into two categories; clean energy (renewable) and non-clean energy (non-renewable) and the production procedure uses both resources as sources of energy. This dissertation analysed the impact of renewable and non-renewable energy consumption on the economic growth for 15 developed EU countries in the period from 1990 to 2014 and for 11 post-transition EU countries in the period from 1995 to 2014. Malta and Cyprus are excluded from the research due to the lack of all the necessary data. For this purpose, an econometric model based on Cobb-Douglas's production function was specified. To test the validity of the hypothesis, a panel data analysis was used.

The empirical part of the doctoral dissertation is based on the use of several econometric methods that take into account the stationarity and endogeneity of the relevant variables within the chosen model. The primary objective of the model is to test how renewable and non-renewable energy consumption impacts the economic growth of the selected countries and establish the existence of energy convergence process between EU countries. As the panel of 26 EU countries was analysed, the most relevant methods of static and dynamic panel-regression analysis were applied in the analysis. Static regression analysis was applied by using: pooled regression, fixed effect and random effect model. In order to avoid neglecting the dynamic nature of the process, a dynamic panel-regression analysis was applied which encompasses the following methods: the average group estimator and the traditional pooled group estimator.

In order to analyse the energy consumption convergence between post-transition and developed EU countries, a regression panel model with fixed effects was applied, and the presence of the convergence process was further examined by analysing variation coefficients.

The data used in the analysis of the convergence process in this study is the consumption of renewable and non-renewable energy per capita, long-term investment per capita and the share of labour force in the total population in the post-transition and developed EU countries. Panel analysis of beta convergence is conducted on annual data from 1990 to 2014 for developed EU countries, and from 1995 to 2014 for post-transition EU countries. The sample includes 15 developed and 11 post-transition EU countries.

Research results

The results of the econometric analysis carried out on a set of developed and post-transition EU countries confirmed the basic hypothesis, the energy consumption has a positive and statistically significant impact on economic growth. The presence of causality from energy

consumption to economic growth means that the availability of energy has a direct impact on economic activity and a prerequisite for achieving high growth rates in the region. Therefore, priority should be directed to energy management, manufacturing and distribution in order to avoid harmful effects of lack of energy. However, the empirical finding that energy consumption causes economic growth does not necessarily imply that energy conservation will harm economic growth if energy-efficient production technologies are used. In fact, a reduction in energy consumption due to improvements in energy efficiency may raise productivity, which in turn may stimulate economic growth. Thus, a shift from less efficient and more polluting energy sources to more efficient energy options may establish a stimulus rather than an obstacle to economic development (Costantini and Martini, 2010).

According to the results of the fixed-effect model, in both groups of countries the change of consumption of renewable and non-renewable energy positively affects elasticity of per capita GDP. However, if we ignore the dynamic nature of the process, important information can be lost, so the results of the estimation can be biased and inconsistent. Dynamic panel-regression analysis was implemented.

Results for developed EU countries

Using a mean group estimator (MG), the results showed that in developed EU countries, changes in consumption of renewable and non-renewable energy sources per capita have a positive impact on economic growth, but only in the long run. Non-renewable energy is the most important energy source and the driver of overall economic growth. Oil consumption remains a major source of energy in most developed EU countries. However, most of them are net importers of oil and oil products. Over the last 15 years, coal consumption has been significantly reduced, and partly replaced by gas and renewable energy. Consumption of renewable energy is continually growing, especially after the ratification of the Kyoto Protocol.

Results for post-transition EU countries

Using pooled mean group estimator (PMG) the results showed that in post-transition EU countries, the change in the consumption of renewable and non-renewable energy per capita has a statistically significant impact on economic growth. However, the impact of the consumption of non-renewable energy is negative in the long term and positive in the short term. The above results can be explained by the change in the structure of total energy consumption in the post-transition EU countries where in the last 15 years energy intensity of the economy and consumption of non-renewable energy sources had reduced, while consumption of renewable energy has increased by four times. Total energy consumption per capita in most post-transition EU countries is lower than the EU average. Although their energy sector is characterized by relatively high energy intensity, there is considerable potential for increasing energy efficiency. Increased energy efficiency does not necessarily mean a reduction in total energy consumption. Efficient spending of energy resources as a result of the development and implementation of energy-efficient technologies ultimately can lead to higher energy consumption. This is a so-called rebound effect, known in the literature as Jevons' paradox. In this context, the economic policies of individual post-transition EU countries must provide incentives to reform the economic structure towards re-industrialization and energy-efficient industries, and increase investment in new energy capacities and diversify energy sources to reduce dependence.

Based on the presented results it can be concluded that in both groups of countries in the long run there is a statistically significant impact of changes in consumption of renewable energy

per capita on economic growth per capita. It is also clear that, in the case of developed EU countries, the relative impact of consumption of renewable energy per capita on the economic growth is higher than in post-transition EU countries. Specifically, developed EU countries have a higher share of renewable energy in total energy consumption compared to post-transition EU countries. Although the renewable energy could assist in expanding energy access in the post-transition EU countries, the results show that the effects of renewable energy consumption have little impact on real GDP in the long run at the level of significance of 10% while in the short term there is no impact.

Research results of energy convergence

The presence of the sigma convergence process, which was tested using the coefficient of variation, indicated the presence of a renewable energy convergence in the developed and post-transition EU countries.

For consumption of non-renewable energy sources, results indicate dispersion or a combination of convergence and divergence. This is because EU energy policy promotes the reduction of consumption of non-renewable energy and increasing the use of renewable energy. However, not all EU member countries equally contribute to the reduction of non-renewable energy sources. Convergence results are largely the result of a trend in the consumption of non-renewable energy in Germany, France, United Kingdom and Italy, as their consumption is the highest in relation to other EU member states.

The presence of convergence was additionally confirmed by beta convergence where a panel model with one-side fixed effects was implemented. The results confirmed the presence of the absolute convergence process in the consumption of renewable and non-renewable energy per capita for 26 EU countries and separately for post-transition and developed EU countries. This confirms expectations based on the neoclassical growth model.

In developed EU countries in the period 1990-2014 consumption of non-renewable energy has converged at a rate of 5.9% per year, while the consumption of renewable energy has converged at a rate of 4.7% per year. In the post-transition EU countries in the period 1995-2014, consumption of non-renewable energy has converged at a rate of 16.3% annually, while the consumption of renewable energy has converged at a rate of 6.4% per year.

Given that the important goal of this paper was to establish whether the post-transition EU countries are converging to the EU's energy consumption growth rates, it can be concluded that this hypothesis is proven because post-transition EU countries grew faster in energy consumption compared to developed countries.

There is a lot of space for a new research, not only in terms of testing the energy convergence process within another time period and using other methods, but also testing the presence of stochastic or convergence club's.

Conclusion

From the research carried out in dissertation a few impacts on energy policy can be deducted. First, with the aim of formulating and implementing energy policy and measures at EU level, different sectors and regions need to be considered separately. Second, understanding the

dynamics of consumption of renewable and non-renewable energy sources in individual countries and the factors affecting them may help in the development of appropriate energy measures aimed at reducing the differences between countries and improve energy efficiency. Third, policy makers need to be more focused on the changing patterns of human behaviour and the use of cleaner energy. Fourth, adequate and timely communication with consumers about changes in future electricity price may slow down the intensity of changes in electricity consumption. Finally, the national governments play an important role in achieving energy policy convergence and energy efficiency. They can influence the behaviour of energy consumers and are more flexible to implement new and innovative policies.

Improving energy efficiency is also one of the proposed measures. Along with market-based energy price formation and well-designed state policy, energy efficiency can be a generator of business activity. Compared with EU countries, relatively high energy intensity of the post-transition EU countries indicates that there is potential for further savings in total energy consumption. This can be achieved by increasing energy efficiency in all segments, particularly in buildings. The reconstruction of buildings, systematic information and education of citizens (at local and national level) on the use of energy efficient products (materials and systems) and introduction of new technologies (smart grids and meters) can reduce energy consumption while not having negative affect on economic growth.

Energy supplies are spread unevenly across Europe. Transporting energy, whether in the form of electricity or fuel, across long distances is difficult and costly. There is no single European grid, and there are few interconnectors to bring power from where it is generated to where it is needed. New pipelines carrying fuel from Russia, the Middle East and other regions are also likely to be needed, and the infrastructure for gas deliveries is grossly under-developed compared with pent-up demand. An Energy Union could solve many of these problems, for instance with key infrastructure such as new interconnectors, pipelines, and updated grid technology. If power was able to move more freely across borders and long distances, this could bring efficiencies and economies of scale, and also harmonise prices for consumers, which vary widely across member states.

Even though there may be political will to construct common goals and objectives for EU, different policy design for each of the groups of countries should be considered. Care should be taken especially with the implementations of energy conservation policy in the new EU member countries, especially regarding service and industry sector. It is true that the energy intensity is still higher in the new EU member countries. But if we examine the energy-economy nexus, it will be irresponsible to forcibly reduce the energy consumption. Furthermore, energy conservation plans and regulations should probably be constructed separately for the production sector of the economy and for the residential energy sector.

Introducing common energy rules and standards, EU has achieved good results in building energy policy, but the construction process has not yet been completed. The post-transition EU countries are gradual adapting to energy policies and the energy market, but this process will last much longer than in developed EU countries.

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THIRD AWARD

The Influence of Subsidiary Strategic Initiatives on Headquarters in the Industry of Information and Communication Technology

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Abstract

The purpose of the doctoral dissertation is to investigate subsidiary strategic initiatives in the light of dynamic headquarters-subsidary relations. The results stemmed from the quantitative part of the research show that subsidiary networking and autonomy have a significant impact on subsidiary strategic initiatives whereas top management support and subsidiary innovativeness have no impact on the same variable. Also, they show that subsidiary strategic initiatives have a significant impact on its contribution to the headquarters (HQ). Furthermore, the results of the qualitative part of the research confirmed the role of subsidiary top management as a crucial and omnipresent within the process of strategic initiatives. Moreover, the key success factors are the subsidiary credibility, the openness of the HQ to strategic initiatives and the alignment of proposed strategic initiatives with the strategy of the HQ

1. Introduction

The area of subsidiary strategic initiatives has become an area of increased interest in HQs' awareness of the growing pragmatic state of the country towards the development of industrial clusters and understanding of the impact that subsidiaries can have on local economies in the countries in which they operate. Multinational corporations (MNCs) are becoming aware of their subsidiaries power that can actively contribute to business excellence by strengthening their position in the home country through external network development. For example, if a subsidiary increases its bargaining power toward local government, it can secure new business opportunities and/or government funds for new investments and projects that can be a benefit for the whole MNC. The concept of subsidiary contribution to the MNC is increasingly recognized in the research stream. Under before mentioned recognized concept, the phenomenon of subsidiary initiatives remains underexplored.

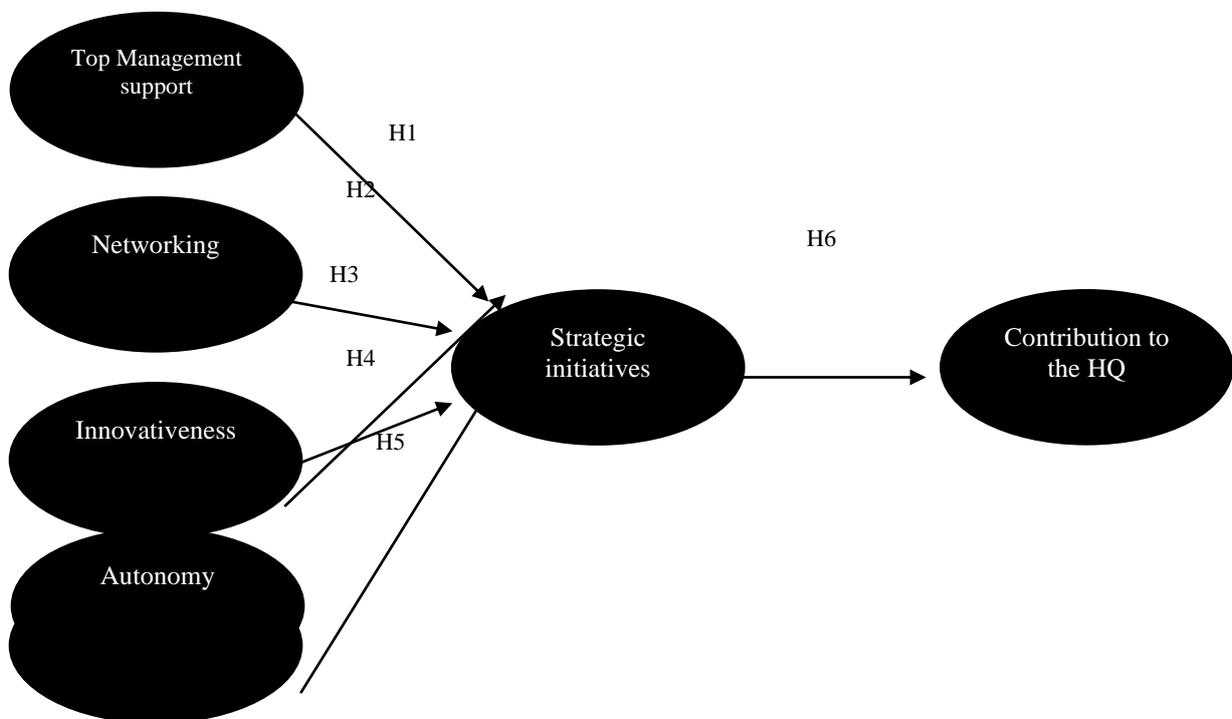
For the research of this dissertation, a combined methodology was used, consisting of quantitative and qualitative research. Subsidiaries in 10 countries - Croatia, Germany, UK, Ireland, Czech Republic, Slovakia, Slovenia, Hungary, USA, and Japan, within ICT industry – served as a sampling frame. Unlike other research, this dissertation includes an additional factor that has not been a part of such researches and refers to the subsidiaries research within a single industry in many countries. Plenty of research was oriented on a few countries as Canada, UK, Sweden, and Japan (Birkinshaw 1998, Ambos et al., 2010) but no researches were focused on a single industry.

The bulk of the data used in this analysis came from a survey based on the perception of subsidiary managers in the ICT industry for the quantitative part of the research, and from a semi-structural interview for the qualitative part of the research. This approach enables to collect data on the cognitive dimensions of headquarters-subsidiary relationship, which matter more than objective accounts, as managers act based on their perceptions.

2. Literature review

Subsidiary initiatives are essential for an MNC for two reasons (Birkinshaw, 2014). The first reason is that through them, MNC is entering new business opportunities in markets around the world. Another reason is that they improve operational efficiency through internal communication between subsidiaries. Initiatives are desirable because they can have positive consequences for the whole enterprise, but in practice, they can be described as “elusive beast” which means that they are seldom visible and rarely realized. Many MNCs that have been the subject of research hinder the entrepreneurial spirit of their subsidiaries, while others agree with the concept of a subsidiary initiative, but they disable their development in practice. Birkinshaw (2014) points out that subsidiary managers need to be resourceful, responsive, persistent, and "lucky" if they want to implement their initiatives effectively. Initiatives are important because they serve to understand that changes can occur even far from the HQ (Cantwel & Mudambi, 2005). In addition to this, the concept of initiatives is also important for understanding other determinants of subsidiaries such as roles, areas of responsibility, capabilities, and relationships with the parent company (Ambos et al., 2010). According to the theoretical model, the following model and hypotheses are proposed. In addition to the hypothesized model and the proposed hypothesis that are part of quantitative research, three research questions (RQs) are also proposed as a kind of support for quantitative research.

Figure 1. The hypothesized model



H1. The subsidiary top management support is positively associated with subsidiary strategic initiatives

The subsidiary top management is in charge of creating an environment in which initiatives are positively considered (Kuratko, Montagno & Hornsby, 1990). Studies confirm that an environment that positively looks at initiatives and taking risks will lead to more subsidiary initiatives (Birkinshaw, Hood & Jonsson, 1998). Also, Ghosal and Bartlett (1994) point out that subsidiary top management should be the most responsible in developing an open environment where employees are encouraged to take risks which ultimately leads to a number of initiatives taken by employees.

H2. The subsidiary networking is positively associated with subsidiary strategic initiatives

According to Jack and Anderson (2002), the development of subsidiary networking is one of the key elements influencing the initiatives. Better networking development leads to better access to different types of resources, such as physical capital (Bates, 1997) and intangible resources such as information (Hoang & Young, 2000). Also, other researchers emphasize the importance of developing subsidiaries networking, not only because of access to different resources but also because of the possibility of lowering the cost of individual resources (Johannisson, 2000). Stevenson and Jarillo (1990) argue that the subsidiary networking development leads to promoting resource sharing and increasing the subsidiary visibility in relation to other subsidiaries.

H3. The subsidiary innovativeness is positively associated with subsidiary strategic initiatives

Subsidiary innovation demonstrates the tendency to support experiments, change, creativity, and thus represent a departure from the established practice of doing business (Lumpkin & Dess, 1996). In literature, the subsidiary innovation is perceived as one of the key dimensions influencing initiatives (McDougall & Oviatt, 2000).

H4. The subsidiary proactiveness is positively associated with subsidiary strategic initiatives

The proactivity of subsidiaries is explained as the perspective of a subsidiary that is active in creating future demand, thus creating a pioneering competitive advantage with respect to other participants (Lumpkin & Dess, 1996). Simply put, the proactivity of subsidiaries refers to the initiation of actions that competition should reactively respond to, and not vice versa (Lumpkin & Dess, 1996). A proactive subsidiary is aggressive in undertaking initiatives (Knight, 1997) and amongst the first to take initiatives that lead to new market opportunities (Covin & Covin, 1990).

H5. The subsidiary autonomy is positively associated with subsidiary strategic initiatives

With the desire of a subsidiary for better positioning to an HQ, the subsidiary top management should develop much wider and more ambitious goals than those that only bring the planned results. Looking from a resource perspective, subsidiaries will try to increase their negotiating power within an MNC (Forsgren & Holm, 2007), which can be achieved by increasing control over strategic resources. The mentioned negotiating power can be used to increase the subsidiary autonomy (Ambos et al., 2010). After subsidiary top management achieves the goals set by HQ, they will begin to take action to help them meet their own needs (Burgelman, 1983, Rugman & Verbeke, 2001). The issue here is how the degree of autonomy will help subsidiaries in undertaking initiatives. Initiatives are allowing an increase in the subsidiary resource base. In line with the extent to which a subsidiary has succeeded in achieving its initiatives, its resource base and negotiating power will be increased to its HQ (Ambos et al., 2010). The HQ will consider subsidiary as more reliable because it has less knowledge of new products or investments (Astley & Sachdeva, 1984), or it will look more credible for the success achieved by undertaking initiatives (Ghoshal, Korine & Szulanski, 1994).

H6. The subsidiary strategic initiatives are positively associated with the subsidiary contribution to the HQ

Successful initiatives strengthen the subsidiary position towards HQ concerning other subsidiaries (Ambos et al., 2010). Subsidiary initiatives can also focus on the local development of a subsidiary, but the focus of this dissertation is on subsidiary initiatives that contribute to the HQ and are potentially relevant to the entire MNC. Research conducted by Birkinshaw (1995), Bishop and Crookell (1986) also show that initiatives play an important role and affect the subsidiaries contribution to the HQ. Subsidiaries can be distinguished and differentiated from other peer subsidiaries by leveraging strategic initiatives and affecting their HQ.

RQ1. The contribution of subsidiary top management to the process of strategic initiatives

Subsidiary top managers have the task of ensuring the success of introducing strategic initiatives to the HQ and obtaining approval for implementation of presented initiatives. In the current research key factors influencing the process of initiatives is the relation between the HQ and subsidiary top managers, where a greater degree of connectivity and more frequent communication will lead to greater credibility, which will affect more successful implementation of initiatives. After successful implementation of the first initiative, it would be much easier to implement other initiatives.

RQ2. The role of key actors in the process of subsidiary strategic initiatives

Subsidiary medium-level management is important in the first phase of the initiatives process where, based on identified opportunities, they make a proposal of an initiative that is later on presented to the HQ. Subsidiary top managers, prior to the submission, have to check and evaluate the proposal of an initiative to successfully secure an initiative confirmation from the HQ. In the phase of "selling" initiatives to the HQ, subsidiary top manager plays a key role, and its ability to persuade, and other factors such as the relationship between subsidiary top management and HQ management, communication and so on, depends on how well a proposal will pass to the HQ. The HQ, however, plays a key role since it decides whether or not an initiative will be accepted and consequently implemented.

RQ3. Critical success factors of subsidiary strategic initiatives

As initiatives are "shaped" through several different phases, the concept of success factors is somehow problematic. The first success factor is the ability of subsidiaries to initiate a process of initiatives, as this requires a certain level of autonomy and dignity of subsidiary top management. The second factor, or manifestation of success, would be the experience of subsidiaries in undertaking initiatives, how the HQ is experiencing them, what is their visibility within an MNC, and what credibility it has. The third factor would be the ability to attract the attention of an HQ which is building the identity and reputation of subsidiaries regarding other subsidiaries within an MNC. The ability to attract attention will, therefore, have an impact on the development of subsidiaries and thus enable initiatives to be taken.

3. Quantitative research

3.1. Methodology and data analysis

The survey was e-mailed to top subsidiary managers working in ICT companies in different countries. Of the 1300 questionnaires distributed, 105 completed and usable questionnaires were returned, representing a response rate of 8.07 percent. Construct measures were adopted from earlier research where possible, most notably from previous MNC subsidiary studies by Roth and Morrison (1992) and Ghoshal (1986).

SEM results are presented in two stages. In the first stage, the measurement model is presented to show that the measures used as operationalizations of the underlying constructs

are reliable and valid. In the second stage, the path coefficients between constructs can be interpreted.

The fourth hypothesis H4 is exempted from the analysis after the exploratory factor analysis because the manifest variables that describe the latent variable from hypothesis H4 did not load around the same factor but were scattered on multiple factors. The reason for this may be questions that are somewhat similar to questions that question the latent variable of the initiative. Given the fact that manifest variables explained other factors, the hypothesis was exempted from further analysis.

The measurement model was assessed by looking at the internal consistency between items intended to measure the same construct, and the convergent and discriminant validity between constructs. Internal consistency was determined using the Cronbach's alpha.

Table 1. Cronbach's alpha

Construct	Number of items	Cronbach's Alpha
Top management support	3	0.917
Networking	4	0.726
Innovativeness	3	0.615
Autonomy	3	0.676
Strategic initiatives	5	0.808
Contribution	4	0.852

As shown in Table 1, all the constructs exceeded the level of 0.6 which is considered very good for exploratory research.

Table 2. Convergent and discriminant validity

Constructs	Composite reliability - CR	Average Variance Extracted - AVE	Maximum Shared Squared Variance - MSV
Initiatives	0.701	0.541	0.190
Networking	0.893	0.807	0.144
Top management support	0.760	0.615	0.296
Innovativeness	0.741	0.590	0.249
Autonomy	0.833	0.626	0.296
Contribution	0.860	0.610	0.223

The CR and AVE were used to test the measurement model's convergent validity. The item had a loading factor of greater than 0.50. This shows that some common points of convergence exist there (Hair et al., 2010). The CR shows results which are higher than 0.70 which means that the variables did converge at some point. The AVE values for the variables are above 0.50. This shows that the latent variables also had a high convergent validity. The MSV was used to test the discriminant validity of the measurement model. The MSV result needs to be lesser than the AVE for the discriminant validity (Hair et al., 2010). Table 2 shows that the MSV results are lesser than the AVE values which means that the discriminant values hold, and the measurement model is according to the assumptions which were initially made.

Table 3. Model fit indices for the structural model

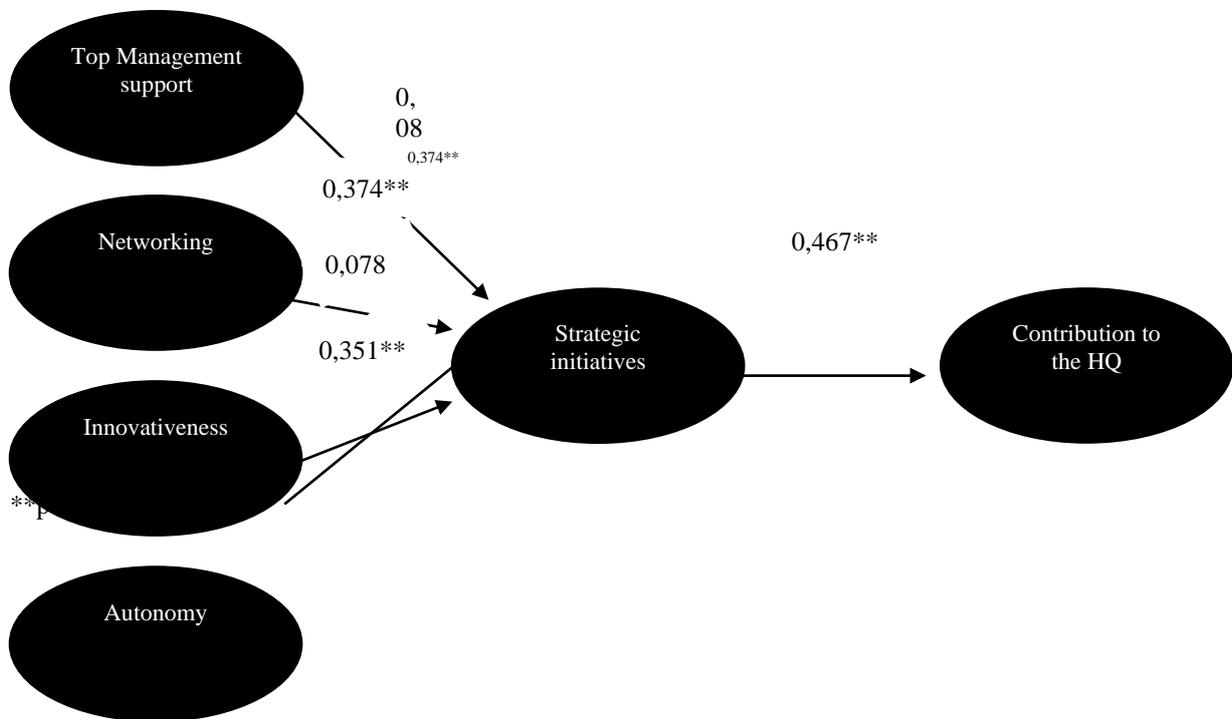
Fit index	Observed value
Chi-square/df (cmin/df)	1.325
CFI	0.931
GFI	0.924
AGFI	0.875
RMSEA	0.05

Table 3 shows the indices of structural model reliability and degree of model suitability with analyzed data. All index values are satisfactory and consistent with the recommended values suggesting that a model is acceptable for further analysis (Hu & Bentler, 1999). The next step in applying the SEM method is the analysis of the structural model itself, with the aim of the testing a set hypothesis.

3.2. Findings

Figure 2 shows a structural model based on empirical data, and standardized structural coefficients estimating direct causal links between latent variables, specified in a defined structural model. Figure 2 shows the structural model which is tested in the research, and it was calculated in AMOS version 24.

Figure 2. SEM results



H1, the subsidiary top management is positively associated with subsidiary strategic initiatives, is not statistically confirmed. The subsidiary top management support refers to the openness of the subsidiary's working environment to risk-taking. This result is partially confirmed in research conducted by Birkinshaw, Hood & Jonsson (1998).

H2 has been statistically confirmed. The networking is positively associated with strategic initiatives where an increase of 0.374 percent is experienced when networking is increased by 1 percent. The result indicates significant importance of intra and extra network since higher developed networking results in higher social embeddedness where a subsidiary in interaction with others can discover new opportunities which can lead to more strategic initiatives. Andersson et al. (2001) have also conducted research work on the matter, and their findings are similar to the research work done here.

H3 has not been statistically confirmed. Reason for that can be found in the fact that respondents are from ICT industry which is innovative by itself, and, accordingly, innovativeness has been incorporated in business as usual and is not considered as something out of business as usual. Also, it can be assumed that a low number of manifest variables could be a potential reason why this hypothesis has not been statistically confirmed. Dimitratos, Liouka & Young (2014) in their research have proved that innovativeness has a positive impact on initiatives.

H5 has been statistically confirmed. Autonomy is positively associated with strategic initiatives where an increase of 0.351 percent is experienced when the networking is increased by 1 percent. For subsidiary top management to undertake initiatives, is a prerequisite for at least some discretion in decision making. Descriptive data analysis in this study has shown that subsidiaries have, on average, an above-average level of autonomy. This hypothesis has been proved many times in different research papers (Covin & Slevin, 1991, Ambos et al., 2010). Similarly, Birkinshaw (1998, 1999) has confirmed how lack of autonomy decreases the number of initiatives undertaken and therefore smothers the entrepreneurial spirit within subsidiaries.

H6 has been statistically confirmed. Initiatives are positively associated with contribution to the HQ where an increase of 0.467 percent is experienced when the initiatives are increased by 1 percent. Moreover, this result indicates that more initiatives undertaking leads to a higher contribution to the HQ which implies better position within MNC that consequently leads to the new responsibilities, new roles, increased number of resources, budgets, etc.

4. Qualitative research

4.1. Methodology and data analysis

Through semi-structured interview has been investigated how does the process of initiatives take place towards the HQ and what is the role of the subsidiary top manager in the process. Several interviews were conducted in each subsidiary to identify a number of initiatives. The number of interviews differs from the number of initiatives, because of separate conversations with multiple participants of the same initiative to get data from different perspectives. After brief introductory questions about the current and past positions of respondents in a subsidiary and their international responsibilities, they have been asked to briefly think about the initiative they have proposed to the HQ over the last five years, regardless of its outcome. After that came questions about developing the idea, developing an initiative itself, who were key participants, events and what were key activities. Two unsuccessful initiatives were identified, one partially successful, while the remaining eight were characterized successful.

Table 4. Qualitative analysis of identified initiatives

Subsidiary				HQ						
Initiative	Activities		Initiators	Proposal	Risk analysis	Business area specialist	Governance	Approval	Resistance	Reason for resistance
Efficiency improvement plan	Two workshops	Idea presentation to the subsidiary top management	Five specialists and top manager	List of activities, roles, and responsibilities	Financial analysis	Presentation to a product specialist	Detailed proposition overview considering its impact on business	Yes	Internal resistance in subsidiary	Change of responsibilities and ways of working
Tool optimization for measuring telecommunication networks	Three workshops	Idea presentation to the subsidiary top management	Program manager and project manager	List of all tools currently used to synergize	Financial analysis in short and long term	Presentation to service specialist	Proposition, plan and risk analysis overview	Yes	Internal resistance in HQ	Suppression of responsibilities as a result synergy of different tools
Strategic Sourcing process standardization	Six workshops	Idea presentation to the subsidiary top management	Strategic sourcing manager and process manager	List and grouping of all suppliers to standardize sourcing management	Financial risk analysis and influence of standardization on current business processes	Presentation to a financial specialist	Proposed standardization overview	Yes	Internal resistance in other subsidiaries	High lobbying opportunities in supplier selection
New business process implementation	Three workshops	Idea presentation to the subsidiary top management	Finance analysts and program manager	Detailed list of activities and actions to standardize planning, delivery, and acceptance of warranties	Financial analysis	Presentation to a financial specialist	Proposition overview	Yes	No	/
Product upgrade	One workshop	Idea presentation to the subsidiary top management	Three specialists, pricing manager, and project manager	Division of the roles and finding the resources that will realize strategic initiative if accepted	Price financial analysis and analysis of differences between current and new product	Presentation to service specialist	Proposition overview and check if the proposed initiative already exists within MNC	Yes	Internal resistance in other subsidiaries	Similar attempts of other subsidiaries
Tool automatization for optimizing networks	Three workshops	Idea presentation to the subsidiary top management	Product manager and project manager	Responsibility division	Analysis of financial influence on current business	Presentation to a product specialist	Proposition overview and request for additional information	Yes	Internal resistance in other subsidiaries	Internal competition
Introduction of new billing models	Two workshops	Idea presentation to the subsidiary top management	Finance analyst and initiative creator	Definition of the goal of the strategic initiative	Cost-benefit analysis	Presentation to business solutions specialist	Proposition overview	Yes	No	/
Plan of new promotions model introduction	Two workshops	Idea presentation to the subsidiary top management	Two specialists and transformation manager	List of events in which would be presented as a wanted employer	Cost-benefit analysis of all events	Presentation to PR specialist	Proposition overview and discussion with the subsidiary top manager	Partially accepted	Internal resistance in both HQ and other subsidiaries	A big switch in the current way of working; new knowledge and experience needed
IT strategic initiative	Few workshops	Idea presentation to the subsidiary top management	IT manager and engineer leader	Resource and competence plan	Risk matrix	Presentation to CIO	Proposition overview	Yes	Internal resistance in the HQ finance department	New investments needed
A new process for planning and education global talents implementation	One workshop	Idea presentation to the subsidiary top management	HR manager and global talent leader	Division of activities	Analysis of consulting costs, labor costs and implementation costs	Presentation to talent specialist	Proposition overview and analysis	No	Internal resistance in the HQ finance department	The high cost of consultants
New partnership model introduction	One workshop	Idea presentation to the subsidiary	Initiative creator and delivery manager	New partnership model	Cost financial analysis and background	Presentation to a specialist for	Proposition overview and analysis of potential	No	Internal resistance in HQ strategic	Suspicion towards "modern" partners

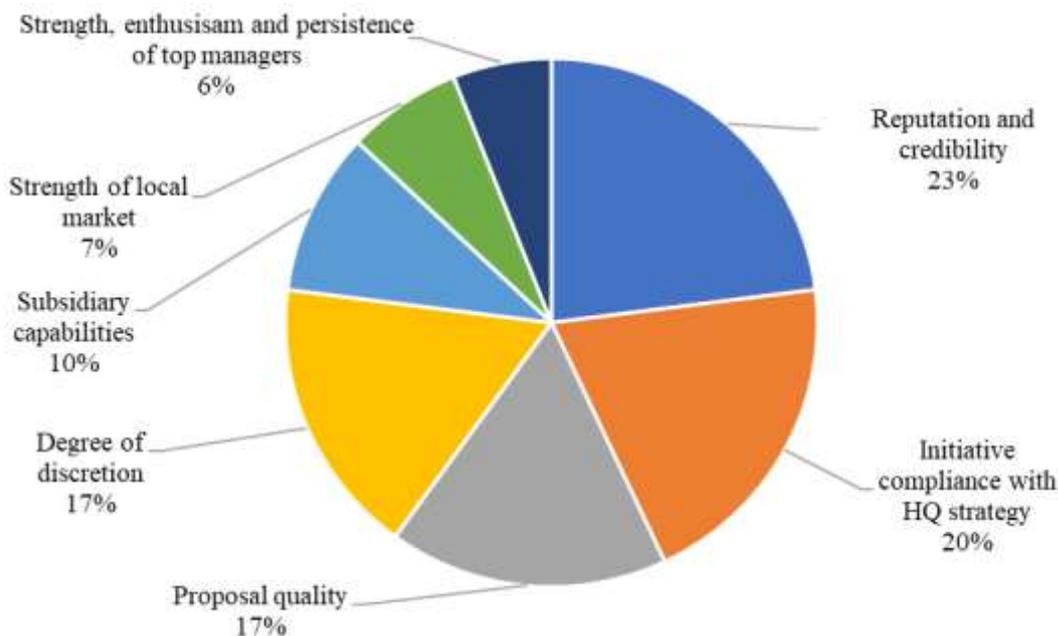
		top management			check of potential partners	strategy and business development	partners from available sources		planning department	such as start-ups
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As can be seen from the table, the majority of the initiatives are primarily oriented to some form of technological progress, which is highly anticipated given that it is an ICT industry. As far as product and production lines are concerned, the most-identified initiatives are focused on optimizing, automating and/or upgrading existing systems, while part of initiatives is focused on business processes, their standardization, or the introduction of a whole new business process. All respondents were top managers in subsidiaries, with one of them being expatriate.

Out of the total number of analyzed initiatives, 36% made three workshops with a goal to more detailed development of the idea before presenting themselves to the subsidiary top management. 27% made one or two workshops, while 9% made six workshops. All the analyzed initiatives were presented to the subsidiary top management.

Further, in 64% of the analyzed initiatives, two employees were participating in the proposal creation, while in the remaining 36%, three, four, five or six participants were creators. Regarding the way of presenting initiatives to the HQ, 36% of them presented orally, while the remaining 64% submitted a written proposal. Some of those who submitted the suggestion later had interactions via Skype for additional explanations. All initiatives were addressed to the internal governance, and the resistance to initiatives within an MNC existed in 82% of the cases. Of the total number of analyzed initiatives, 73% were accepted, 18% were rejected, and 9% were partially accepted.

Figure 3. Key success factors



Respondents analyzed the potential success factors they consider critical for the success of subsidiary strategic initiatives. As the most important factors, the reputation, and credibility of subsidiaries (23%) were highlighted, followed by the compliance of the strategic initiative with the strategy of the HQ (20%). Also, the quality of the proposal and the degree of discretion (17%) were identified as important. The least important for success is the

subsidiary capabilities (10%), the strength of the local market (7%) and strength, enthusiasm and persistence of top managers (6%).

4.2. Findings

The first research question RQ1 relates to the contribution of top management in the process of initiatives. According to the results of qualitative research, it is visible that in all (100%) analyzed initiatives, subsidiary top managers participated. Their contribution is reflected in their participation in the creation of proposals, plans, and risk analysis. They were not those who created these documents but supervised their execution by providing advice on how to best prepare them to ensure obtaining a positive response from the HQ. Some of the respondents also mentioned lobbying at the HQ, directly or indirectly, as one of the contributions of subsidiary top managers. Furthermore, all the analyzed initiatives that needed to be presented to the HQ were presented by subsidiary top managers. Conclusion on the importance of top managers contribution to the entire process of initiatives is in line with research conducted by Ghoshal and Bartlett (1994), Birkinshaw et al. (1998), and Bourne et al. (2002).

Second research question RQ2 encompasses key players in the process of strategic initiatives of MNCs. According to the analyzed data of this research, the following actors have been crystallized: the initiator of an initiative, the subsidiary top management, the business area specialist and the HQ's governance. Secondary roles are performed by a variety of business and financial analysts that help to create suggestions, plans, and risk analyses to help them get better and more professionally done so that potential mistakes in the steps would not diminish the likelihood of initiatives acceptance. The fact that subsidiary middle-level managers are identified as key players to creating and launching initiatives is in line with previous research (Birkinshaw et al., 1998; Delany, 2000; Ambos et al., 2010).

The last research question RQ3 is related to key success factors of initiatives. The first three key factors of success are the credibility of subsidiaries, compliance with the HQ's strategy and the quality of the proposal. This is somewhat in line with Birkinshaw (1995), according to which the key factors are timing, the credibility of subsidiaries, and compliance with the HQ's strategy. According to Ambos et al. (2010), one of the key success factors is the identity and reputation of subsidiaries, which is consistent with the results of Ling, Floyd, and Baldrige (2005).

5. Implications, limitations, and avenues for future research

The phenomenon of subsidiary initiatives is not only an academic question, but also it has significant practical implications. This study offers many valuable insights into the process of subsidiary initiatives that serve as a mechanism through which subsidiaries can contribute to the HQ. The aim of this dissertation was not to introduce a systematic guide on undertaking initiatives but to emphasize the phenomenon of initiatives, its worthiness, and the consequences that can be founded. The accent is also on the importance of the cognitive dimension of subsidiary top management since they are the main actors whose obligations is to create an open environment where everyone is welcome to come up with new ideas and where employees are encouraged to take actions considered risky.

The limitations of this study should be considered when evaluating its findings. One principal limitation is related to the managerial perception. Furthermore, in this dissertation, it was only analyzed the phenomenon from one perspective, from the perspective of subsidiaries;

therefore, the findings may not be generalizable. The suggestion for future work is to analyze HQs and subsidiaries simultaneously, considering countries that are usually thought of as culturally similar and those that are not. This should increase the likelihood that the results can be generalized. Even though the analysis of subsidiaries is related to one industry, cultural values and norms are different and therefore should be taken into consideration. Future studies could seek to validate the propositions of this dissertation using larger samples of firms and including other internal determinants of initiatives as compensation systems, learning, knowledge sharing, etc. Given the importance of initiatives, longitudinal studies may well suit the objective of looking at the subsidiaries within one MNC and so more in-depth case studies that track the process over time will be very supportive for provoking further theoretical knowledge.

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Centralisation and Economic Crisis

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Abstract

The main purpose of this thesis is the analysis of the relationship between economic cycles and concentration of authority. Firstly, economic cycles motivate companies to change authority concentration. During crisis, firms centralise to gain efficiency, which is crucial to survive recession. While during prosperity, they decentralise because thereby they can increase their innovative capability.

Secondly, authority concentration can influence economic cycles by the management accelerator effect. Because during prosperity, firms become more decentralised which fosters innovation therefore they can grow faster. This effect can accelerate growth in the whole nation economy as well. On the other hand, if a firm maintains centralisation in a long run it will be less innovative than the rivals. Therefore, the whole nation economy must face a slower growth.

Economic crises are integral parts of the capitalist system (Kornai, 2011). Albeit, the last global recession broke out a decade ago, some countries still suffer its consequences (e.g. Greece (Smith, 2017), Portugal (Brunsdon et al., 2017)), while other countries had to face other crises (e.g. Brazil (Phillips, 2017), Puerto Rico (Williams Walsh, 2017)). Although, economic recessions are inevitable, not all companies can adapt to them, therefore, choosing the most adequate crisis reaction is essential for their survival. Some companies implement an operational turnaround, others instrument change in their product or financial portfolio, while some firms restructure their organisation. The latter always changes the concentration of the decision-making authority of the company (viz. centralisation or decentralisation), the analysis of which is crucial to understand crisis strategy for two reasons.

Firstly, senior management can change concentration of decision-making authority rather facilely. Certainly, while a reconstruction of the corporate governance system can take months and the implementation of an organisational transformation program can last for years, a change in strategy making is achievable in days. There are several ways to centralise strategic decision-making, but the easiest way is when a senior manager simply does not involve as many people in the core decisions as she did before. It is so simple to apply that it may not be conspicuous even for the senior management (it might happen unconsciously).

Secondly, regarding firm performance, change in concentration of decision-making authority can have serious consequences, while it is rather difficult to catch. More specifically, centralised decision-making can increase efficiency by its holistic approach, and decentralisation is better at adaptation because of the effective gathering of local knowledge. Nevertheless, in practice, the identification of the right balance between structure and delegation is always problematic.

These two reasons highlight the importance of in-depth analysis of concentration of decision-making authority in the time of recession, which leads us to the question of the thesis: what kind of relationship exists between concentration of authority and economic crises.

Crisis can be defined as a state when an unexpected change in the contextual factors significantly jeopardizes the profitability, the operation or the existence of the organisation.

While the thesis defines the level of centralisation as the concentration of decision-making authority in the organisation.

The next part contains the logic and structure of the three chapters, which are three different, but interrelated papers. The first one is a theoretical paper, which examines centralisation in a history of thought perspective. The second paper is an empirical analysis about the relationship of economic crisis and centralisation. The third chapter is a qualitative research showing why companies centralise during crisis. The final part of this introduction briefly describes the summary and the conclusions of the dissertation.

2.1. Comparison of Calculation and Corporate Planning Debate about Centralisation

The first chapter is a theoretical paper about the historical background of centralisation theory describing the similarities between two debates about central planning. The first one was Hayek and Langes's calculation debate happened between 1930s and 1950s and the second was the corporate planning debate of the 1990s between Ansoff and Mintzberg. The paper shows the similarities of the debates and analyses the general nature of planning which provides theoretical basis for the next two chapters.

Question and method. The purpose of the first chapter is to answer the following question: what the main arguments of centralisation can be identified. The method of the paper is based on content analysis of the most significant articles of the field. During the examination of the sources I noted the main breakpoints and statements. Then I looked for patterns and similarities in both the calculation and the corporate planning debate. Of the dozens of characteristics, five criteria were the most frequently recurring elements in both debates which will be elaborated in the following chapter.

Results. The five issues are the following: the role of the headquarters; the behaviour of the organisation; information available to the organisation; differences of planning and implementation; and dynamism. Both debates pay a lot of attention on these topics which can be used to identify the most important centralisation-related arguments listed below.

Conclusions. This research has several implications which are used in the following chapters. First, planning has general nature. On the one hand, it is worth applying or at least examining each other's planning models of economics and management science. On the other hand, one can identify political and economic arguments in such debates that are independent of the specific historical era or business entity concerned. Two of the most important statements are the following: (1) centralisation is good at global efficiency because it can make company-wide optimisations. (2) Decentralisation fosters innovation by local adaptation because it allows experimentations on the lower levels of the organisation as well.

Second, centralisation and decentralisation are the two ends of the same continuum. The "illusion of extremities" part of the paper describes that neither end of the scale can provide successful long-term solution for the organisations. Too much decentralisation can result in uncoordinated activities and thereby in failure of organisational operations. On the other hand too much centralisation can cause too rigid structures and too much overhead costs. Instead of choosing only one side, companies are moving on the continuum perpetually to find the right balance between global efficiency and local adaptation.

2.2. Centralisation of strategic decisions during the Great Recession

The second chapter is an empirical paper describing how economic crisis influences concentration of authority. Based on the EFIGE dataset this chapter can analyse one of the largest samples (more than 14,000 companies) of centralisation researches. The most important results of the multinomial logistic regression model are the following: (1) crisis

increases the probability of centralisation; (2) centralisation is associated with other short-term policies; and (3) those companies which centralised during the crises realised slower growth in the next 3 years. These findings are the empirical background of the centralisation cycle conjecture.

Question and method. The main question of the second chapter is that how crisis influences concentration of authority. There are several papers which examined centralisation in the time of depression. This paper has three main contributions to the literature (1) it analyses one of the largest sample of the field; (2) it examines the relation of centralisation to other crisis policies as well; and (3) it investigates the mid-term performance differences on the same sample.

The European Firms in Global Economy: international policies for external competitiveness (EFIGE) project surveyed 14,759 companies about various topics between 2009 and 2010. It is a representative sample of European industrial (10+ employees) firms from seven countries: Austria (443), France (2,973), Germany (2,935), Hungary (488), Italy (3,021), Spain (2,832), and the United Kingdom (2,067) (Altomonte and Aquilante, 2012, p. 6.).

Examining the main question a multinomial logistic regression model was applied where the dependent variable was the change in authority concentration. It could be -1 if the company became more decentralised in 2009; +1 if it became more centralised; or 0 if there was no change at all.

Crisis, as the main dependent variable, was measured by the change of turnover from 2008 to 2009 (%). It was supported by various control variables such as country, size, and industry. To test the robustness of the results additional control variables were added to the original model as well.

In terms of measuring short-term strategic focus, we use a number of variables. The first of these measures was whether the firm considers cost-cutting as key to future success. This is measured by the answer to the following question: "With respect to your business, indicate the main competitive factors which will determine the success of your firm in the next years". Managers answered to the question spontaneously, and the dummy is 1 if they mentioned lowering production cost as such a factor. Change in investment is a dummy coming from a similar question: "During 2009 has your firm reduced its planned investments in machinery, equipment or ICT?". Finally, we also include a variable measuring whether the firm laid off any employees.

We have complemented these survey data with balance sheet and income statement data for 2009 and 2012 from the AMADEUS database for a large subset (nearly 8,000 firms) of the dataset which enables us to study the post-crisis performance of these firms.

Results. The main findings of the paper were the following: (1) crisis increases the probability of centralisation; (2) centralisation is a complementary tactic to other crisis policies; and (3) centralisers realise smaller mid-term revenue growth. Interestingly there was no industry effect while most countries have different centralisation habits.

Conclusions. Albeit centralisation decreases three-year growth, companies implement such policy. This reaction emphasises the importance of behavioural approach to centralisation. There are several papers in the literature which state, during crisis decentralisation is the optimal choice, but still companies prefer centralisation. The purpose of the third chapter is to understand this behaviour.

Second, if crisis fosters centralisation, recovery may do the opposite. This hypothesis leads us to centralisation cycle conjecture describing that concentration of authority changes according to economic cycles. This concept will be the basis for the third chapter and the management accelerator effect.

2.3. Why do firms centralise during the crisis even if it is not optimal?

This qualitative chapter shows that companies centralise because (1) managers think it is more effective; (2) they expect it makes communication easier; and (3) they lose their confidence in the middle managers during crisis. The interviews with British and Hungarian senior managers support the hypothesis of centralisation cycles viz. there may be a link between decentralisation and prosperity. Based on the empirical results a theoretical model is formulated which describes why companies maintain centralisation longer than it is optimal. Furthermore it provides a concept describing how adequate adaptation to economic cycles can result in competitive advantage.

Question and method. The main contribution of this paper to the literature is the qualitative analysis of centralisation decisions. As it was discussed before the second chapter showed that crisis fosters centralisation. But based on a longitudinal empirical analysis Aghion and Bloom (2014) state decentralisation is more beneficial during the crisis because it increases total factor productivity and growth. Therefore the main question of this chapter is that if decentralisation results in better performance why companies still centralise in the time of depression.

This research is an interview-based grounded analysis. The sample was based on the dataset of the EFIGE described in-depth in the previous chapter. To understand the centralisation decisions I tried to find those companies which (1) faced more than 20% turnover decrease in 2009; (2) centralised or decentralised their strategic decision making in 2009; (3) still operate (in 2014 or 2015); and (4) have at least one senior executive who was the manager of the company in 2009. To meet these selection criteria I searched the EFIGE dataset and the internet.

As a result 6 Hungarian and 6 English interviews were conducted in 2014 and 2015. Therefore with the one preliminary research interview from 2013 I had a sample of 13 companies. All of the (approximately 45-90 minute-long) interviews were recorded, typed word-by-word and after that sent back to the interviewees for possible edition or comments. Only the final, reviewed versions were used for the analysis.

At this point I must mention that all of my interviewees were very helpful and kind, therefore I would like to thank them. Unfortunately because of confidentiality agreements their names must remain hidden.

Results. Before examining the reasons of centralisation or decentralisation the chapter provides a rather long description about the process how companies react to crisis. Later it becomes very important because it will be the theoretical background for the model of centralisation cycles.

Based on the interviews centralisation is a crisis tactic. It can strengthen efficiency because it decreases the time of decision-making and allows firms to have a company-wide focus during considering crisis tactics. Furthermore even lack of trust can foster centralisation. Interestingly very few disadvantages of centralisation emerged during the interviews. Moreover nobody mentioned that centralisation may hamper innovation.

While crisis and centralisation relationship was rather strong and clear during the interviews I hardly find evidences for a link between depression and decentralisation. Companies in the sample decentralised because they wanted to involve new knowledge or information to the top decision units. But most of these decentralisation programs started before the crisis and they were related to previous growth or diversification rather than the depression.

Conclusions. The qualitative study supported the centralisation cycle conjecture viz. in the time of crisis companies centralise while during prosperity they do the opposite. But based on the interviews this adaptation to the economic cycles is not perfect namely, some companies maintain centralisation even in prosperity. The final part of the paper formulates a theoretical

model describing why companies maintain centralisation. The two main reasons are (1) the imperfect perceiving of economic cycles; and (2) the love of power.

Thereby we can state some companies are better at adaptation to economic cycles than others which can provide competitive advantage. Those companies which can centralise faster in the time of crisis can gain more efficiency than their competitors. And if the recovery starts those firms which decentralise more quickly can become more flexible than the rivals. This is the adaptation advantage.

3. The Management Accelerator Effect

Management accelerator effect is a hypothesis which describes that the centralisation habits of firms can strengthen economic trends. To understand this hypothesis, two phenomena should be analysed such as: (1) the crisis-centralisation interaction; and (2) the centralisation cycles conjecture.

Crisis-centralisation interaction. The main purpose of this dissertation is to answer the question what kind of relation can be identified between economic crisis and centralisation. As it was shown, they interact in two ways. First economic crisis increase the probability of centralisation within the company. As we could see in the first and second chapters centralised companies are less good at innovation and they have smaller growth rates. Therefore, there is a second connection between economic crisis and centralisation. Because (1) firm performances influence the growth of the whole nation economy (by definition), and (2) centralisation decreases company growth, hence centralisation can probably influence the nation economy as well.

Centralisation cycles conjecture. As we could see in the second chapter, fall in turnover increases the probability of centralisation. Moreover, we could observe a not significant, but positive relationship between turnover increase and decentralisation. Based on the previous researches and our empirical findings a centralisation cycle conjecture can be formulated viz. during depression companies increase the concentration of authority and in the time prosperity, they decrease it.

On the foundations of the empirical findings and theoretical background the last, summary chapter describes the management accelerator effect. The global efficiency of centralisation helps firms survive the crisis. But those companies can be more innovative than the competitors which decentralise faster when the recovery starts. On the other hand, those firms which maintain centralisation longer than it is optimal can face a longer recession and slower recovery. This phenomenon can influence the growth of the whole nation economy as well. The management accelerator shows how (de)centralisation as firm-level adaptation capability can strengthen growth or lengthen crisis in the economy.

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The Role of Networks in the Emergence of New Business Opportunities and
New Ventures in Different Geographic Contexts

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Investigation of Sustainable Supply Chains Implementation: A Social Network Perspective

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Abstract

Drawing on the pressures from resource scarcity, legislation requirements and stakeholder expectation, the need is called for understanding fundamental issues for sustainability practice in business operations. As such, this study adopts a social network perspective to investigate how personal ties can break down the boundaries and influence sustainable SCM (SSCM) implementation .

Mixed-method approach was adopted to collect 476 usable questionnaire survey and three supply chain networks cases with 16 companies. Integrated empirical observations indicate that social networks increase the flows of supply chain capital among actors and influence supply chain structures for enhancing SSCM.

Research background

Institutional forces and company strategy for sustainable SCM

From a historical perspective, environmental and sustainable agenda have been shaped by the great waves of public pressure since 1960 (Elkington, 1994). Therefore, it is argued that sustainable SCM is driven by institutional pressure (Zhu, Sarkis and Lai, 2013). At international level, 173 parties signed the Paris Agreement in 2015 and each country agreed to determine, plan and regularly report its own contribution to mitigate global warming (The United Nations, 2017). Individual countries, such as France and China, have announced their sustainable development plan in coordination with the international agreements.

Under the institutional force, companies have adjusted their company strategies to implement and report economic, environmental and social responsibilities performance for both internal and external stakeholders. Many companies, for example Ikea (2016), PepsiCo (2017), and Volvo (2016), have issued their sustainability performance and setup goals for protecting environment and creating a healthier relationship with people and society. The increasing influence of sustainable SCM can be attributed to rising demand in competitive advantage and economic performance to satisfy consumers' and stakeholders' expectations of environmental and social responsibilities (Genovese et al., 2017).

Sustainable SCM is claimed to be a strategic process (Carter and Rogers, 2008), including collaboration in technological integration and logistical integration; risk management and learning; and stakeholder management (Beske, Land and Seuring, 2014a). As such, discussions in this study address the role of company strategic management in environmental and social sustainability (Sharma and Vredenbuge, 1998). Sustainable practices and corporate strategy should be closely interlinked rather being separated. For example, Unilever (2018) has made a clear strategy to integrate sustainability into company strategy, developing innovation to help increase business growth so that stakeholders benefit.

The network views of sustainable SCM

However, even though firms, particularly multinational companies, might have limited control over their suppliers' sustainable or unsustainable practices (Hartmann and Moeller, 2014), as such, many large firms are endeavouring to include multi-tier supplier involvement in sustainable SCM implementation (Tachizawa and Wong, 2014a). For example, Coca Cola has included their suppliers' sustainable practices in the company's sustainability report (2016). Similarly, Puma has included up to the fourth tier of suppliers in their sustainability report (2016). Consequently, 'sustainability has forced the redefinition of operations function' (Dadhich P. Genovese A., Kumar N., 2015, p.344) in collaborative approaches (Chen & Hung, 2014).

One of the most challenges to implement sustainable practice in supply chain or network level is regarded as the boundary of responsibility which extends beyond the reach of a corporation's ownership and direct control (Gimenez and Tachizawa, 2012). Literature shows that the network level is the least well developed, which highlights many opportunities for research (Febbe-Costes et al., 2018; Miemczyk et al., 2012). Vurro et al (2009) conceptualise four types of sustainable governance models along the value chain with consideration of network structure and stakeholder influence. Another study is from Febbe-Costes et al, (2018) who conducts the empirical work to examine sustainable scanning from different levels' understanding. Being aligned with literature, they found the importance of the network level for anticipative and collaborative sustainable scanning, meanwhile they suggest further research to improve understanding of the importance, role and constituents of the networks. In response to the calls, this study then endeavours to investigating sustainable SCM in the network level and seeking an alternative to break down the boundary of responsibility in supply chain network for sharing responsibility in implementing sustainable SCM.

The role of social networks in SCM and sustainable SCM

Social relations and social networks research has achieved a prominent position in the business and management field. Social networks have been defined as 'a set of nodes (e.g. people or organisations) linked by a set of social relationships of a specified type' (Laumann et al., 1978, p.458). Social networks are multifaceted. Different regions could embrace a variety of social constructs and expectations, such as *wasta* in the Middle East (Abosag and Naude, 2014) and *guanxi* in China (Gao et al., 2014). Network studies have been extended and categorised as both micro direction, where emphases are on cognitive and personality, and macro level, focusing on network configuration and evolution (Kilduff and Brass, 2010).

In the SCM literature, it is now becoming aware of the necessity for managing relationships and supply networks (Borgatti and Li, 2009; Harland, 1996). In the last two decades, SCM scholars have developed the research dimensions to relationships between network members (Zhou et al., 2014; Thomas et al. 2016), investigated the impact of the strength of ties on knowledge transfer and information sharing (Ramasamy, Goh and Yeung, 2006; Cai, 2014) and examined the network embeddedness of economic actions, such as customer satisfaction (Benedek, Lublóy and Vastag, 2014), distribution flexibility (Yu, Cadeaux and Song, 2013) and performance innovation (Raesfeld, Geurts and Jansen, 2012). These studies show the adoption of social network lens in SCM phenomena.

However, in sustainable SCM literature, there is a lack of in-depth insights into the discussion of social networks and sustainable SCM (Lu et al. 2018) even though the people factor and

social networks gradually raise attentions for sustainable SCM researchers (Beske and Suring, 2014; Miemczyk et al., 2012). Conceptually, it is argued that guanxi networks could leverage business performance in SCM, including green management (Geng et al., 2017). Luo et al.(2015) have addressed this argument with empirical evidence that guanxi mediates the buyer seller relationship and affects decision making to implement green supply chain collaboration. At micro level, guanxi networks generate an ‘ethic of sustainability’ (Hammond and Glenn, 2004, p.24) to create trust and reciprocity as a social norm. According to Zhan et al. (2016), guanxi networks in the workplace influence mind-set and attitude, leadership and management style, and employee involvement. Therefore, guanxi is an important antecedent to green and lean practice for environmental performance. From a social capital perspective, guanxi networks reduce relational risk among actors, as a result of increasing the willingness of knowledge sharing regarding the green supply chain (Cheng, 2011). The social network theoretical lens helps to illuminate how relational ties transform human talent and competitive advantages into a flow of information/knowledge, materials, cash, social relations and social control. In this regard, this study sheds the lights on social networks and investigates the impacts on sustainable SCM, responding to the call from Borgatti and Li (2009).

Research objectives and research questions

Drawing on the above discussion, the main research objectives in this study are to:

1. Statistically examine the causal relationship between social networks and sustainable SCM;
2. Explore the underlying mechanism of the influence of social networks on sustainable SCM;
3. Explore the drivers of institutional forces and company strategy to sustainable SCM.

Sociologists argue that all economic behaviours are embedded in social networks (Granovetter, 1985). Victor (1991) maintains that sustainable development is the cultivation of necessary capital, such as human capital and financial capital, to effectively use natural and manufacturing resources in dealing with resource scarcity and cost efficiency. In social network study, it is argued that financial, social and human capital are embedded in different network structures (Burt, 1992). In this regard, to achieve the research objectives 1 and objective 2, the first three research questions are decomposed so as to:

RQ1: How are flows of supply chain capital influenced in social networks?

RQ2: What are the relationships between social networks and sustainable SCM implementations?

RQ3: How do social networks drive implementation of sustainable SCM?

Doing the PhD program is an involving process. Observation from the survey study indicated that institutional forces and company strategy vitally influence companies whether or not to implement environmental and social sustainability, aligned with the current literature as discussed above. To better understand the research topic and reach the research aim, research objectives were developed as to:

RQ4: Investigate how do institutional forces drive implementation of sustainable SCM?

RQ5: Understand how do companies moderate the influence from social networks and institutional forces?

Given that all social networks are constructed, being influenced by specific social norms and cultural backgrounds, and dependent on individual positions in the networks, the distinctiveness of western or eastern social and cultural norms might embrace distinct contexts of social network (Chua and Wellman, 2015). To focus on research findings and

discussions, this study chose China for research development and elaboration. Choosing China as a research scope also due to the serious environmental and social issues in emerging areas, and the important role of China in global economies. This study drew on discussions of the research topic in China and made contribution for future research.

Research methodologies

In this study, critical realism was the adopted philosophical stance which sits somewhere between positivism and constructionism to declare the existence of a complex stratified ontology and to challenge and contest ontological assumptions. This study requires to identify capital and social objects of sustainability in different supply chain activities, and understand the particular mechanism and the causal relationships that emerge in supply chain relationships. The links of human behaviours are closely related to cultural and historical events, as well as political environment (Yang, 2009). Therefore, critical realism guides the research design in answering the research questions, in investigating the relationships between social networks and sustainable SCM, and in exploring the mechanism of this topic.

Development mixed-method approach was adopted in the research design to achieve both breadth and depth, reflecting on the three phases of data collection in Table 1 (Table 3.6 in the thesis):

Table 1: Research development II

Research questions	Body of knowledge	Nature of Investigation	Method
1). How are flows of supply chain capital influenced in social networks?	<i>Guanxi</i> networks; Capital, flow of capital in SCM	The flow of supply chain capital in social networks to deal with partitioning issues	Systematic literature review; survey; case studies
2). What are the relationships between social networks and sustainable SCM implementations?	<i>Guanxi</i> network; Sustainable SCM implementation; Sustainable SCM performance	Unit of analysis: relational ties between buyers and suppliers	Survey; statistical technique; SEM
3). How do social networks drive implementation of sustainable SCM?	Flow of supply chain capital; network carrying institutional logics; network selection	Unit of analysis: supply chain networks	Case studies
4). How institutional forces drive implementation of sustainable SCM?	Institutional theory and relative isomorphism on sustainable SCM	Investigation of research topic from individual firm perspective to supply chain network and industrial development scopes	Case studies
5). How company moderates the influence from social networks and institutional force?	Company's sustainable development strategy under stakeholder pressure	The moderating impact of internal factor on external drivers	Case studies

Source: Author

Choice of option I: Systematic literature review

This study conducted a conventional review to sustainable SCM related literature, however, given lack of research on the social networks and sustainable SCM, and the focused discussion in this study was China, this study then conducted a systematic literature review (SLR) of guanxi networks and SCM, in order to capture the underpinning meaning of social networks in specific social and cultural background and the full picture of their impacts on SCM.

Followed the guideline from Seuring and Gold (2012) and Tranfield et al. (2003), the selection process of sample pool is showed in Figure 1 (Figure 2.2 in the PhD thesis) and the detailed research protocol is summarized in the Table 2.6 in the PhD thesis. Content analysis was the method to analysis the 126 papers in the sample pool and synthesise the findings in different themes.

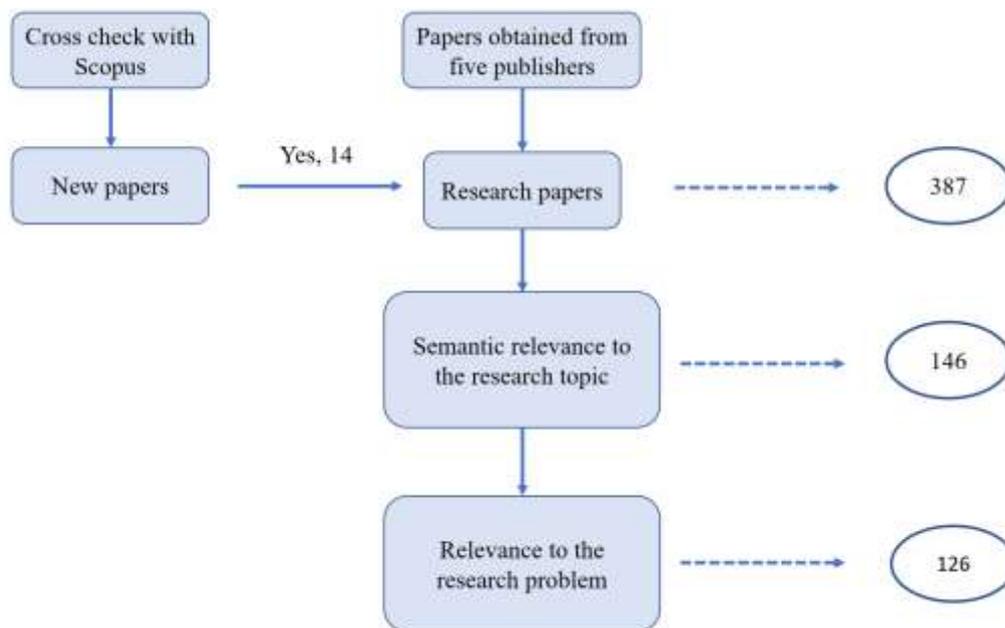


Figure 1: Material selection for the sample pool (Source: Author)

The SLR constructively revealed the impacts of social networks on the flows of supply chain capital to achieve Objective 1 and answer RQ1. The observation from the literature also reveals a certain research gap of social networks and sustainable SCM. Thereby, adopted social networks theory and institutional theory, a theoretical framework was built to guide empirical data collection and research justification, shown in Figure 2 (Figure 2.8 in the PhD thesis).

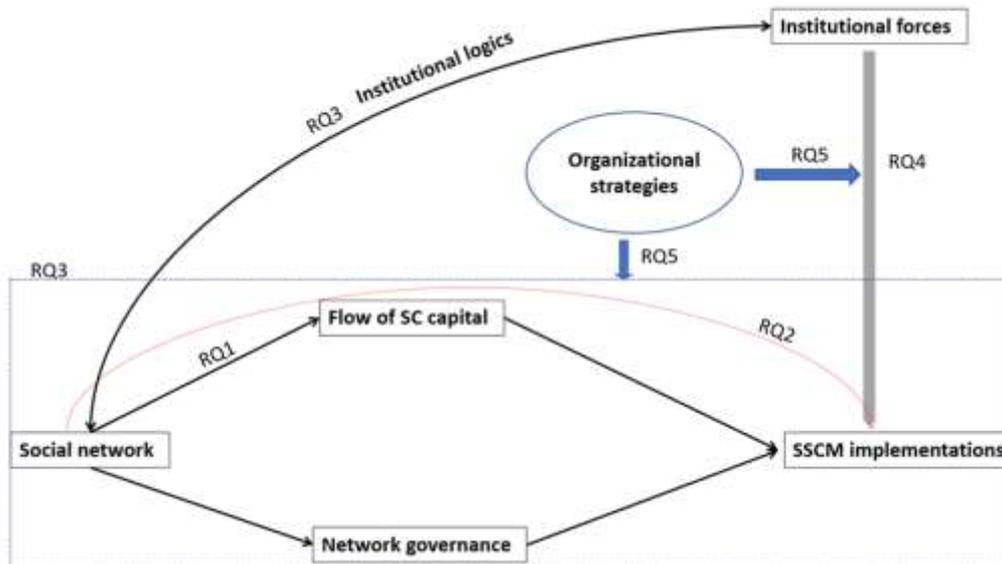


Figure 2: Theoretical framework in this study (Source: Author)

Choice of option II: Questionnaire Survey

This phase is to answer the RQ2 of a ‘what’ question and build the theoretical gap between social networks and sustainable SCM, to contest SLR findings of RQ1 by quantifying the influence of social networks on the flows of supply chain capital. An English questionnaire survey was designed then translated into Chinese cross-checked by other senior researchers in China. The instrument included 83 specific questions and was piloted by six researchers and ten practitioners to assess face validity and translation accuracy (Carter, 2005). Wherever necessary, questions were reworded to improve clarity. The survey was administrated online in Lediaocha (<https://www.lediaocha.com>). The population was stated clearly in the invitation letter to recruit participants had worked in “supply chain-related activities in your company, including procurement, production, logistics, information sharing and supplier/customer management, risk management, knowledge transfer and sharing.”. A QR barcode was generated from the website after the questionnaire design was completed.

It is fairly difficult to conduct empirical business research in China, convenient samples from social networks and executive MBA audience samples were sought in this study, aligned with previous researches in sustainable SCM (e.g. Zhu & Sarkis, 2004). In total, 2,565 people clicked on the survey front page. Of those, 590 completed the whole survey, yielding a 23.0% response rate (following the guidance of Van Selm and Jankowski, 2006). After data screening, including checking the IP addresses, time taken to complete survey, and the quality of the results (e.g. putting the same numbers for all questions), the number of usable completed questionnaires was 476, a usable response rate of 18.6%. Finally, the data were analysed in AMOS with Structural Equation Modelling (SEM) tests.

Choice of option III: Case studies

Multiple case studies were used in the final phase to contest and develop survey findings, and to investigate unclear boundaries of the influence from social networks, institutional force and company strategies of implementing sustainable SCM. The case studies provide opportunities to collect data from many different sources of evidence to develop converging lines of inquiry (Yin, 2009) to investigate the research questions of RQ3, RQ4, and RQ5. The multiple-case studies develop the survey questionnaire twofold:

- 1). Enrich and contest the survey findings of the model with discussions and comparisons from different companies, industries and supply chain network structures.
- 2). Explore the unclear boundaries between social networks, institutional forces and company strategies, to clarify how these internal and external factors drive implementation of sustainable SCM.

For case design, the unit of analysis was supply chain networks where involved different structures of network relationships. This aims to investigate how to break down boundaries in supply chain networks in different network structures. In response to the call from Carter and Easton (2011), this study used multi-industry samples to maximize application of information to other companies in the same industries. This study selects the automotive, food, and beverage industries in China, based on different levels of regulation and implementation to sustainable SCM. Further justification of sample selection was explained in the thesis (Section 3.4.3).

Finally, 16 companies participated, formulated the sequential, reciprocal and pooled networks in Figure 3 (Figure 6.1 in the PhD thesis). Multiple sources of data were collected from Oct to Nov 2016 in order to give comprehensive understanding for each case, showed in Table 2 (Table 6.2 in the PhD thesis). A semi-structured interview protocol was applied to all of the organisations, followed by the presentations given by the representatives. Factory site visits and documentations were applied when possible. After all data were collected, pattern coding and theoretical coding methods were applied in Nvivo 11 to control researchers' biases (Miles and Huberman, 1994).

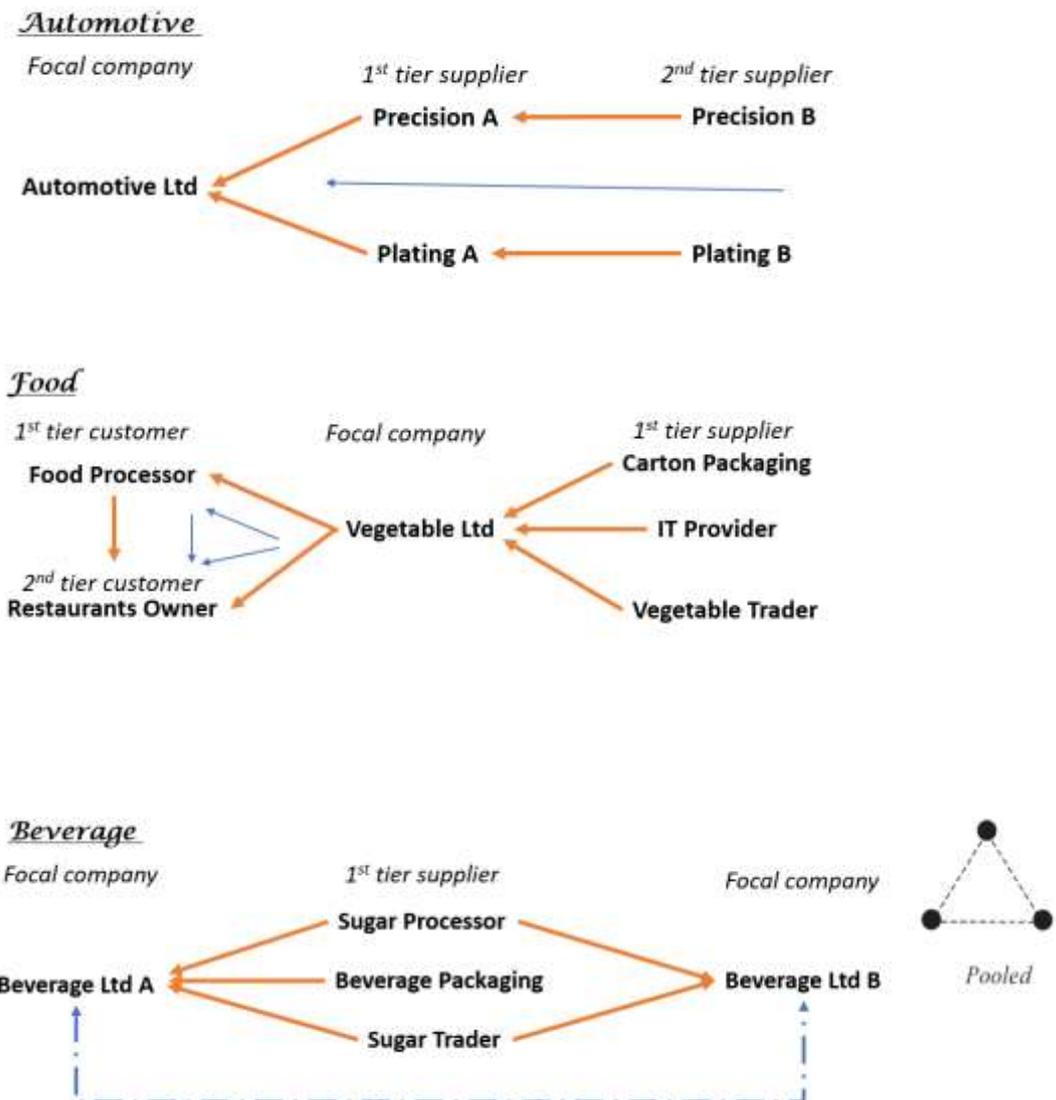


Figure 3: The structures of supply chain networks for the cases (Source: Author)

Table 4: Sampling and data collection information

<i>Companies</i>	<i>Industries</i>	<i>Ownerships</i>	<i>Firm sizes</i>	<i>Interviewees positions</i>	<i>Case evidence methods</i>	<i>Length of interview</i>	<i>Position in the network</i>
<i>Beverage Ltd A</i>	<i>Beverage</i>	<i>Domestic</i>	<i>Large</i>	<i>Procurement M, Operation M, IT M</i>	<i>Semi-structured interview, observation of presentation</i>	<i>45minutes</i>	<i>Focal company</i>
<i>Sugar trader</i>	<i>Sugar</i>	<i>Domestic</i>	<i>SME</i>	<i>CEO</i>	<i>Semi-structured interview, observation of presentation</i>	<i>30minutes</i>	<i>1st tier supplier</i>
<i>Sugar Processor</i>	<i>Sugar</i>	<i>Domestic</i>	<i>SME</i>	<i>Operation M</i>	<i>Semi-structured interview, observation of presentation, documentations of sustainable practices</i>	<i>30minutes</i>	<i>1st tier supplier</i>
<i>Beverage Packaging</i>	<i>Packaging</i>	<i>Domestic</i>	<i>SME</i>	<i>Operation M, Procurement M</i>	<i>Semi-structured interview, observation of presentation</i>	<i>30minutes</i>	<i>1st tier supplier</i>
<i>Beverage Ltd B</i>	<i>Beverage</i>	<i>Joint venture (USA+HK)</i>	<i>Large</i>	<i>Procurement M, Quality control M</i>	<i>Semi-structured interview, observation of presentation and factory, documentations of sustainable practices</i>	<i>45minutes</i>	<i>Competitor</i>
<i>Vegetable Ltd</i>	<i>Fresh vegetable</i>	<i>Domestic</i>	<i>SME</i>	<i>CEO & General M</i>	<i>Semi-structured interview, observation of presentation and factory</i>	<i>1.30h</i>	<i>Focal company</i>
<i>IT provider</i>	<i>IT</i>	<i>Domestic</i>	<i>SME</i>	<i>CEO</i>	<i>Semi-structured interview</i>	<i>45minutes</i>	<i>1st tier supplier</i>
<i>Vegetable trader</i>	<i>Fresh vegetable</i>	<i>Domestic</i>	<i>SME</i>	<i>Entrepreneur</i>	<i>Semi-structured interview</i>	<i>45minutes</i>	<i>1st tier supplier</i>
<i>Carton packaging</i>	<i>Packaging</i>	<i>Domestic</i>	<i>SME</i>	<i>Procurement M</i>	<i>Semi-structured interview</i>	<i>45minutes</i>	<i>1st tier supplier</i>
<i>Food Processor</i>	<i>Food processing</i>	<i>Domestic</i>	<i>SME</i>	<i>COO</i>	<i>Semi-structured interview, observation of factory</i>	<i>1h</i>	<i>1st tier customer</i>
<i>Restaurants Owner</i>	<i>Catering</i>	<i>Domestic</i>	<i>SME</i>	<i>COO</i>	<i>Semi-structured interview, observation of restaurant</i>	<i>30minutes</i>	<i>1st tier & 2nd tier customer</i>
<i>Automatic Ltd</i>	<i>Automotive manufacturing</i>	<i>Foreign owned</i>	<i>Large</i>	<i>Quality control M Procurement M</i>	<i>Semi-structured interview, observation of presentation and factory, documentations</i>	<i>1.30h</i>	<i>Focal company</i>

					<i>of sustainable practices</i>		
<i>Precision A</i>	<i>Precision technology</i>	<i>Joint venture (Taiwan & Chinese)</i>	<i>Large</i>	<i>Procurement M</i>	<i>Semi-structured interview, observation of presentation</i>	<i>50 minutes</i>	<i>1st tier supplier</i>
<i>Precision B</i>	<i>Precision technology</i>	<i>Domestic</i>	<i>SME</i>	<i>Vice president, Quality control M</i>	<i>Semi-structured interview, observation of presentation, documentary</i>	<i>50 minutes</i>	<i>2nd tier supplier</i>
<i>Plating A</i>	<i>Plating technology</i>	<i>Domestic</i>	<i>SME</i>	<i>Quality control vice M</i>	<i>Semi-structured interview, observation of presentation and factory</i>	<i>1h</i>	<i>1st tier supplier</i>
<i>Plating B</i>	<i>Plating technology</i>	<i>Domestic</i>	<i>SME</i>	<i>General M & quality control M</i>	<i>Semi-structured interview, observation of factory</i>	<i>1.45h</i>	<i>2nd tier supplier</i>

Source: Author

Research outcomes and conclusions

The research outcomes and conclusions were given by integrating both of quantitative findings and qualitative observations. For RQ1, this study visualised the constructs in social networks which foster relationship development in SCM and the flows of supply chain capital to support the building of organisational capabilities in implementing sustainable SCM. Xinren (trust) is embedded in ganqing (emotional affection) and/or renqing (reciprocal behaviour) to influence the flows of supply chain social, financial and human capital in Figure 4 (Figure 7.1 in the PhD thesis). Along with the theoretical framework, this section of findings was published in *Supply Chain Management: An International Journal*¹.

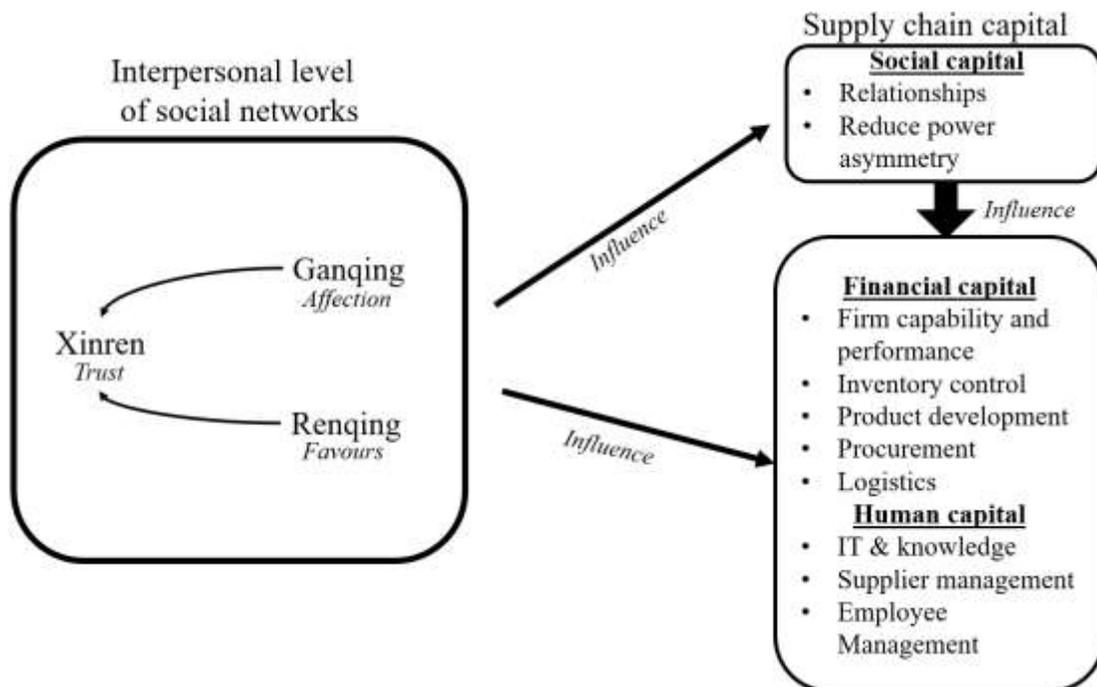


Figure 4 Refine the influence of social networks on the flow of supply chain capital
(Source: Author)

The survey gave positive relationship between social networks and sustainable SCM implementation and sustainable supply chains performance to answer RQ2, fully mediated by the flows of supply chain capital, showed as Figure 5 (Figure 7.2 in the PhD thesis). In other words, without considering the flow of supply chain capital, *guanxi* networks have no influence on sustainable SCM implementation nor sustainable SCM performance. The finding contradicts the study by Luo *et al* (2015) that *guanxi* can negatively influence green supply chain collaboration. Neither does it support the arguments of positive influence from social networks on sustainable SCM as maintained by Vurro *et al.* (2010). This study supports the argument that building supply chain

¹ Lu, Haiyan, Potter, Andrew Thomas, Sanchez Rodrigues, Vasco and Walker, Helen Lisbeth 2018. Exploring sustainable supply chain management: A social network perspective. *Supply Chain Management: an International Journal* 10.1108/SCM-11-2016-0408

capital essentially enhances capacity and capabilities in dealing with supply chain issues, including sustainable practices.

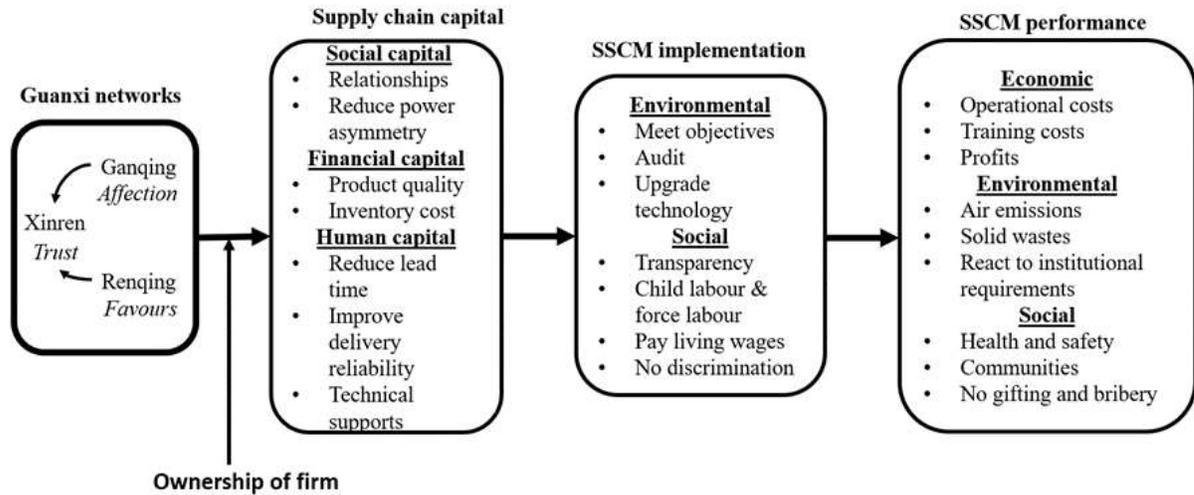


Figure 5: Model to answer RQ2 (Source: Author)

To answer the RQ3, observations in this study found that social networks act as the ‘micro-macro’ bridge turning small-scale personal interactions into large-scale patterns of influence and network behaviours. As Figure 6 shows (Figure 7.4 in the PhD thesis), social networks break down the boundaries of supply chain actors and drive sustainable SCM, which can be decomposed as firstly, social networks carry the institutional logic of sustainable practices and diffusing this to network members. At the current stage, the institutional logic of implementing environmental and social responsibility in China is driven by resource allocation, stakeholder pressure and economic benefits. In the long term, social network carries the institutional logic and influences individuals within the network through social identification, cultural preference and social learning process. Second, social networks increase the flow of supply chain capital for enhancing sustainable practices, as detailed in the above section. Yet, economic sustainability is the primary consideration in most companies. Third, social networks influenced the supply chain and supply chain network structures, shaping individual knowledge, behavioural commitment and decision making. By comparing and contrasting the implementation of environmental and social responsibilities in different structures of supply chain networks, research has revealed different underlying mechanisms for implementing SCM.

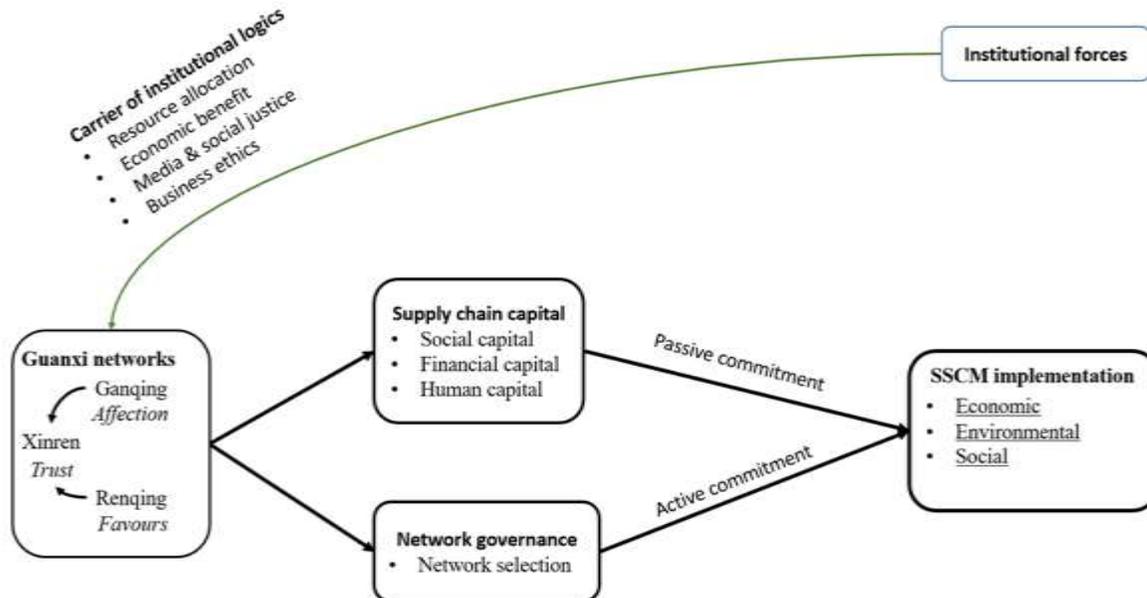


Figure 6: The micro-macro bridge of social networks and supply chain networks (Source: Author)

To answer the RQ4, this study found that institutional forces drive implementation of sustainable SCM through on one hand, creating the institutional logics of sustainable practices in social networks; on the other hand, generating the mechanism of coercive, normative and mimetic isomorphisms. Coercive isomorphism is at prime with existing powerful pressures from customers, international and national requirements, and industrial standards are applied to players in the supply chain, affecting decisions regarding sustainable activities. To ensure economic benefits and gain competitive advantage in the market, smaller suppliers often follow the regulations/compliance from customers. This logic is often applied in a sequential supply chain structure when customers have the power to monitor and audit for environmental and social performance.

RQ5 looks at the driver of sustainable SCM from an internal perspective and revealed a balance of stakeholder pressure, institutional forces and network governance with organisational capability for investing environmental and social sustainability. Company strategy could be reactive, defensive, accommodative and proactive, according to the levels of external pressure they accumulate, meanwhile in accommodating with companies' capability and long-term plan, showed in Figure 7 (Figure 7.6 in PhD thesis). For example, company adopts proactive strategy to environmental and social practices to achieve competitive benefits, which is influenced by the social complexity and network positions of organisations. Competitive benefits are seen as the outcome of emergent organisational capability in sustainable responsiveness strategies.

Observations have also noted that it is not always the case for a company to set up a clear strategy towards sustainable SCM. For example, companies in the food supply chain are very proactive in reacting to economic and social responsibilities, in increasing

transparency, traceability, time, testability, training and trust, and benefits for suppliers and employees. However, in terms of environmental responsibilities, companies exhibit less attention in this area, holding defensive strategies of doing the least that is required, such as directly throwing away food waste/waste products from the Food Process. The reason for such mixed strategy might be because of a lack in regulation standards and professional knowledge, thus informing the judgement of decision-makers and the influence of leadership in sustainable SCM.

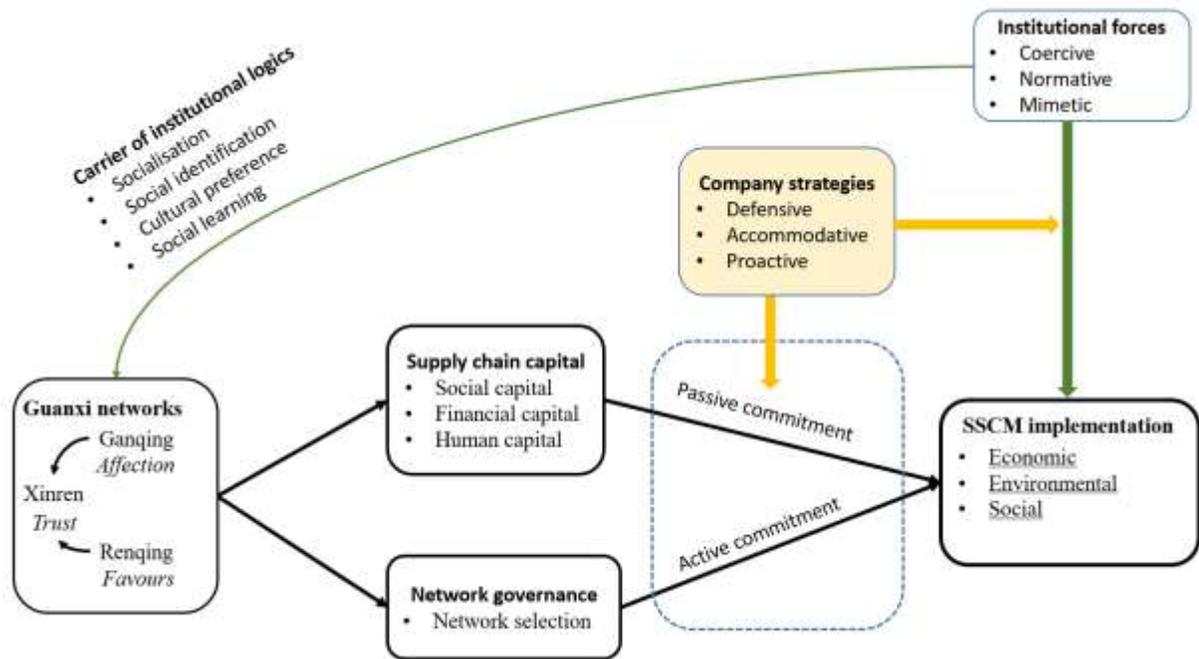


Figure 7: Final model of this study (Source: Author)

Research originality and contributions

The novelty of this study is to investigate how to break down the boundaries among supply chain actors and increase responsibility sharing in social networks. The research also discussed on sustainable SCM implementation at supply chain network level with empirical evidence. The breadth was reached by conducting survey and use SEM to build conceptual model of the topic; meanwhile the depth was showed by investigating the influence of social networks on relationship structure in supply chain and supply chains, and further explore three drivers of sustainable SCM, covering formal and social factors, external and internal aspects.

Academic contributions

Academic contributions in this study can be summarised as follows:

- The systematic literature review constructively reveals the constructs of social networks in China, which develops the concept of social network from western studies – introducing mianzi, dependency and other constructs in the social network theory. This study also examined the impact of social networks on supply chain activities, offering opportunities for future research in examining the ‘soft’ ties of relationship in logistics

and SCM, such as information sharing and technology innovation, new product design and development, and global logistics management.

- This study has extended the discussion of sustainable SCM from individual firm and dyadic relationship to a social network perspective. Discussions uncovered how social networks serve as a ‘micro-macro’ bridge to enhance companies and their supply chains to practices environmental and social practices simultaneously. Furthermore, this study has revealed how different relationship structure in supply chain and supply chain networks influence sustainable SCM implantation.
- Third, this study contributes to show the interlinks between formal institutional and personal ties, external factors and internal strategy. As such, this study provides an overarching and system view regarding the implementation of economic, environmental and social responsibilities as a balance of organisational capabilities, rather than focusing on any dimension(s) more than another.
- Fourth, the study has made a theoretical contribution to fill the research gap by adopting social network theory in sustainable SCM, which reflects on the call for study from Wichmann and Kaufmann (2016). Given that SCM is the management of relationship (Hartland, 1996), social networks fit well in the discussion of capital flow in different relationships and processes.
- Finally, the study made methodological contribute in sustainable SCM research by adopting a mixed-method approach to emerge and develop the insights by integrating quantitative and qualitative evidence. The findings show the rigor in research to contest findings from systematic literature review and elaborate the breadth and depth of sustainable SCM research.

Practical implications

Given that economic actions are embedded in social networks in organisational management, this research offers an alternative for sustaining business and supply chain performance from social network perspective. More specifically, the SEM statistically showed the positive relationship between social networks and the flows of financial, human and social capital in supply chains. In this regard, companies can make good use of their social networks to increase the flow of supply chain capital for enhancing companies’ capabilities in solving their supply chain issues, including environmental and social responsibilities. Practitioners can build relational ties to leverage effective collaboration and integration with the supply chain actors.

This study uncovered the mechanism of breaking down boundaries for sharing sustainability responsibility in supply chain networks in practices. In the sustainability journey, companies and their supply chains need to involve every employee, their main supply chain partners and government bodies. Building good relational ties in social networks enables effective diffusion of knowledge and advanced technologies, so increases in human capital can be dedicated to more environmentally conscious uses of natural resources and the trading, production and delivery of environmentally friendly products. Implementing sustainable SCM is not the responsibility for a company, but every actor in the society should make efforts on it.

In addition, this study has also considered sustainable SCM from an institutional environment and company strategy perspective. Therefore, for business practice, companies can make their strategic plan according to their organizational capabilities, institutional environment and network resources in the social networks to increase economic benefits by addressing environmental and social responsibilities. This study reveals that food industry is lack of industrial standards for sustainability implementation. As such, companies in this industry can proactively learn from international companies and share knowledge in their social networks for mutual development. Government institutions in China and other emerging areas can benchmark international specifications for sustainable practices in order to improve regulation enforcement.

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A Framework for the Quality of Corporate Risk Disclosure (CRD)

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Abstract

This study represents a challenging departure from the mainstream literature by developing an in-depth understanding of and a framework for CRD quality. This is the first study to investigate the various aspects of CRD from a multi-stakeholder perspective using semi-structured interviews. The findings reveal a lack of a common definition of risk and highlight the importance of CRD. The results indicate that CRD has improved, yet there is considerable room for improvement. The findings also demonstrate a number of incentives and disincentives that could explain managers' CRD decisions. The FASB's qualitative characteristics have been operationalised and a framework has been developed to help improve and assess CRD quality. This study has important implications for CRD policy, practice and research.

Introduction

Today's business environment is perceived as beset with risks and uncertainties with companies exposed to a wide range of internal and external risks. Thus, in this dynamic and constantly changing business environment companies face many threats, challenges and uncertainties including, but not limited to, economic, political and social risks. Operating in a volatile and unpredictable business environment requires companies to have an effective risk management (RM) system and strategies to contend with risks. These challenges may not only affect company performance but also endanger its survival. Therefore, firms should develop strategies to respond to such challenges and mitigate or take advantage of their potential impact, and hence protect and create wealth for shareholders.

It is incumbent upon companies to keep shareholders informed about their risk exposure (RE) and RM strategies. Accordingly, CRD is a means for stakeholders to be better informed about the risks a firm faces and how they are being managed. It is generally assumed that CRD is important as it aids stakeholders in assessing managers' performance by providing a picture of how well they manage risks and assists them in assessing the risk profile of company.

CRD has been the focus of considerable attention over the last two decades within the accounting literature and as a topic under debate by regulators and professional bodies (Dobler, 2008), "yet the topic is still very much in its infancy" (Abraham and Shrivess, 2014, p. 91). In part, this recent interest in CRD is related to increased demands for companies to provide more risk information (RI) following the corporate failures and accounting scandals in the early 2000s at a number of US companies such as Enron, and WorldCom. These demands have been given further impetus by the 2007-09 global financial crisis after which it has been suggested that banks need to improve their risk disclosures (ICAEW, 2011).

The attention placed on CRD is not solely attributable to prior accounting scandals and the financial crisis. Linsley and Shrivess (2006) suggest that the Institute of Chartered

Accountants in England and Wales (ICAEW) were one of the first bodies to identify a potential deficit in the provision of RI by companies. In its 1997 report on CRD, the ICAEW placed a considerable emphasis on the importance of CRD and attempted to motivate companies to voluntarily provide more RI through suggesting there were benefits for companies in providing enhanced CRD. ICAEW (1997) identifies seven key benefits of improved CRD for companies and investors.

First, providing forward-looking RI enables investors to make better decisions through enhancing their ability to predict company future cash flows and assess its future performance. Second, companies can lower the cost of capital through improving their CRD practices, suggesting investors would require a higher risk premium for the uncertainty associated with their investments when there is a lack of RI. Third, better CRD should enhance RM and increase company cash flows and, thereby, create greater value for shareholders. Fourth, CRD improves corporate image and reputation by demonstrating to investors that managers are risk aware. Fifth, increased CRD can help overcome information asymmetry problems. Sixth, investors can evaluate management performance based on its RM and CRD practices. Seventh, CRD protects investors through keeping them informed about the company's RE.

Subsequently, accounting researchers have undertaken CRD studies that highlight the importance of RI to investors and other stakeholders and argue the need for improved CRD (for example, Beretta and Bozzolan, 2004; Cabedo and Tirado, 2004; Linsley and Shrives, 2006). Similar to the ICAEW, this previous research suggests additional benefits will arise from increased CRD including assessing company RE and future prospects. Furthermore, Solomon et al. (2000) report that institutional investors revealed that improved CRD helps them make better portfolio investment decisions based on potential returns and expected risks.

Moreover, CRD enables investors to better predict stock returns and changes in stock prices. A major benefit of increased CRD is protecting investors through overcoming the information asymmetry problem. Therefore, investors can exploit RI to make informed decisions through enhancing their understanding of company RE and profitability and estimate the amount and timing of future cash flows.

A broader argument concerning the benefits of CRD is that improved CRD could enhance capital market efficiency through promoting transparency, which in turn, stimulates economic development. Hence, CRD is important to the investment climate and economic growth as it contributes to producing a more attractive investment environment, which is better for capital accumulation (Rajab and Handley-Schachler, 2009).

Regulating CRD

CRD has drawn the attention of regulatory bodies in different countries, which resulted in introducing CRD requirements and/or improving existing regulations to oblige companies to provide more RI to meet investors' information needs. For example, companies in the USA are required to disclose RI within Item 1A of their 10-K forms and German companies must now comply with German Accounting Standard 20, which details what is required in respect of disclosure of risks and opportunities.

In addition, some of the pronouncements by professional and regulatory bodies regarding CRD are connected with restoring investor confidence particularly after the 2007-09 financial crisis. An example of this is the Walker review of corporate governance (CG) in

UK banks (2009). This review suggests banks prepare a separate report in the annual report (AR) that addresses their risk appetite, RE and overall risk governance. The Walker review highlights the significance of such a report to investors for understanding the previous aspects.

The UK CG Code and Companies Act 2006 require companies to report on their principal risks and uncertainties that could have an impact on their business model, strategy and future performance, and how they are being managed or mitigated. A company's financial position and prospects cannot be properly assessed separately from its RE.

Whether CRD regulation results in improved CRD is subject to debate. Dobler (2008) emphasises the role of CRD incentives and concludes that "regulation cannot overcome incentives" (p. 186). Linsley and Shrivies (2006) explain the lack of CRD by proposing managers' unwillingness to disclose commercially sensitive information, which is associated with CRD costs outweighing its benefits. This lends support to the notion that regulations alone cannot guarantee higher CRD quality, and highlights the impact of CRD incentives and disincentives on CRD practices and firms' disclosure decisions.

CRD and the issue of quality

There is a noticeable paucity of research examining CRD quality and its usefulness to information users. However, previous studies have predominantly focused on investigating CRD quantity and determinants by examining the relationship between the amount of RI measured by the number of sentences and/or words and some firm-specific and CG characteristics including company size, industry type, risk level, profitability, corporate reserves, cross listing, board size, board independence, and CEO duality (for example, Marzouk, 2016). Some studies have concluded that CRD has improved over time (for example, Rajab and Handley-Schachler, 2009; Deumes, 2008); whereas other studies have raised concerns about the usefulness of the RI being provided (for example, Beretta and Bozzolan 2004; Dobler, 2008; Linsley and Lawrence, 2007). However, these studies do not examine CRD quality directly.

The studies that have purportedly examined CRD quality failed to capture the essence of quality as they used inappropriate measurement proxies for CRD quality such as value relevance (for example, Moumen, Ben Othman and Hussainey, 2015), and CRD quantity (for example, Mousa and Elamir, 2014). Consequently, there is a need for further research that directly addresses CRD quality. The concepts of risk and quality are both inherently complex and this may explain why prior CRD research has considered CRD quality only indirectly. However, investigating CRD quality is important for understanding how CRD practices can be improved and, therefore, CRD quality is the focus of this study.

Scope of research

Many previous CRD studies have focused on counting the number of words and/or sentences revealing RI in corporate reports regardless of its informativeness. The primary purpose of corporate reporting is to enhance information users' decisions by providing useful information (FASB, 2010). Therefore, it is imperative to examine CRD quality and usefulness, and this can be achieved by understanding stakeholders' perspectives particularly information users and AR preparers.

As noted above, prior studies do not address CRD quality adequately. Some studies have attempted to examine CRD quality by focusing on identifying some characteristics of RI including quantitative/qualitative, time orientation and good-bad news characteristics. Abraham and Shrivs (2014) adopt a different approach and propose a model for assessing and enhancing CRD quality. However, their study is very limited as they investigate only three criteria; disclosure of company-specific RI; providing up-to-date information and reporting key risks and uncertainties. Campbell and Slack (2008) investigate the usefulness of narrative reporting from investment analysts' perspective, whereas Slack and Campbell (2016) conducted semi-structured interviews to identify investment analysts' needs in terms of integrated reporting, and explore its usefulness. Consequently, whilst their studies include important discussions relating to CRD, their research does not have a primary focus on CRD or CRD quality. Therefore, there is a CRD quality research gap and, it can be argued that an effective analysis of CRD quality and usefulness can be achieved through investigating stakeholders' perspectives.

Accordingly, this study focuses on investigating CRD quality and develops a best-practice framework for CRD quality based on the qualitative characteristics in the Financial Accounting Standards Board (FASB) conceptual framework. Likewise, semi-structured interviews were conducted with a range of stakeholders and the analysis of the interview data focuses on gaining an in-depth understanding of the different aspects of CRD quality that have not been examined in previous studies and are relevant to understanding CRD quality.

It is worth mentioning that although all the research participants are UK-based, the study provides an overarching understanding of CRD that is not restricted to a particular country or context, and the application of the proposed CRD quality framework extends beyond national or UK boundaries.

Research questions

This study shifts the focus from examining CRD quantity to directly examining the quality characteristics and informativeness of RI. The study answers the following questions.

- 1- How do different stakeholders comprehend the concept of risk?
- 2- What are the perceptions of information users, and other stakeholders, of the relevance of RI and of current CRD practices?
- 3- What are management incentives and disincentives for CRD?
- 4- What is quality and what are the characteristics associated with good quality CRD?
- 5- How can the FASB qualitative characteristics be operationalised to create a CRD quality framework?

Research methodology

Taking an interpretivist epistemological stance and a constructionist ontological position, this study adopts a qualitative approach using semi-structured in-depth interviews. The qualitative research strategy is more appropriate considering the nature of the research problem and questions. This strategy helps gain an in-depth understanding of the research problem and fully address the research questions. By adopting an interview approach the study can investigate the essence, meaning and characteristics of quality in respect of

CRD from a multi-stakeholder perspective. Therefore, 28 semi-structured interviews were undertaken to solicit the participants' views on users' RI needs, managers' incentives to disclose or withhold RI and the potential for further improvement in CRD quality.

The study participants comprised the stakeholder groups involved in reporting and/or using RI including information users (institutional and retail investors), AR preparers (risk directors/managers and chief finance officers), external auditors, academics who have extensively studied CRD, independent audit/risk committee members, and members of professional and regulatory bodies representing policy makers.

To understand how CRD quality can be enhanced it appears most appropriate this should be investigated through stakeholders' lenses in terms of identifying users' needs, the role of regulators and external auditors, and constraints on managers and AR preparers, which is lacking in the existing literature. This study fills the gap in literature and examines the different aspects of CRD quality through understanding stakeholders' perspectives as the basis for improving CRD practices and overcoming the current limitations. Abraham, Marston and Slack (2014) argue that interviews are an appropriate method for investigating insufficiently addressed research areas such as CRD quality.

Therefore, the semi-structured interview method was employed to collect the primary data. According to Myers (2011), semi-structured interview is the most appropriate interview approach as it allows the interviewer to have a set of prepared questions to address major themes while other questions can arise during the interview allowing for more in-depth discussion. Therefore, a number of questions were constructed prior to the interviews and other follow-up questions were asked based on the interviewees' answers to expand their responses and further elicit their views.

Silverman (2010) suggest that the interviewer should avoid direct or leading questions recommending open-ended questions instead to stimulate the participants to provide more information. Thus, open-ended questions were developed which stimulated discussion, encouraged the emergence of new questions and allowed important points to be pursued. A major limitation of semi-structured interviews is they are time-consuming to undertake, transcribe and analyse; however, the richness of the data is compensation of this.

Summary of results

This study tackles the complexities of CRD recognising both the difficulty and subjectivity associated with CRD and considering the nature of risk and RI. CRD quality is an under-researched area particularly in terms of stakeholders' perspectives and the lack of qualitative and interview-based research. Therefore, this study fills this gap in the literature by answering the research questions initially set out above and summarised below.

1- How do different stakeholders comprehend the concept of risk?

Generally, the findings reveal a lack of an agreed-upon definition of risk and highlight the difficulty of defining risk in the context of corporate reporting. Some participants have a neutral view of risk as *a fact of life* regardless of its impact arguing that risk is inherent in running a business, and hence companies have to handle it effectively to succeed and grow. Whereas risk is perceived largely by the participants as a synonym for uncertainty, there is a disagreement on the impact of such uncertainty on company performance. Some participants perceive risk as uncertainty leading to negative impacts

and failure to achieve business objectives. These participants representing members of professional and regulatory bodies and retail investors comprehend risk as the deviation from expected outcomes, but only in the negative direction. Retail and institutional investors indicate that risk is predominantly associated with potential loss, meanwhile they recognise the opportunities that a risk may entail.

On the other hand, the majority of the participants recognise risk as the volatility of future outcomes, which encompasses both downside and upside risks. Accordingly, risk is perceived as the deviation from anticipated outcomes that could be positive or negative, where the former refers to meeting or exceeding expectations and the latter refers to failing to achieve the desired objectives. There are a number of reasons for supporting a broad definition of risk. First, companies are exposed to risk and should have robust RM systems to take advantage of upside risks and mitigate downside risks and hence ensure their success and survival. Second, companies have their own risk appetite, and take and accept risks in the pursuit of their strategies to achieve growth and create value for their shareholders. Third, the inherent uncertainty of risk could lead to positive or negative outcomes depending on how effective RM plans are.

Overall, it is worth highlighting that this lack of agreement may arguably contribute to creating an information gap between the different stakeholders. Therefore, there is a need for reaching a consensus on the concept of risk to eliminate any unfavourable consequences. The adoption of a broad definition of risk could be more appropriate to meet the information needs of different stakeholders.

2- What are the perceptions of information users, and other stakeholders, of the relevance of RI and of current CRD practices?

A few participants argue that current CRD is irrelevant to investors claiming that it lacks quality in terms of its generic and qualitative nature. Some participants highlight the difficulty of assessing CRD quality/usefulness in the absence of a unified concept of and a framework for CRD quality.

However, the majority of the participants emphasise that CRD has improved arguing that CRD practices vary widely across companies. Hence, some companies make better risk disclosures than others depending on the nature of their activities, the market they operate in, and the regulatory framework they are subject to. However, the findings highlight the lack of company-specific and quantitative RI, as well as the linkage between risk disclosures, and between risk disclosures and other relevant disclosures in the AR.

The findings demonstrate the particular importance of CRD to investors in making informed decisions based on understanding company performance and RE. The results, however, show that CRD may be dismissed by information users due to its poor quality. CRD does not attract much attention from individual and institutional investors alike. Whereas retail investors are more interested in company profitability and share price volatility, institutional investors have access to other information sources including private meetings with company's management.

The results suggest some benefits of CRD including lower cost of capital that may encourage companies to disclose more RI, and highlight the risks associated with the absence of RI. Therefore, companies should ensure transparency of their CRD to avoid any unfavourable consequences.

3- What are management incentives and disincentives for CRD?

The findings reveal some factors that may influence CRD and could be difficult to examine empirically. Understanding management incentives and disincentives could help explain current CRD practices and management's disclosure behaviour, and suggest a way forward for improving CRD quality. Managers will always consider the benefits and costs associated with CRD. It is worth noting that some factors were discussed as both incentives and disincentives at the same time.

The findings demonstrate a number of disincentives that may deter companies from reporting RI. First, managers may not disclose risks that are difficult to assess including reputational and environmental risks. However, this could be perceived negatively by investors as an indicative of poor RM. Second, companies will be reluctant to disclose ongoing negotiations, legal issues and internal investigations so as not to affect the outcome of such events. Managers will rather seek legal advice about the level and timing of CRD to comply with regulations.

Third, managers' personal interests could affect the disclosure of information that may influence the value of their shares, their jobs and/or remunerations. Fourth, the legal implications and disclosure requirements could play a part in determining the level of CRD. Fifth, the major disincentive discussed is the sensitivity of RI. Companies will consider the potential impact of disclosing commercially and competitively sensitive information, and the availability of information in the public domain prior to disclosure. Companies may be reluctant to disclose either positive or negative sensitive information that might be utilised by competitors.

On the other hand, the results highlight a number of incentives that may encourage companies to improve their CRD quality, yet the extent to which these incentives can contribute to better CRD remains unknown. Moreover, further investigations are needed to support these incentives and suggested benefits. Incentives can be classified into positive and negative incentives where the latter refers to regulations.

The findings reveal internal and external factors that may affect managerial discretion regarding CRD. Internal incentives include the following factors: 1) the financial benefits in terms of lower cost of capital and share price volatility; 2) enhancing company resilience and flexibility especially during crises through improving investor's confidence; 3) highlighting the effectiveness of RM and hence reassuring investors; and 4) building a proper risk culture through better CG practices to enhance RM and CRD. The results emphasise the impact of a risk/audit committee that takes responsibility for risk oversight and challenges management regarding their RM and CRD. Likewise, independent non-executive directors and members on the board and audit/risk committee with relevant financial and industry expertise could play a key part in ensuring CRD quality.

External incentives include investors' engagement with and feedback on CRD, market and investor misreaction to non-disclosure and/or lack of CRD, peer pressure, recognition of good CRD practices, availability of information in the public domain and assurance from an independent third-party. For example, companies may provide more RI in order not to attract the attention of regulators and capital market authorities. Companies may

also respond to competitors’ risk disclosures by providing more RI. Likewise, companies are more likely to disclose more RI that is known to stakeholders.

The results show mixed views regarding the role of regulations. Regulations are generally viewed as a negative yet important incentive to guarantee CRD. A few participants call for more regulations arguing that companies will not disclose RI unless they are obliged to do so. However, the majority of the interviewees support a principles-based approach and advocate more guidelines or best-practice examples that encourage companies to provide useful RI. They claim that introducing more regulations could detract from CRD quality and lead to boilerplate disclosure. Furthermore, they emphasise that CRD is a difficult area to regulate due to the inherent uncertainty of risk and subjectivity of risk assessment.

4- What is quality and what are the characteristics associated with good quality CRD?

The findings reveal some synonyms or characteristics to describe CRD quality including *informativeness, succinctness, usefulness, honesty, granularity, transparency, bespoke* and *frankness*. The discussion of CRD quality generally centred around the decision-usefulness of RI and its capability to enhance stakeholders’ understanding of company RE and future prospects. Some participants view usefulness and quality as two partially synonymous terms. However, this raises an important question regarding for whom CRD is useful. The results indicate that the degree of information usefulness vary from one user to another depending on their knowledge, expertise, and risk perception and appetite. However, both terms have been used interchangeably in the prior literature. Generally, usefulness may be the most appropriate term to describe CRD quality.

5- How can the FASB qualitative characteristics be operationalised to create a CRD quality framework?

A key objective of this study was to develop a best-practice framework for CRD quality. This study operationalises the FASB qualitative characteristics in the context of CRD considering the nature of risk, users’ information needs, and management incentives and disincentives for CRD. The study provides an insight into how each characteristic can be improved and assessed. Therefore, a number of sub-characteristics have been identified for each fundamental and enhancing characteristic as shown in Table 1.

Table 1: Proposed CRD quality framework

Qualitative characteristics	CRD quality criteria
Relevance	<ol style="list-style-type: none"> 1. Defining risk 2. Disclosing company overall risk appetite 3. Reporting company appetite for each key risk 4. Disclosing company-specific RI 5. Disclosing forward-looking RI including information on long-term risks 6. Reporting current and ongoing risks 7. Quantitative risk disclosures using sensitivity analysis 8. Clear qualitative RI using scenario-based disclosure

	9. Disclosing risk mitigation/management plans
Faithful representation	<ol style="list-style-type: none"> 1. Disclosing key risks and uncertainties 2. Disclosing risks that are no longer considered material 3. Disclosing downside and upside risks 4. External auditors' statement on CRD 5. Disclosing audit/risk committee composition and responsibilities regarding risk oversight 6. Ranking risks in terms of significance 7. External independent body providing assurance on RM system 8. Disclosing company risk culture
Comparability	<ol style="list-style-type: none"> 1. Disclosing the development/changes of risk over time 2. Consistency of risk measurement and presentation (format and location) 3. Disclosing systematic risks in an industry/market context 4. Reporting and discussing variances between expected and actual risk outcomes 5. Disclosure of changes in risk assessment methods
Verifiability	<ol style="list-style-type: none"> 1. Reporting risk assessment principles/methods and management strategies 2. Disclosing quantitative RI where possible 3. Providing sufficient information on each key risk in terms of impact, likelihood of occurrence and management 4. Disclosing gross risk and residual risk
Timeliness	<ol style="list-style-type: none"> 1. Using different disclosure channels to report on risks in a timely manner 2. Cross-referencing to other disclosure channels in the AR 3. Disclosing changes in risks over time (up-to-date RI) 4. Disclosing the time-horizon of future risks
Understandability	<ol style="list-style-type: none"> 1. Using tables, graphs, diagrams and heat risk maps 2. Findable and well-structured CRD (clear headings) 3. Cross-referencing to RI within AR 4. Highlighting important information using different colours or fonts 5. Using appendices for more information and explanation of technical terms 6. Relative length of the risk section to the entire AR 7. Linking CRD to company business model, strategy and overall performance

Research contribution

This study has significant implications for research and practice. The findings are of interest to stakeholders including investors, regulators, auditors and academics who can use the proposed framework to properly examine CRD quality.

Theoretical implications

This study addresses a gap in the literature by directly exploring the issues of CRD quality. The study provides novel insights into CRD and suggests a new method for enhancing and evaluating its quality. This study contributes to the existing literature in a number of respects.

This study is the first study to investigate the different aspects of CRD from the perspective of all the relevant stakeholder groups. The current study addresses under-researched aspects of CRD that have been overlooked or taken for granted in previous studies such as the perception of risk. Therefore, this study advances our understanding of CRD quality, specifically in respect of developing a framework, which could enhance CRD practices.

Furthermore, this study represents a methodological contribution considering the noticeable lack of CRD qualitative and interview-based research. A major contribution of this study is the development of CRD quality attributes through operationalising the FASB qualitative characteristics considering the inherent uncertainty of risk and the qualitative nature of CRD. Accordingly, the proposed framework has been developed through defining relevant concepts including quality and the different qualitative characteristics and how each characteristic can be measured and enhanced.

Practical implications

The findings also have implications for practice, and can inform policy and improve CRD practices. Regulators could use the findings to inform policy-making, and introduce new regulations and/or improve existing requirements. The findings could serve as a foundation for setting an accounting standard for CRD that defines concepts and principles, and presents measurement, presentation and disclosure methods. Such a standard might play a role in ensuring the usefulness of CRD.

Professional bodies could also utilise the results in developing and suggesting some guidelines or a best-practice framework that companies can voluntarily subscribe to. Likewise, acknowledging companies that adopt such framework could encourage more companies to engage in better CRD practices and implement the framework. Introducing an accounting standard or a best-practice framework could ensure some degree of comparability among companies regarding their CRD and RE. Thus, the framework generally represents a common understanding among the different stakeholders of the concepts and different aspects of CRD.

Furthermore, the findings can be of interest to external auditors considering the important role they could play in ensuring CRD quality. Auditors could take advantage of the proposed framework when examining and reviewing risk disclosures and request companies to provide particular RI that is useful for information users. The results could be also helpful to companies wishing to understand and meet users' needs regarding the provision of decision-useful RI.

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Opening the Black Boxes of Sustainability Performance Measurement

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Abstract

The overall motivation of this PhD project is grounded on an interesting thread in organizational research, ethnostatistics, which argues that the processes of measurement and the construction of metrics imply tacit assumptions and informal practices employed by the producers of metrics. Keeping this assumption in mind I develop three studies: 1) systematic literature review identifying the foundational conceptualizations of sustainability and its measurement employed in the management and organization field, 2) an empirical study aimed at disentangling the sustainability reporting dynamics in order to understand the organizational field forces that affect its realization, and 3) a methodological discussion on the proper use of the ethnostatistical method.

Introduction and Research Motivation

Achieving a sustainable development (SD) has long been and still *is* one of the major concerns of modern societies. Historically, ever since the 1970s, SD has become a central topic of investigation in academia, policy making and the corporate world. Within the economics discipline, this concept was originally mainly described in the context of the scarcity of global resources. Its early framing was mainly in terms of famine and overpopulation, but it did not take long before the considerable debate on this topic expanded to include also environmental concerns drawing attention to the relationship between economic growth and environmental degradation (Ehrlich and Holdren 1971; Meadows *et al.* 1972).

This debate culminated in the prominent 1987 World Commission on Environment and Development (WCED) definition of sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” published in the report *Our Common Future* (WCED 1987). This definition is a major milestone in the contemporary understanding of sustainability, which has turned into a “buzzword” used in almost every aspect of modern life (McKibben 1996).

Not surprisingly, the sustainability construct has been intensively explored both conceptually and empirically within the organization and management research, giving birth to various schools of thought. Within the various research streams, a specific attention has been paid to the challenges stemming from the issue of *defining* and *quantifying* sustainability. Notwithstanding the enormous research efforts, nowadays there are still pending questions regarding the meaning of sustainability, its adequate measurement and reporting at the corporate level.

The significant issue of quantification is relevant well beyond the sole realms of the academic world. The rapid growth in efforts and initiatives to monitor progress towards

achieving sustainability goals at the *corporate level*, ranging from the development of global reporting frameworks and standards, to numerous sustainability indices and ratings, manifests the complexity of the question at stake. Furthermore, the existence of various actors (i.e. organizations, standard setters, rating agencies, etc.) approaching the process of quantification from *different perspectives* poses additional challenges and brings us to a broader question about the problems of measurement in general.

At the same time, real world problems potentially related to quantification exist. In the recent Volkswagen scandal in 2015, the Environmental Protection Agency (EPA) found that many cars of the manufacturer being sold in the United States had a "defeat device" - or software - in diesel engines that could detect when they were being tested, changing the performance accordingly in order to improve results (BBC News 2015). In the wake of this episode, it is quite worrying to know that the same company was announced two years before as an Industry Group Leader in the automobiles and components sector as per the 2013 Dow Jones Sustainability Indices (DJSI). After the scandal gained publicity, Volkswagen was obviously removed from the DJSI. Although there might be numerous explanations behind this scandal, there is a big emerging question - we need a critical stance in the investigation of how measurements are constructed, and even more urgently in the complex area of sustainability measurement.

A methodologically rigorous critical stance is offered by an interesting thread in organizational research, ethnostatistics, which argues that in general the processes of measurement (data construction, analysis and final presentation) and the construction of metrics imply tacit assumptions and informal practices employed by the producers of metrics (Gephart 1988; 2006).

Following these considerations, motivated by the several ongoing questions within the field of sustainability measurement and convinced of the importance of adopting the critical lens in the study of quantification offered by ethnostatistics, I develop three related studies.

Research Objectives and Methods

In the *first study*, I explored conceptually the field of sustainability performance measurement by conducting a systematic literature review aimed at identifying the foundational conceptualizations of sustainability and its measurement in the organization and management literature. I designed a novel multi-stage research design encompassing a combination of bibliometric mapping techniques and meta-ethnographic research synthesis to present the main trends within the field of sustainability performance measurement. On this basis, I attempted to set a future research agenda. Within the research process, I 1) analysed and systematized the findings of 109 studies published in top academic and practitioner management, organization and strategy journals resulting in the construction of a co-occurrence map used as a navigation tool to visualize the key themes within the field of enquiry; 2) produced a synthesis of the main foundational conceptualizations of sustainability and their representative measures as emerging from this analysis; 3) elaborated a historical progression of the identified conceptualizations and 4) identified and formalized two emerging questions.

Motivated by one of the most relevant questions emerging from the first study, namely how organizations measure and disclose their sustainability practices, I designed a *second empirical study* aimed at disentangling the sustainability reporting (SR) dynamics and

understanding the organizational field forces that affect its realization. The scarcity of exploratory studies on SR and the centrality of the agency-versus-structure debate in the existing institutional explanations of reporting and quantification mechanisms (Hahn and Kühnen 2013; Hirsch and Lounsbury 1997) were taken as starting points for my inquiry. For the purpose, I employed a combination of first- and third-order ethnostatistical analyses and a grounded theory approach to investigate the practices of sustainability reporting at a large multinational company, rated as one of the industry leaders in sustainability as per the DJSI. The research process on the field amounted to 10 months, of which a 3-month pre-field stage period and a 7-months participant observation period, generated 15 interviews and approximately 300 pages of field notes and triangulation data. Using this material, I could “open the black boxes” of SR by providing a thick description of the reporting process and developing a process framework which identifies a set of mechanisms through which this process is realized.

In the *third methodological essay*, I used the experience of conducting an ethnostatistical enquiry in a live operating setting in order to shed more light on the ethnostatistical method. Developed in collaboration with my supervisor, in the study we discuss the intersection between history and ethnography while suggesting strategies for their complementary use in organizational and management research. In particular, we argue that although there are many valuable contributions employing an ethnostatistical approach in organizational settings, management and organization scholars seem to be failing to deliver a proper ethnography of metrics construction (first-order ethnostatistics) and resort instead to quasi-historical approaches to reconstruct the context in which data were produced. We pose that while conducting a proper field ethnography of metrics might be extremely rare given time and access constraints, we warn that the use of organizational histories and archival materials must be done with caution as they tend to be used for specific organizational purposes in the present being part of a wider organizational rhetoric which can hamper their ability to represent an unbiased view of reality. In particular, archival materials can highlight elements of metrics and measurement construction that are not evident in secondary sources. However, a correct use of such sources requires the methodological awareness of their limitation and partiality.

Three Studies on Sustainability Performance Measurement – Summary of Key

Findings

Study 1: Measuring Sustainability from a Historical Perspective: A Critical Assessment of the Concept of Sustainability and its Measurement in Management and Organization Literature

Designing a novel method for research synthesis grounded in the systematic literature review tradition, I summarise the state-of-the art in the field of sustainability performance measurement by exploring its foundational concepts and measures (see Table 1).

Table 1: Overview of Research Synthesis: Foundational Conceptualizations of Sustainability and their Representative Measures

Foundational Conceptualization	Representative Definition/ Summary of Conceptualization	Representative Measures
Sustainable development (SD) – a macro perspective	“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987)	<i>not applicable</i>
Ecological economics (Capital-based approach) - a macro perspective	SD can be approached as a model representing three dimensions (economic, social and environmental), with three circles inscribed one inside the other, where limits and carrying capacity of the ecosystem is normative for the growth of social and economic systems (Costanza 1991)	<i>not applicable</i>
Sustaincentrism, Corporate sustainability (CS) & Sustainable organizations	SD is a "process of achieving human development in an inclusive, connected, equitable, prudent, and secure manner" (Gladwin, Kennelly and Krause 1995)	KLD, DJSI, Inclusion in the DJSI as a proxy of sustainable organizations, Disclosure of social performance, Reputational ratings, GRI indicators, Analysing sustainability reports as per the GRI framework, Analysing annual reports, Developing own measures
	CS is "meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet the needs of future stakeholders as well" (Dyllick and Hockerts 2002)	
	Sustainable organizations are "one whose characteristics and actions are designed to lead a “desirable future state” for all stakeholders" (Funk 2003)	
Environmental management/ Ecological sustainability	Conceptualized in terms of four interrelated strategies: 1) managing the impacts of populations on ecosystems, 2) ensuring world-wide food security, 3) managing ecosystem resources and 4) creating sustainable economies	CEP social audit rankings of companies, Disclosure of expenditures on environmental practices, IRRC

	(Shrivastava 1995)	evaluation of environmental performance, Developing own measures
Corporate social responsibility (CSR)/Corporate social performance (CSP)	Social responsibility must embody the economic, legal, ethical, and discretionary categories of business performance because of the need to address the entire range of obligations business has to society (Carrol, 1979)	KLD, DJSI, Disclosure of social performance, CEP social audit rankings of companies, Reputational ratings, Fortune's Corporate Reputation Survey, Moskowitz Reputation Index, Analysing sustainability reports as per the GRI framework, Analysing annual reports, Developing own measures
	CSR is based on three principles: 1) legitimacy (institutional level), 2) public responsibility (organizational level) and 3) managerial discretion (individual level) (Wood, 1991)	

Legend: KLD = Kinder, Lydenberg, and Domini Indices, DJSI = Dow Jones Sustainability Indices, GRI = Global Reporting Initiative, CEP = Council on Economic Priorities, IRRC = Investor Responsibility Research Center

Based on this summary I develop several observations and pose emerging questions.

Observation 1: *Conceptualizations and measures of CS, Environmental management/ Ecological sustainability and CSR tend to converge*

As observed even having different historical trajectories, definitions and measures pertaining to the fields of CS, Environmental management/ Ecological sustainability and CSR tend to converge. Collectively, all those streams of research view sustainability as an effort of balancing economic, legal, environmental and social concerns. On a conceptual level, even though the stream of research categorized here as Environmental management/ Ecological sustainability adopts an unidimensional perspective on sustainability (i.e focus on the environmental aspect), it should be regarded as an integral part of the scholarship on sustainability performance measurement. Further, all these streams of research tend to make either explicit or implicit reference to the “institutional” definition of sustainability as per the Brundtland report (WCED 1987) when formulating their definitions. This phenomenon resonates with the so-called “next-stepping practice” (Gephart, 1988, p. 54) according to which papers within a stream of research tend to use

past literature in order to position themselves in a specific debate and to ground their reason for existence. I translate this practice as a sign that irrespectively of the fragmentation of the literature into different schools of thought, this overarching reference re-enforces the idea that nowadays we are discussing *similar* concepts, despite using diverse labels to position ourselves better in a specific research paradigm. While the connection between the next-stepping practice and the observation that different foundational conceptualizations tend to converge can be regarded as a rhetorical one, my results show that schools of thought pertaining to different conceptualizations, tend to operationalize their constructs with similar measures (see Table 1).

Based on these observations I present several recommendations. First, I would call for a more conceptual clarity which can be easily addressed simply omitting the citations of the institutional definition of SD, which is too broad and politically rooted, when discussing measuring the sustainability performance of organizations. Instead, I propose that research in this direction should base its construct definitions and measures on the conceptualization given by CS scholars. Second, accepting the fact that CS is a multidimensional construct, future line of research should focus on the streamlining the measures we use when treating these concepts. Third, what I observe is a prevalence of research efforts over the “instrumental” questions of whether it pays to be green. Instead of engaging further in this pre-mature question, a promising future line of research could be, to investigate more heavily the normative power of the SD concept to prescribe behaviour for businesses which seems to be an under-researched topic. In particular, drawing on the capital-based approach, future research should focus on the discussion and development of new vision and operationalization of the connections among the business, natural environment, and social aspects while accounting for that fact that the ecosystem capacity is normative to the growth of the other two systems (economic and social). Against this backdrop, development of measuring tools accounting for those issues can become the basis for prescribing business behaviour.

Observation 2: *Existence of diversity of measures with prevalence of third-party assessments used to measure sustainability*

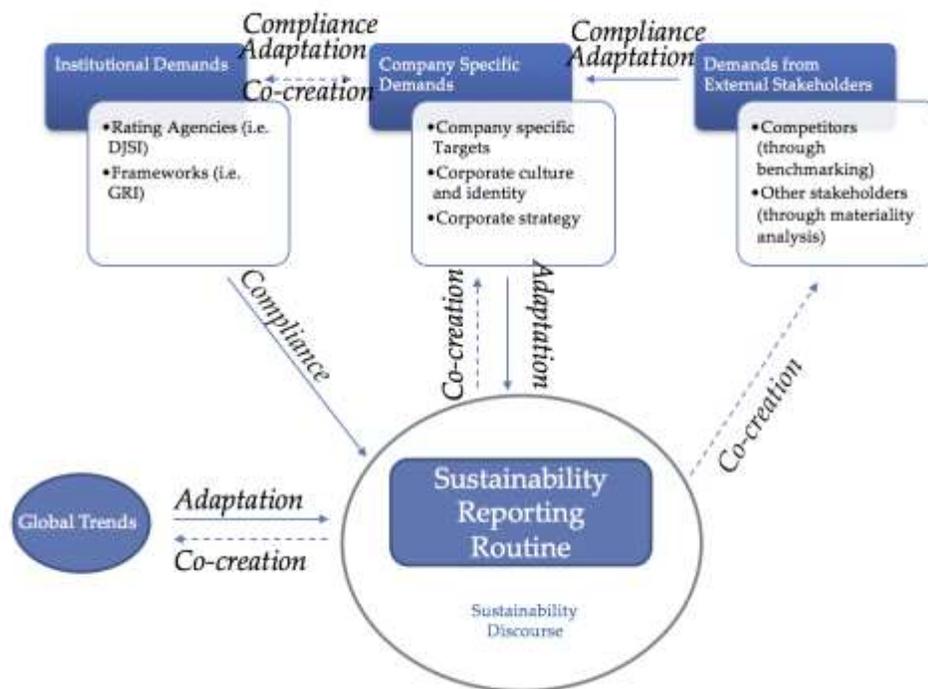
While it is common knowledge that one of the most important challenges in the field of sustainability performance measurement is the identification and development of the suitable tools capable of capturing the complexity of the construct, my observations show that a standard method of measuring CS and CSR/CSP is currently not present. Different approaches measuring sustainability exists ranging from developing own measures, through document analysis to using third-party assessments. What I observe is the prevalence of the use of third-party assessment as a proxy for measuring sustainable corporate performance. Such observation has been made also in earlier reviews (e.g. Montiel 2008; Montiel and Delgado-Ceballos 2014). Stemming from this observation I see as an implicit “standardized” measure for organizational sustainability the reliance of third-party assessments as a common measure capable to capture the complex nature of the corporate sustainability construct (e.g. KLD, DJSI). Because of that, two more important questions emerge: 1) How do third parties develop their sustainability ratings? And more importantly: 2) How do organizations actually measure and disclose on their sustainability practices?

Study 2: Opening the Black Boxes of Sustainability Reporting: How Does Reporting Affect Organizational Processes?

Informed by a combination of first- and third-order ethnostatistical analyses and a grounded theory approach I investigated the practices of SR at a large multinational company shedding more lights on two research questions: 1) What is the process of SR? and 2) What are the forces that affect the way in which the process is organized and realized?

Figure 1 represents a theoretical framework developed based on my observations to illustrate the field forces affecting the ever-changing nature of the SR process.

Figure 1: A Grounded Model for Balancing Institutional and Business Pressures in the Sustainability Reporting Process



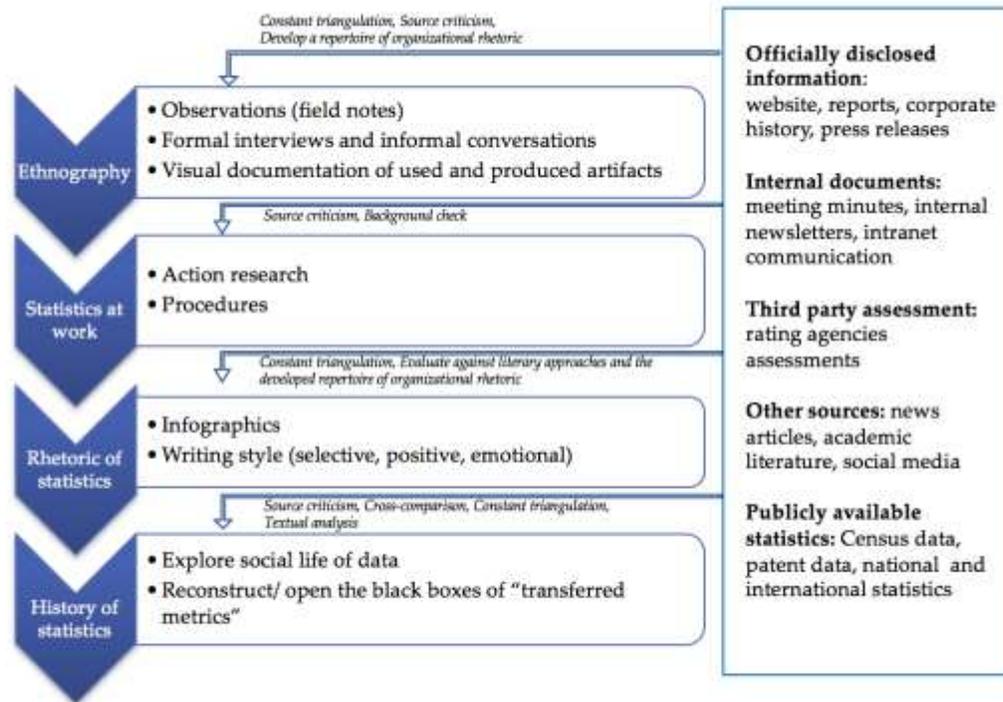
Although the SR process follows a specific routine, it is characterized by constant changes, which are an attempt to answer to different pressures where various forces affect organizations' sustainability disclosure. Those stem from diverse pressures from the organizational field (i.e. institutional and external stakeholders' demand, the influences of recent trends, etc.), which shape the formulation of the material topics and targets set by the company. However, those pressures are translated into business practices and

discourse by passing through the prism of the company's identity and culture (company specific demands). There are two main mechanisms that guide the process by which an organization aims to be perceived as legitimate and generally accepted in the organizational field, namely *compliance* and *adaptation*. Compliance, theorized as a force influencing the process of SR, should not be understood merely as the fact that organizational behavior is guided and/or restricted by the prevailing generally accepted norms and rules of conduct coming from the institutional environment, but that as those norms and rules of behavior are not stable in time and are underpinned by complex interactions, they have the capacity to drive changes in the process. Therefore, the act of compliance should be understood as a confirmatory behavior with the dynamically changing generally accepted rules and norms of conduct. Adaptation seems to be a logical consequence considering the numerous ongoing changes in the organizational field, the organization's own business operation and the process itself. Thus SR collectively reflects the institutional demands, the company specific targets and emerging global trends through adaptation in the discourse. A third interesting mechanism emerges – i.e. *co-creation*, which marks the potential power of the SR process to influence the organizational field through the sustainability disclosure. What I observe can be seen at a first glance as a by-product of the reporting routine, but can have the potential power to affect not only the process, but also the wider organizational field. Therefore, inspired by the social constructivist thinking, I suggest that organizations are actors capable of influencing, re-shaping and co-creating the norms and rules of conduct in the organizational field and the way to do that is through discourse.

Study 3: Pluralistic Research Methodology for Ethnostatistics in Organization Studies: Towards a Historical Ethnostatistics

To discuss and address methodological issues related to construction of metrics and performance measurement in general, this study aims to i) present practical techniques for conducting ethnostatistical research in live organizational settings, and ii) discuss how historical approaches could overcome the limitations of pure ethnographies, thus offering a pluralistic method for conducting ethnostatistical research. Figure 2 represent a newly developed pluralistic methodology.

Figure 2: Pluralistic Research Methodology for Conducting Ethnostatistics in Organizational Settings



At the first-level of ethnostatistics (i.e. conducting an ethnography of measurement production) this framework suggests data collection methods commonly used for ethnographic research (e.g. Van Maanen 1979) spreading from participant observation, formal in-depth semi-structured interviews and informal conversations. To supplement the data collection process, visual documentation of used and produced artefacts during the participant observation is suggested in an exemplar ethnographic research (i.e. Stigliani and Ravasi 2012). Such technique can prove to be specifically crucial especially in the cases in which sensitive data are being elaborated or discussed. Within this level of analysis, a complementary set of secondary data, ranging from officially disclosed information through internal documents and other publicly available meta-data sources (see full list in Figure 2), has been suggested to be used for constant triangulation and to further the creation of a more holistic picture about the general “climate” in which the organization operates. Within this level, we encourage that the researcher creates an initial repertoire of organizational rhetoric (i.e. seeking and documenting specifics in the language or attempting to develop a repertoire of the professional slang used by the observed organizational actors).

Our framework suggests that a useful technique to develop the second-level of ethnostatistical analysis (Statistics at work) is by conducting it as an action research (Lewin 1947). In this method of research, it is presumed that the benefits from combining “action” with “research” is to overcome important social and organizational issues together with those practitioners who are experiencing the issues. While such a research can have operational value, on a purely practical level its value for ethnostatistics can be to grant the researcher potentially with a wider access to organizational documents,

operating procedures and even closer, colleague-like relationships with the organizational actors thus allowing them to have more holistic insights on the actual process of creating statistics. At analytical level in this stage it is suggested that the researcher uses the obtained sources as if they were historians (i.e. focusing on source criticism to uncover what the developed documents at stake are an answer to, and which specific bias they project on the results). Further it is suggested as useful to gain more knowledge about the organizational actors' educational and professional background in order to give the research a potential anticipation and explanation of the "conventions" and informal practices they might be using in the process of data elaboration.

In the third level of ethnostatistical enquiry, the rhetoric of statistics, a specific focus on the organizational textual and visual presence is suggested as a means for evaluating how, where and why quantitative facts can be potentially used to create a sounder validity of organizational claims. At this level of analysis, we suggest evaluating the official company's disclosure against the developed (in the first stage of the analysis) repertoire of organizational rhetoric. Further it is suggested that the official organizational disclosure should be analyzed critically as a literary document searching for differences in the writing styles used in different documents, points of time or among sections within the same document. In this stage, again triangulation with additional data is suggested to complement the analysis and to give the researcher an indication of whether and why certain events might be discarded from the official organizational rhetoric.

Finally, we suggest adding a fourth level of analysis, the history of statistics, focusing on the longer-term evolution and change of the meaning assigned to the constructed metrics and to the collected data. As it is common knowledge, metrics and methods are often transferred from and/or to other organizations and/or institutions (i.e. standardized indicators, assessment methods, etc.), by which a complex dynamic of domestication and adaptation is involved. We suggest that such mechanisms can be studied using a retrospective approach resorting to the secondary data concerning the past phase and connecting it to the present situation that is then subject of ethnographic observation. Connecting the two phases requires establishing an interpretive connection between materials having different origin and characteristics which is impossible to achieve with a purely ethnographic approach whenever the metrics that are transferred are "black-boxed", i.e. they are taken for granted in their working, focusing only on the results, this way concealing the details of their origin, and making their history unknown to their users (Latour 1999, p. 304). This in fact excludes the possibility to appreciate the details of their construction and transfer as they are not explicitly "embedded in the daily practices and symbolic life of the group studied" (Van Maanen 1988, p. 72). Furthermore, the "social life of data" is also a field of inquiry which requires almost by definition an historical approach in order to be extended further than a limited scope, and to assess what was lost and what was acquired in the transfer through different contexts (Blackman 2015). Therefore, at this level of analysis we suggest that exploration of the social life of data and the path of transferred metrics is needed to uncover the micro-dynamics of quantification processes (including building or adopting measurement tools and data generation) which grant the researcher the ability to trace and show the long-term trajectories of data which is lacking if one relies solely on pure observations of data generation and use in the *present*. At this level of analysis, historical approaches for source criticism can be used to open their black boxes ranging from cross-comparison

and triangulation with other sources, the study of the context and conditions in which data and metrics were produced, to textual analysis.

Research Implications and Conclusion

Motivated by ethnostatistical thinking, this research project was aimed at engaging organizational and management disciplines into in a more critical investigation of the foundations and practices of measurement construction. Discussing this overarching question in the case of sustainability performance measurement, I have presented three studies giving three different perspectives on how this idea can be employed contributing to several debates.

More precisely, at a conceptual level, the main findings of my *review article* show that even if they followed different historical paths, nowadays the different conceptualizations of sustainability tend to converge in terms of both definitions and measures, with the prevalence of the use of third-party assessments as a proxy for sustainable corporate performance. A plausible explanation for this observation can be found in Kuhn's (1970) reflections on the evolution of scientific knowledge where he distinguishes different phases in the ways scientific progress is made (i.e. pre-paradigm, normal science, paradigm shift and post revolution). I can position the current status of the state-of-the-art in sustainability measurement in the phase between normal science and paradigm shift. As observed, the fact that concepts and measures of sustainability tend to converge nowadays advocates that current research efforts have already gained consensus in the discipline (additionally, despite several inconsistent results sustainability scholarship agrees that "it pays to be green"). On the other hand, however, real-time crises (as the example of the Volkswagen scandal given in the Introduction) ring the bell that a paradigm shift may be in front of us and is needed to solve existing gaps between practice and theory.

At a theoretical level, my *empirical study* contributes to the development of a *theoretical* framework which identifies three mechanisms through which the sustainability reporting process is realized using the explanatory power of institutional theory, strategic legitimacy theory and social constructionism. SR resulted as a strategic tool through which organizations maintain and control their legitimacy status in order to comply and adapt to the demands coming from the organizational field. Further the SR process was conceptualized as a socially constructed reality obtained through an iterative process of numerous interactions, reflecting ongoing changes which re-shape and co-create the organizational field through discourse. Thus, the study overcomes the sole reliance on the institutional and strategic legitimacy paradigms and offers an alternative, social constructivist explanation of the sustainability reporting practice. At a methodological level, it contributes to the ethnostatistical method by being potentially one of the first applications of ethnostatistical analysis in the world of practitioners to offer a real-time ethnography of the production of measurement-related discourse.

At a *methodological level*, I developed a third contribution by discussing how historical approaches can successfully join ethnostatistical enquiries in an attempt to overcome some limitations in the existing conventional methods. This can bring benefits to both the academic and business world by increasing the methodological rigor in producing scientific knowledge at a theoretical level and by improving the awareness of the

implications of the measurement practices employed by business professionals at a practical level.

Although as comprehensive as possible, it is my intention that the project will be complemented with two more lines of research: 1) an investigation of the practice of producing in-house metrics (which is an ongoing research project) and 2) an investigation of the practice of rating agencies in preparing sustainability assessments of companies. I foresee that such future lines of research can not only engage a dialogue with important theoretical debates within the organization and management literature, but will also provide a more complete picture of how sustainability is measured in practice, opening a whole new research agenda within the sustainability performance measurement literature. Collectively, the three studies were able to approach and discuss general problems of quantification (both within the field of sustainability performance measurement and in general) offering a critical point of view. It is important to note here that adopting a critical lens within the project is not an end but an analytical device able to capture and explore the complexity of the investigated phenomena. In this sense, opening the “black boxes” of sustainability measurement is a way forward to improving the rigour in both academic and business practices.

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Transformative Transition Coaching: A Framework to Facilitate Transformative Learning during Career Transitions

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Abstract

Managers and leaders are frequently promoted into senior positions without the necessary support. A significant proportion fail with negative personal and organisational implications. Incumbents need to adapt through a learning process that transcends superficial change. Transformative learning alters deeply held perspectives and has long-term efficacy, while transition coaching is a personalised learning process. This research created a novel synergy between transformative learning theory and transition coaching using grounded theory and canonical action research. The resultant Transformative Transition Coaching framework facilitates deep, lasting changes in an individual's perspectives and world-views, increasing their chances of success in their new roles.

Introduction

When corporate leaders are promoted into senior positions, they face significant challenges on intrapersonal, interpersonal and systemic levels (Bebb, 2009; Freedman, 2011; Martin, 2015). The complex landscape of contemporary organisational dynamics, the fast rate of change and the need for strong, senior leadership exacerbate the situation (Dotlich, Noel & Walker, 2004; Manderscheid & Ardichvili, 2008). Leadership transitions, defined in this research as the phenomenon where a leader is promoted to a more senior level in the organisation to take on different and more complex responsibilities, often end in failure. Transition failure implies that the incumbent does not perform as expected in their new role, with harmful financial and psychological effects to the individual, their colleagues and the organisation. As many as 25% of managers in a typical company enter a new position each year with fewer than 50% succeeding (Watkins, 2003), up to 46% underperforming (Sutton, 2008) and only 16% seen as fully transitioned (Freedman, 2011).

Transitioning leaders need help. Some organisations attempt to assist through leadership development programmes (Freedman, 2011; Watkins, 2003). These interventions are costly, with some estimates putting the total amount spent on leadership development at approximately \$12 billion in 2007; yet, there is very little evidence of the efficacy of these interventions (Avolio & Hannah, 2008). This raises the question of whether there could be a more effective, individually focussed, tailor-made support mechanism for transitioning leaders.

A potential candidate for customised support is transition coaching, a sub-category of business and executive coaching (Freedman, 2011; Kauffman & Coutu, 2009; Witherspoon & Cannon, 2004). Transition coaching is a personalised, one-on-one intervention that aims to support transitioning leaders. The confidential nature of

coaching allows transitioning leaders to share their innermost deficiencies and concerns (Gray, Ekinci & Goregaokar, 2011). Although in high demand (Bond & Naughton, 2011) transition coaching is not well researched or used adequately in practice (Bond & Naughton, 2011). In addition, current approaches to transition coaching do not appear to attempt to create overtly deep, lasting change in transitioning leaders but rather focus on helping the transitioning leader to learn fast and on the job given the time pressures associated with senior positions (Bebb, 2009; Freedman, 2011). This suggests that there could be scope for designing a transition coaching intervention with a more enduring effect. Understanding how adults learn may hold the key.

Although challenging, career transitions present an opportunity for individual learning and growth. Learning takes a number of forms, ranging from superficially adjusting thinking and behavioural patterns on the one end of the spectrum, to challenging and adjusting deeply held world views and perspectives on the other (Argyris, 1991). Transformative learning theory, a type of adult learning theory and a theoretical foundation of the coaching discipline, is a mature, well-researched field that offers the potential to create deep, permanent shifts in people (Mezirow, 1994). If transformative learning could be facilitated during a transition coaching intervention, it could serve as a mechanism to support transitioning leaders in a fundamental way. Current forms of transition coaching, like most coaching approaches, borrow from many disciplines and therefore have wide application, yet lack empirically tested or validated frameworks (Spence & Oades, 2011). In addition, empirical research on the links between transformative learning and coaching is sparse (Cox, Bachkirova and Clutterbuck; 2014).

Given these imperatives, the main question this research therefore asks is: *How can the coaching process be designed to facilitate transformative learning during senior leadership transitions?*

This question was answered through the creation of an innovative transformative transition coaching (TTC) framework. The TTC framework combines transformative learning theory and transition coaching approaches into a novel approach to support transitioning leaders by facilitating deep, lasting changes in their world views and perspectives. By undergoing transformative learning through coaching, transitioning leaders may be better equipped to succeed in their current and future roles than if they merely adapt superficially. The rest of this article argues for the need for a transformative transition coaching framework and describes how it was derived.

Transition Coaching

Organisations attempt to support transition leaders via various interventions such as leadership development programmes, mentoring and transition coaching (Freedman, 2011; Watkins, 2003). The jury is still out on the effectiveness of leadership development programmes (Avolio & Hannah, 2008), but transition coaching seems to hold promise due to its individual, one-on-one nature (Kauffman & Coutu, 2009; Witherspoon & Cannon, 2004).

Transition coaching is defined as an individual coaching intervention aimed at supporting the transitioning leader by addressing issues that may prevent them from being effective in the new role (Witherspoon & Cannon, 2004). Transition coaching is a relatively new

field of research and practice, is in high demand (Bond & Naughton, 2011) but not well researched or used adequately in practice (Terblanche, Albertyn & van Coller-Peter, 2017). Current approaches to transition coaching focus on aspects such as improved stakeholder management, more effective communication and developing new cognitive and social skills (Reynolds, 2011; Sutton, 2008; Witherspoon & Cannon, 2004), but appear to stop short of creating sustained change on a more fundamental level (Bebb, 2009; Freedman, 2011). Transition coaching is typically started too late and used as a rescue mechanism rather than a pre-emptive support (Terblanche et al, 2017). This suggests that there could be scope for designing a transition coaching intervention with a more enduring effect. Understanding how adults learn may hold the key.

Transformative learning

Transformative learning theory studies the mechanism of deep, permanent structural changes in adults as a result of a learning experience (Mezirow, 1994). Transformative learning is achieved through a process of critically questioning previously accepted values, beliefs, assumptions and perspectives (Cranton, 2005). The outcome of a transformative learning experience is a more open, inclusive and accommodating world view (Mezirow & Associates, 2000).

Perspectives are a central concept in transformative learning theory and Mezirow distinguishes between a number of meaning perspectives: sociolinguistic (use of language and manner of social interaction); moral ethical (what is right and wrong); epistemic (how knowledge is gathered); psychological (sense of self and others); philosophical (world views); health (what constitutes good health); political (influencing others); and aesthetic (interpretation of beauty) perspectives (Mezirow, 2008). A change in these meaning perspectives implies a change in how people filter their perception of the world. If for example a transitioning leader has an unhelpful sociolinguistic perspective, it implies he or she uses inappropriate language or exhibit unsuitable social behaviour given the requirements of the new role. This may need to change to ensure success in the new role.

For the purpose of this research Hoggan's (2016) three aspects of transformative learning was used to gauge whether someone experienced transformative learning as a result of coaching. The three aspects are:

- i) **Depth** signifies the magnitude of the influence of the change on the person's life.
- ii) **Breadth** refers to the number of contexts in which a change is manifested.
- iii) **Relative stability** indicates that a change must be permanent to qualify as transformative.

The intersection between coaching and transformative learning seems to hold promise in helping transitioning leaders create sustained change in how they interpret and interact with the world. It appears therefore that by explicitly facilitating transformative learning during transition coaching interventions, the magnitude of change and permanence required for incumbents to succeed could potentially be achieved. The review also showed that, to date, no empirical research has been done on the link between transition coaching and transformative learning.

Methodology

A two-phased research design was employed to create the transformative transition coaching (TTC) framework systematically. The first phase (foundation phase) used grounded theory principles (Charmaz, 2014) to create a draft coaching framework. The second phase (application phase) used canonical action research (Davison, Martinsons & Ou, 2012) to evolve the draft coaching framework into its final incarnation. In each section that follows, the design, sampling, data gathering and analysis are described respectively.

Foundation Phase

The foundation phase employed grounded theory principles including theoretical sampling, constant analysis and comparison, initial and focused coding and memo writing (Charmaz, 2014; Strauss & Corbin, 1990). The aim of the foundation phase was not to generate new theory, but rather to employ the robust principles of the grounded theory approach to extract from interview data, content that could potentially be used to construct a draft transformative transition coaching framework.

Sampling

Sixteen people were interviewed for approximately one hour each by the first author. They included eight recently transitioned senior executives who received coaching during their transition were interviewed (denoted as P1 to P8); five coaches who have coached transitioning managers (denoted as C1 to C5), two HR practitioners (two, denoted as HR1 and HR2) and one line managers (denoted as M1) of transitioning managers.

Data gathering and analysis

The audio recordings were transcribed, coded and new codes were compared to previous ones. This process equates to initial coding (Charmaz, 2014). Once data saturation was reached, a process of focused coding (Charmaz, 2014) was employed. Through selecting initial codes of a conceptual nature that captured the data incisively and completely (Charmaz, 2014), core categories were derived (Charmaz, 2014, p. 141).

After the sixteenth interviews, three main themes and a number of categories emerged that captured the experiences of the participants in relation to transition coaching as described in Table 1.

Table 1: Themes and categories from the foundation phase

Theme	Category
Fulfilling the new role	Initial impressions
	Facing challenges
	Overcoming challenges
Experiencing transition coaching	Initiating coaching
	The coaching process
	Experiencing benefits
	Instances of transformative learning

Transforming	
	Using coaching tools and techniques

During the next research phase (the application phase), some of these categories were selected for inclusion in the draft coaching framework as described in the next section.

Application Phase

In the application phase, canonical action research (CAR) (Davison *et al.*, 2012) was used to evolve and refine the draft coaching framework. CAR provides particular implementation guidelines consisting of five principles (researcher-client agreement; cyclical process; using theory; change through action; learning through reflection) and 44 associated evaluation criteria. This approach to action research aims to encourage rigour and relevancy; provide practical guidelines for implementation and monitoring; and explicitly involve theory in the process (Davison *et al.*, 2012).

Focal and instrumental theories are central to CAR. Focal theories provide the central, intellectual basis for change during the CAR process. Instrumental theories consist of tools and processes that facilitate and explain the outcomes. The researcher selects focal and instrumental theories relevant to the problem domain (Davison *et al.*, 2012). For this research Lane and Corrie’s (2007) formulation framework used to describe the derivation of psychotherapy interventions was used as focal theory. Their framework consists of three parts: perspective (what informs the intervention?); process (what process is followed?); and purpose (what are the outcomes of the intervention?). Instrumental theories should complement focal theories (Davison *et al.*, 2012), and to this end, Mezirow’s definition of perspectives and types of reflection (Mezirow, 1994) and Hoggan’s evaluation of the level of transformative learning (Hoggan, 2016) were selected. This specific combination of focal and instrumental theories helped the CAR process to follow a coaching approach with a focus on transformative learning.

In this research, the focal theory (perspective, process, purpose) was used to select categories from the foundation phase (Table 1) deemed relevant for a draft TTC framework as follows:

- Facing challenges (perspective);
- Initiating coaching (process);
- The coaching process (process);
- Experiencing benefits (purpose); and
- Using coaching tools and techniques (process).

These categories were used to construct the draft TTC framework.

Sampling

Six participants, promoted less than six months ago at the time of the research and who had not received coaching were recruited via convenience sampling. The participants all held senior management positions in corporate organisations.

Data gathering and analysis

The action research cycle of plan→act→evaluate→reflect was followed using a nested approach consisting of macro- and microcycles (Terblanche, 2014) as illustrated in Figure 1. A macrocycle consisted of six individual coaching sessions (microcycles), one per transitioning manager (denoted as ‘TM’). TMs were coached in sequential order each receiving at least five coaching sessions.

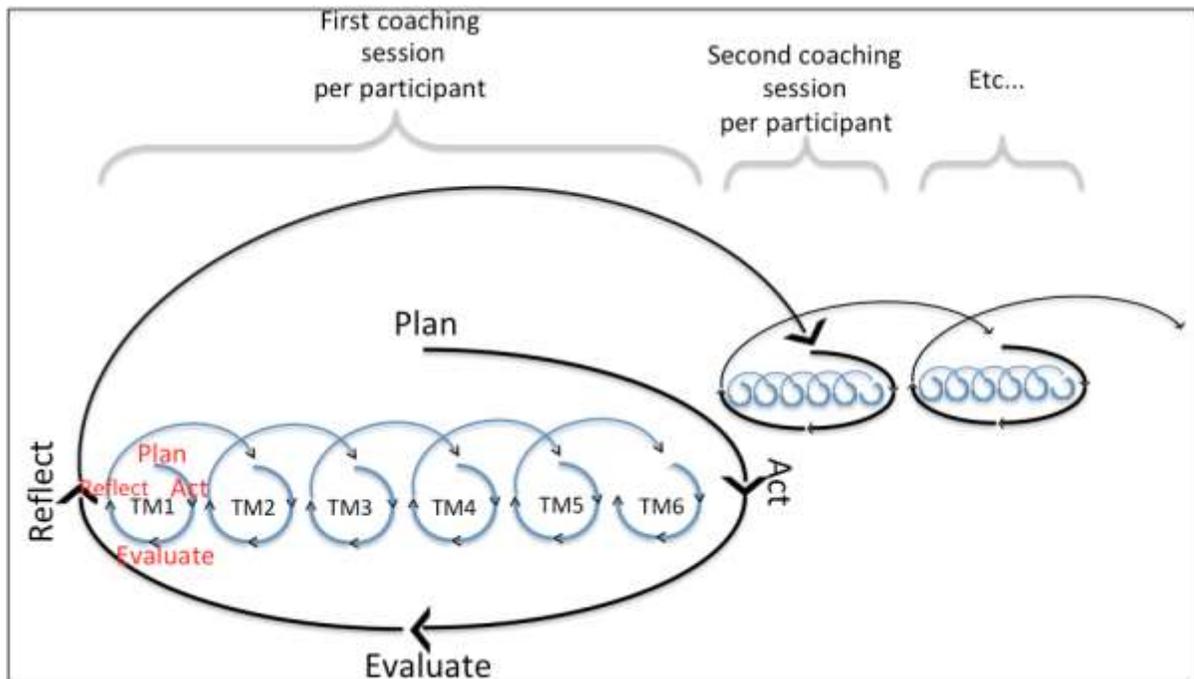


Figure 1: Nested action research cycles

Data gathered during each micro- and macro-cycle included researcher and participant reflections, structured coaching feedback forms from TMs after each coaching session and post-coaching intervention interviews with TMs. At the start of each macrocycle during the ‘plan’ step, a goal was set for validating a certain aspect of the draft TTC framework. During the ‘act’ step the plan was executed by experimenting with various coaching approaches using the draft coaching framework, the focal and instrumental theories. The ‘evaluate’ step consisted of analysing the collected data using content analysis (Hsieh & Shannon, 2005) which served as input to the ‘reflect’ step where adjustments were made to the emerging TTC framework based on the evidence from that macrocycle. After five macrocycles the final TTC framework emerged.

Findings and Discussion

The TTC framework that emerged from this research consists of seven aspects, which guide a coach in coaching transitioning leaders in a manner that may facilitate transformative learning during a career transition.

Contextual

The context and focus of the coaching intervention must explicitly focus on supporting the transitioning leader by facilitating transformative learning. The foundation phase revealed that a focussed approach to coaching is needed to support the transitioning leaders and is in line with findings from Cox, Bachkirova and Clutterbuch (2014). This was confirmed during the application phase where TMs found the narrow focus of the coaching helpful.

Contractual

During the foundation phase all the coaches interviewed reported going through a contracting phase involving an organisational representative. In the application phase

contracting was used with all six TMs and reaffirmed the importance for this aspect. Formal contracting has been shown to be a crucial aspect of coaching interventions (Passmore & Fillery-Travis, 2011; Sparrow, 2007).

Anticipatory

Findings indicate that coaching goals relating to transition challenges must be agreed upon and recorded in collaboration with the organisation. Goal setting ensures the focus of the coaching remains within the context of the career transition. According to the participants from the foundation phase, coaching goals provided structure and helped coachees stay accountable while findings from the application phase added to the understanding of how to apply goal setting by emphasizing the importance of prioritizing goals. This is in line with Passmore and Fillery-Travis (2011).

Procedural

TMs move through five stages when exposed to the TTC model:

Stage 1 - Initiate: Define the context for the coaching and identify the most pressing challenges faced by the transitioning leader.

Stage 2 - Understand: Analyse the current perspectives held by the transitioning leader on the following: sociolinguistic, moral-ethical, epistemic, philosophical, psychological, health, political, aesthetic.

Stage 3 - Identity and design: Identify the most problematic perspective from Stage 2. Reflect on the origins of this perspective and its negative effects. Conceptualise the desired new perspective and design a behavioural experiment to change the problematic perspective.

Stage 4 - Reflect and redesign: Reflect on the progress with transforming the problematic perspective using Hoggan's transformative learning criteria (Hoggan, 2016) and design a new behavioural experiment to deepen the transformative process.

Stage 5 - Complete: This state is reached when the transitioning leader shows an acceptable level of perspective transformation according to Hoggan's criteria. A strategy is defined to secure the transformation, put stretch goals in place and decide to terminate the coaching or select a new problematic perspective to transform.

These five TTC stages are not singularly linked to individual coaching sessions. A coachee could remain in one stage for more than one coaching session, revisit a stage or cover multiple stages in a single coaching session.

The Procedural aspect of the TTC framework explicitly includes Mezirow's perspectives (Mezirow, 1994) and Hoggan's (2016) criteria for transformative learning in the coaching model. This inclusion operationalises transformative learning in transition coaching and answers the call for more research into the links between coaching and transformative learning theory (Cox et al., 2014; Theeboom, Beersma & Van Vianen, 2013).

Temporal

The Temporal aspect of the TTC framework encapsulates the timing elements of the intervention. Participants in the foundation phase reported interventions ranging between six and ten sessions only over a period of less than a year. It was felt that this was inadequate. Participants suggested that coaching should start before the promotion takes effect (two to three sessions a few weeks apart), followed by frequent coaching sessions (every two to four weeks) for the first six months after the promotion and less frequent coaching (every one to three months) for at least another one to two years.

Research has shown that the robustness of the coaching results increases with the number of coaching sessions (Theeboom *et al.*, 2013) and in transformative learning, deeper levels of learning occur when adequate time is available for critical reflection and active experimentation (Mezirow, 1994).

Technical

During the foundation phase 13 coaching tools and techniques used to facilitate deep, permanent changes were identified. Five were used substantially more than the rest: questioning, reflection, active experimentation, using frameworks and theory (about career transitions and transformative learning), and challenging views and assumptions. Using these techniques may therefore accelerate transformative learning.

Efficacious

The Efficacious aspect of the TTC model was achieved by using Hoggan's (2016) three criteria. Hoggan's three criteria was found to be useful for evaluating the level of transformation and hence, the success of the transition coaching intervention. Of the six TMs who were coached using the TTC model, four satisfied Hoggan's criteria for transformative learning.

Coaching State Transition Notation and reflection on TTC framework efficacy

The Procedural aspect of the TTC framework captures five distinct transitioning stages through which a TM progresses on their way to transforming deeply held perspectives: Initiate; Understand; Identify & design; Reflect & redesign; and Complete. During the application phase a notation mechanism was created to track the progress of TMs through the five stages. The actual progression for the six TMs that participated in the application phase is illustrated in Figure 2.

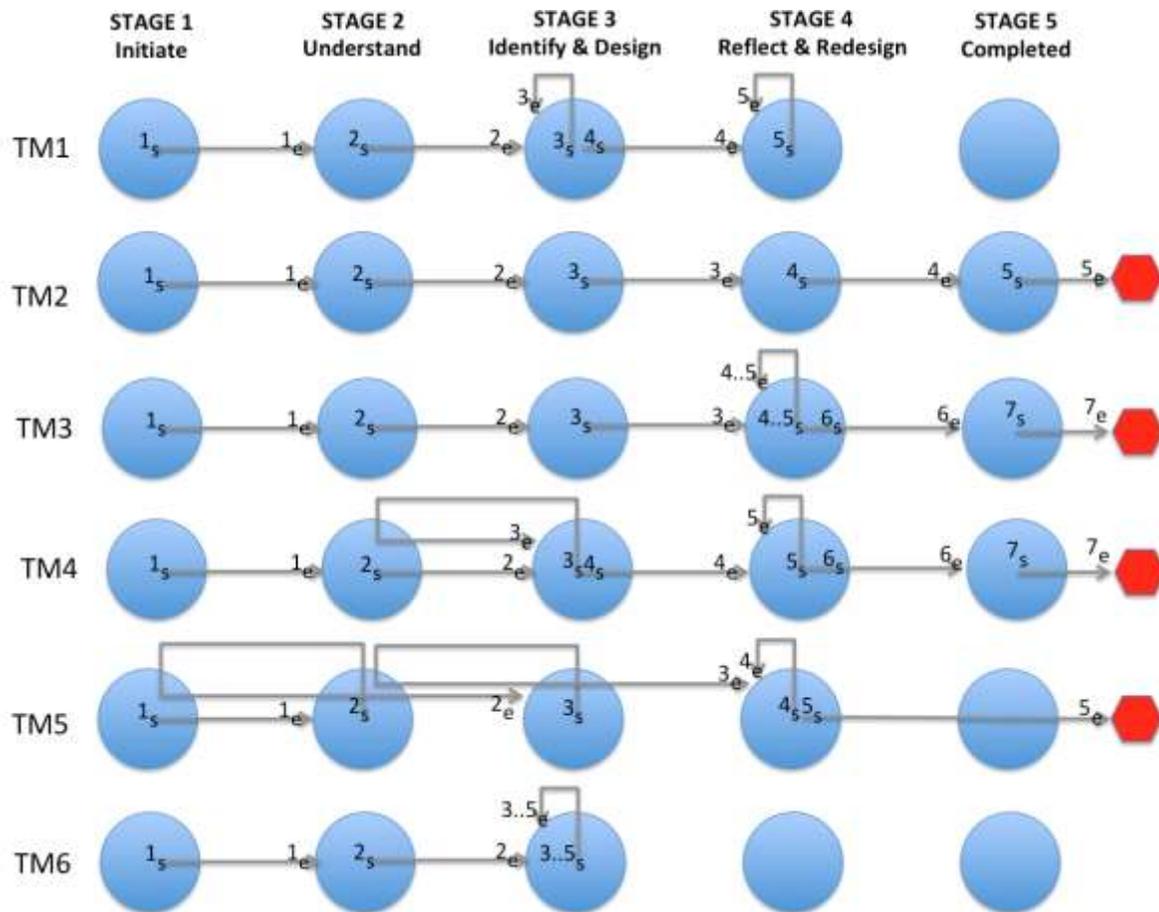


Figure 2. Coaching state transition notation applied to the six TMs of the application phase

In this diagram, the columns of circles represent the five TTC stages. Each arrow represents one coaching session. The numbers indicate the start and end of a particular session. For example, 1_s indicates the start of the first session and 1_e indicated the end of the first session. The diagram shows that certain stages could be repeated (e.g. TM1 repeated stage four during her fifth session), or that within a single session, multiple stages could be covered (e.g. TM5's second session revisited stage one and completed stage two). The diagram also shows that TM2 and TM5 completed all five stages in the five sessions. TM3 and TM4 received two more coaching sessions before completing the five stages. All four TMs therefore completed the transformations for their most problematic perspectives. The diagram also illustrated that TM1 and TM6 did not complete the transformation.

The novelty of the 'coaching state transition notation' lies in the fact that it provided a convenient graphical method to keep track of a TM's TTC progress. It is anticipated that this notation model could be applied to other coaching and learning interventions to allow coaches and trainers to track the progress of their clients through different stages. This could be beneficial to both the client and sponsor to both motivate and create transparency during the learning journey.

The notation also serves as an illustration of the relative efficacy of the TTC framework for this research. Four of the six TMs complied with Hoggan's criteria for transformative learning, which suggests that the TTC framework appears to have the ability to facilitate transformative learning. TM2's case serves as an example. TM2 identified his political perspective of 'It is wrong to play the political game. Working hard is sufficient to help me succeed' as most problematic. After five coaching sessions TM2 reached TTC stage five (Completed) by fulfilling Hoggan's three criteria:

- i) Depth: The effect of changing his political perspective would have a significant effect on his career and life. In his words, if he did not change this perspective he would '*completely miss the career bus*'.
- ii) Breadth: He started interacting differently with his 19-year-old son who was unsure of which life direction to take after completing high school. By applying his new perspective on subtle influencing, he convinced his son through indirect hints and suggestions as opposed to direct instruction, to sign up for a course as a computer technician. There was therefore evidence of his new perspective on 'politics' playing out in multiple areas of his life.
- iii) Relative stability: Six months after the coaching was completed the interview with TM2 revealed that he is still confident that he had transformed his problematic political perspective.

Two of the TMs did not meet Hoggan's criteria after five coaching sessions. TM1 elected to terminate the coaching after five sessions while in stage 4 (Reflect & Redesign). She cited time pressure at work as the reason, however the researcher's reflective journal reveals that TM1 seemed not to have actively engaged with the behavioural experiments she designed, thus not leading to embodiment of the new perspective she desired. One of Mezirow's conditions for transformative learning is exploration of new roles and actions (Kitchenham, 2008) and it appears that this necessary step was missing. 'Readiness for coaching' has been identified as an important prerequisite for successful coaching, especially commitment to change (Kretzschmar, 2010).

TM6 was unable to accurately identify his most problematic perspective after five sessions and remained in stage 3 (Identify and design). TM6 found the process frustrating and decided not to continue. The researcher observed in his reflective journal that TM6's inability to reflect may have contributed to the stalemate. A crucial aspect of transformative learning is the ability to reflect critically (Mezirow, 1994) and the TTC framework may therefore not be suitable for transitioning leaders who are not able to practice critical reflection.

Contributions

This research contributes on scholarly and practical levels. On a scholarly level, the association between coaching and one of its fundamental underpinning theories (adult learning) is strengthened through the operationalization of transformative learning in the coaching process. The understanding of coaching practice is enhanced by the identification of coaching techniques that lead to transformative learning, and the process of creating a problem-specific coaching framework is defined. This answers the call for more research into coaching to help establish it as a fully-fledged academic discipline

(Grant *et al.*, 2010; Passmore & Fillery-Travis, 2011), as well as a call for more research into transition coaching specifically (Bachkirova *et al.*, 2016).

On a practical level, a new empirically researched coaching framework is presented that could be used by coaches during transition coaching interventions. Purchasers of transition coaching services such as human resource practitioners and line managers could use the transformative transition coaching framework as a reference model to ascertain the comprehensiveness of services offered. Coaching training institutions could use the new coaching framework in the education of coaches to create awareness of the potential use of transformative learning and transition coaching.

Conclusion

Transitions into senior leadership positions in the corporate environment are challenging and many who attempt the shift fail, with negative consequences for the individual and his or her organisation. This research set out to create a new transition support mechanism that offers flexible, personalised support while facilitating deep, permanent learning through incorporating transformative learning theory into a transition coaching intervention. The original contribution in this study is reflected in the novel TTC framework. This framework shows the potential to use the career transition event to uncover problematic world views and perspectives held by transitioning leaders, and to facilitate a process of redesigning more helpful, inclusive world views and perspectives. The TTC framework can be used by coaches, coach training institutions and HR practitioners as a template to gauge and evaluate existing coaching frameworks and coaching progression.

Coaching could provide effective support for leaders and their organisations. If customised for career transitions as suggested in this research, transformative transition coaching may be able to provide a humane way to support ambitious, talented individuals with the challenges they face during promotions into senior leadership positions.

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