Aleksi Airikkala

Dynamic capabilities and organizational inertia during digital transformation

School of Management
Master's thesis in Strategic Business Development

Vaasa 2021

UNIVERSITY OF VAASA
School of Management
Author: Aleksi Airikkala
Title of the Thesis: Dynamic capabilities and organizational inertia during digital transformation
Degree: Master of Science in Economics and Business Administration
Programme: Master's Programme in Strategic Business Development
Supervisor: Tuomas Huikkola
Year: 2021 **Pages:** 80

ABSTRACT:
Research on digital transformations is growing, and research streams regarding the subject are forming. One of those streams is organizational inertia and how it affects the new value creation processes enabled by digital transformation. While information technology increases the uncontrollable complexity in which firms operate, organizational inertia can be controlled. The purpose of this study is through an empirical case to understand sources of organizational inertia, how it affects the success of digital transformation, and how the organizational inertia can be overcome.

While the capability view is a dominant lens to research on why some firms succeed and others fail in the face of environmental change, the theoretical premise of this study extends that view to the microfoundations of dynamic capabilities. To reflect the chosen approach for this study, the theoretical framework comprises employee-level adoption against organization-level transformation. In addition to common microfoundations concepts, three types of organizational inertia are defined to set the baseline for the empirical part of this study, and current definitions of digital transformation are discussed.

The empirical part was carried out as a single case study. The chosen case was Keltainen Pörssi, a former publication and online media acquired by Sanoma Oy, which provided a fitting context to study organizational inertia due to its unsuccessful reponse to an industry-wide digital transformation. The data were collected from two sources – semi-structured interviews and publicly available sources. Adapting the retrospective setting of interviews, the discussed teams centered around how the establishment of online media succeeded and what kind of tensions emerged. A content analysis was performed for the interview data, and a timeline was constructed based on the publicly available sources.

The study's main findings consist of the recognized types of organizational inertia and their sources, what kind of effects they had on the digital transformation, and how some of the recognized types of inertia can be overcome. On top of structural, socio-technical, and cognitive inertia, identity, business model inertia, and a success trap were identified as sources of organization inertia. While the chosen framework for this case focused on employee-level adoption, that did not play a role in the observed transformation. On the other hand, the findings support a more relational approach to digital transformation, where the transformation is not always driven by intentionality, and the scope of the transformation difficult to determine.

KEYWORDS: Digital transformation, dynamic capabilities, microfoundations, organizational inertia

Contents

Figures

Tables

1 Introduction

Information technology has the potential to transform industries fundamentally through new products and services. However, the open question remains whether managers and organizations with long successful business models can make that change when confronted with technological discontinuity (Lucas & Goh, 2009). Firms surviving and succeeding in the face of environmental changes when others fail is a common area of interest for scholars and managers pursuing to understand organizational renewal (Danneels, 2010). Danneels argues that changing the company's resource base is not always rational in the strive to survive, but resource alteration is is known to enable organizational renewal. This study answers which rigidities cause organizational inertia in the face of such transformation, how they affect the success of such transformation, and how the effects of inertia can be overcome.

New technological innovations challenge firms to rethink their strategies, marketing, and innovation (Downes & Nunes, 2013). Additionally, being able to control fewer elements in their operating environment, organizations are more fragile in sustaining competitive advantage (Vial, 2019). This incorporates to the concept of dynamic capabilities, and how successful organizations are able create and recombine resources accordingly (Danneels, 2010; Eisenhardt & Martin, 2000). However, understanding on how organizational inertia moderates dynamic capability dimensions remains limited (cf. Schilke, Hu & Helfat, 2018). Vial (2019) describes that the inertia for incumbents emerges from their embeddedness, but this study's findings suggest combining effects of different types of inertia. In the case, the technological discontinuity described by Lucas et al. (2009) caused changes in value creation paths, and posed a challenge for the organization to capture that value due to organizational inertia.

Where dynamic capabilities perspective remains as a popular approach to transformational studies (e.g. Danneels, 2010; Lucas et al., 2009) this study proceeds to extend that view to more individual-level considerations that have been black-boxed by the capability view to some degree (Abell, Felin & Foss, 2008). This is carried out by establishing the

theoretical premise of this study on dynamic capability perspective and its microfoundations (e.g. Abell et al., 2008; Eisenhardt, Furr, & Bingham, 2010; Eisenhardt et al., 2000; Felin, Foss, Heimeriks, & Madsen, 2012; Teece, 2007). Abell et al. (2008) argue that the boundary between microfoundations and capability view is often wavering in the literature and that the microfoundations literature is raising attention as explanators of firm-level phenomena. They continue that connections from more dominant capabilities view to its microfoundations are virtually non-extant, and this study seeks to build that bridge. This is also supported by Schilke et al. (2018), who argue that understanding the dimensions of dynamic capabilities, including their microfoundations, remains as a potential are of future investigation.

1.1 Research gap

Research on digital transformations remains at a turning point as concepts are unclear, and research streams are gradually being established (Vial, 2019.) For example, Verhoef et al. (2019) describe that digital transformation is the most pervasive concept compared to other definitions (digitization and digitalization) and concerns organization as a whole. Vial (2019) aligns, but suggests a more general definition where entities vary and are improved enabled by different technologies. Simultaneously, several markets have been impacted by digital transformation disruptions (Verhoef et al., 2019). This sets the potential to study digital transformation from different points of view and contribute to existing research. Cennamo, Dagnino, Di Minin, and Lanzolla (2020) highlight that where the benefits of digital transformation are often acknowledged, the challenges of it need more clarification and have to be addressed. One of the central challenges is the two-sided interaction of information technology: on one side, it serves the competitiveness of the firm, and on the other side, design, implementation, and use of such artifacts create rigidity and decrease strategic adaptability (Schmid, Rechker & vom Brocke, 2017). Emerging from this tension, Schmid et al. (2017) argue that inertia is a central concept to digital transformation but remains under-developed and under-operationalized.

Digital transformation is viewed as a strategic response to disruptions, often to new digital technologies, in industry and society levels (Verhoef et al., 2019; Vial, 2019). Fittingly, microfoundations offer an important dimension to study macro-management (Felin, Foss, Ployhart, 2015). By far, microfoundations have offered significant input to organization theory and strategic management (Felin et al., 2015). How digital transformation unfolds in practice should gain more attention to the organization's micro-level. (Vail, 2019). For example, Warner and Wäger (2019) highlight how more research is needed on how microfoundations build dynamic capabilities for digital transformation. Additionally, individuals as the source of organizational capability, behavioral foundations of organization and decision-making, and origins of collective actions offer research opportunities in the micro discipline, which can then be extended to the macro domain (Felin et al., 2015). This study seeks to shed light on how the transformation connects to the micro-level phenomena.

1.2 Objectives and research questions

In uncertain environments or when firms engage in organizational transformation, organizational inertia can become dangerous (Rowe, Besson & Hemon, 2017). This study aims to discover how dynamic capabilities and their microfoundations contribute to the emergence of organizational inertia, how it affects digital transformation's success, and how firms should approach the organizational inertia in such situations. The scope is narrowed down to digital transformation, leaving out other definitions as digitalization, organizational transformation, and business model transformation. This highlights fundamental changes in the firm's core processes enabled by combinations of different technologies, which can result in organizational inertia. To understand better the damaging outcomes of organizational inertia and how it can be overcome, following research questions are answered:

1. What are the sources of organizational inertia?
2. How organizational inertia affects the success of digital transformations?
3. How to overcome organizational inertia in digital transformations?

1.3 Thesis structure

This study consists of five chapters. The second chapter is the literature review, which builds the theoretical foundation on three areas of research. Since the definitions of digital transformation vary a lot, the chapter discusses the current state of digital transformation literature and presents the building blocks for digital transformation definitions. The chapter continues to establish the theoretical premise of this study on dynamic capabilities and its microfoundations. Furthermore, organizational inertia and three types of it are defined as a starting point to explore inertia empirically. The third chapter introduces the methodological choices to carry out this case study. The fourth chapter presents the results based on two different datasets. This includes primary data (semi-structured interviews) and secondary data (publicly available information). The final chapter introduces the results cohesively against the research questions of this study, and significant findings are reflected against theoretical and practical viewpoints.

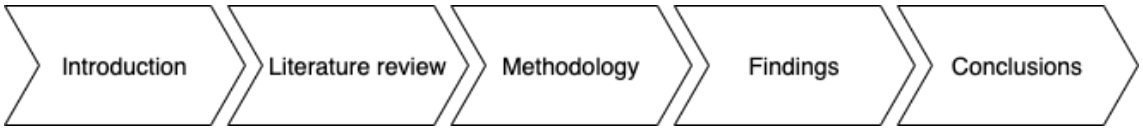

Figure 1. Structure of the thesis.

2 Literature review

Technological change is often challenging for established firms (Bower & Christensen, 1995). Difficulties arise when new technology is deemed to challenge the essence of the firm and produces inertia from different sources. Existing research has acknowledged different types of inertia, but how managers should cope with it in large-scale technological change needs more light shed upon. (Tripsas, 2009.) As a result, the literature review of this study starts with understanding the concept of digital transformation, and proceeds then to build the bridge between individuals and dynamic capabilities. Then, organizational inertia is conceptualized to set the starting point for empirical observation.

2.1 Digital transformation

These radical technological changes are proven to be deadly for established organizations on many occasions (Tripsas & Gavetti, 2000; Vuori & Huy, 2006). Tripsas et al. (2000) raise an example that when technological change harms the value of a firm's complementary assets, the firm is more inclined to fail. However, increased market turbulence has led organizations even from "latecomer" industries to evaluate digitization in search of cost control and flexibility, despite the often-high investments required (Kohli & Johnson, 2011). This chapter focuses mostly on strategic responses and changed value creation paths in addition to defining digital transformation presented in Vial's (2019) digital transformation process (Figure 2).

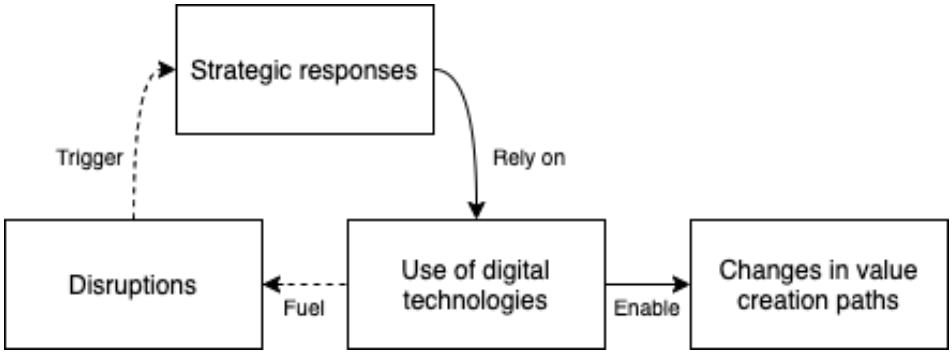

Figure 2. Digital transformation process (adapted from Vial, 2019).

2.1.1 Conceptualization of digital transformation

The following discussion on the definition of digital transformation will establish its structure based on Vial's (2019) comprehensive review of the current state of digital transformation studies. The review highlights four properties in the definitions of digital transformation (Table 1). Vial's (2019) work is significant as it contributes by extending current digital transformation studies' views on multiple levels and highlights how definitions of digital transformation fall short on many of them.

Table 1. Properties of digital transformation's definition (Vial, 2019).

Property	Definition
Target entity	Organization, platform, ecosystem, industry, society.
Scope	The transformation can be profound and has implications beyond the organization's immediate value network (e.g. society, customers).
Means	Combinations of digital technologies (e.g. analytics and mobile apps).
Expected outcome	Business processes are transformed, and the business model of the focal organization is altered; in some instances business processes are optimized.

To start with, digital transformation is not only an organization-centric concept, but platforms, ecosystems, industries, and societies can also be deemed fit target entities for

transformational studies (Vial, 2019). Vial (2019) points out that this lack of conceptualization can result from digital transformations association to business benefits. For example, the COVID-19 pandemic has demonstrated how teaching platforms in the education industry, public sector, and societies at large have undergone a drastic digital transformation in a short time (Iivari, Sharma, & Ventä-Olkkonen, 2020). As a result, in their study of digital transformation in the Finnish taxi industry, Lanamäki, Väyrynen, Laari-Salmela, and Kinnula (2020) introduce a new relational approach to digital transformation by suggesting that digital transformation is a faulty unit of measurement for describing transformation in every industry. Since digital transformation is not always intentional, the organization-centric approach obstructs seeing the ambiguous reasons leading to a digital transformation (Lanamäki et al., 2020).

The scope ranges across different studies on digital transformation, according to Vial (2019). Cennamo et al. (2020) came up with reinforcing results from their review on digital transformation research, pointing out that the scope ranges from intra-firm processes and operations to industry-wide networks. Chanias et al. (2019) argue that scope can easily adjust as the benefits of new digital resources are discovered. Vial (2019) addresses this difficulty of defining the scope by noting that digital transformation's scope can be profound and expand outside of intra-firm networks with its implications. Similarly, Lanamäki et al. (2020) raise the prospect that the target entity more extensive than a single organization would better explain industry-level changes influencing the above organizations. Therefore, the definition of Vial (2019) generalizes the scope as "significant changes".

In his review, Vial (2019) discovered that conceptual unclarities related to means and artifacts of digital transformation were widely shared across different studies. For example, the artifacts of transformation ranged from "digital technologies", "digital capabilities", and "digital shock" to more. In their qualitative study, Pramanik, Kirtania, and Pani (2019) found that many major US bank employees connected digital transformation to new technologies and were able to link new technologies to practical usage possibilities.

The difficultness of digital transformation artifact definition may indicate that digital transformation is a relational concept where the transformation actors can still build linkages between new technology and their practices as suggested by Lanamäki et al. (2020). Vial (2019) pursues to solve this ambiguity with his definition of digital transformation and replaces a category of technology as an artifact with a broader concept of "combinations of information, computing, communication, and connectivity technologies".

As remarked above, current studies easily link digital transformation with different business benefits due to the studies' organization-centric approach. Chanias, Myers, and Hess (2019) conclude that digital transformation strategy is always developing, which impedes predicting digital transformation outcomes. Their study showcases how managers face difficulties in comprehending digital transformation's innovative potential and have difficulties setting expectations. For example, in the study of Lanamäki et al. (2020), not all actions of actors could be traced back to the strategists' intentions. Instead, they noticed that the digital transformation evolved due to reactive actions that slowly transformed the practice and the taxi industry (Figure 3). Vial's (2019) conclusions adopt the same thinking by generalizing that digital transformation aims to improve, but the realization cannot be guaranteed beforehand. In Vial's (2019) review, many studies' focus was on improving either firm performance, a particular dimension of the business process or the firm's position compared to competitors. Taking into account the different entities digital transformation concerns, the expected outcomes of digital transformation may differ, which supports the more general conceptualization of the expected outcome.

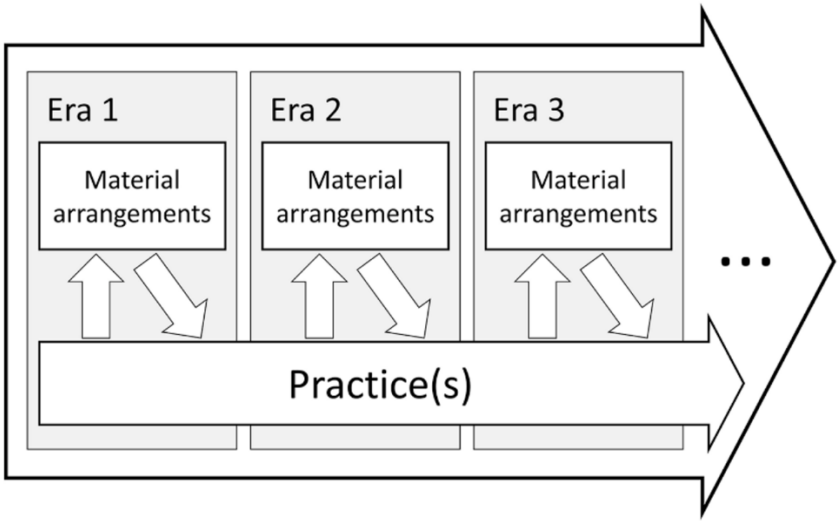

Figure 3. Relational digital transformation (Lanamäki et al., 2020).

To put it together, Vial (2019) generalizes the definitions of digital transformation's different properties, and this appears to be supported by recent studies on the topic. Consequently, based on the 282 studies on digital transformation, he defines digital transformation followingly:

> *"a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies"* (Vial, 2019: 121)

2.1.2 Digital transformation strategies

To manage complicated transformations as digital transformation, they must be governed through established management practices (Matt, Hess & Benlian, 2015). Matt et al. (2015) suggest that an example of this is establishing a digital transformation strategy that guides the coordination and implementation of new resources. Digital transformation strategy can be defined as *"transformation of products, processes, and organizational aspects owing to new technologies*" (Matt et al., 2015: 339). However, considering digital transformation's ambiguous definitions, digital transformation strategy's definitions should also be taken with a grain of salt. For example, Vial (2019) points out the incompleteness of the abovementioned definition by Matt et al. (2015), in which

the *"new technologies"* are unclearly defined. However, the study of Matt et al. (2015) discusses many essential themes related to digital transformation strategy, such as strategy alignment, some of which are observed subsequently.

Firstly, Chanias et al. (2019) describe digital transformation strategy as a "moving target". In their case study, Chanias et al. (2019) found the digital strategy processes were continuously evolving as the scope of transformation went through changes emerging from both top-down and bottom-up initiatives. Their findings support Mintzberg's (1978) central strategy process theory, where Mintzberg suggested that strategies develop gradually as new ones emerge, and they realize through a stream of decisions. Later, information systems strategy research has adopted the view where information systems resources are used both to exploit current assets and explore new possibilities to gain competitive advantage (Marabelli & Galliers, 2017). Marabelli et al. (2017) also describe that where IS research views IS strategy often emergent rather than planned, the current research has moved its focus from information systems strategy content to strategy processes.

The embeddedness of organization-wide strategy processes requires a dynamic approach from the managers managing the digital transformation (Smith & Beretta, 2020). What Smith et al. (2020) suggest is that many incumbent firms encounter challenges managing the digital transformation in their day-to-day practices, and the emergent strategies surfacing from unfolding transformations can be paradoxid to other strategies of the firm if not managed correctly. To manage them, i.e. identifying, implementing, and realizing new digital-enabled assets, firms can foster the process by establishing a Chief Digital Officer position or formulating a digital transformation strategy (Riedl, Benlian, Hess, Stelzer, & Sikora, 2017). However, Vial (2019) found that current research perceives a digital transformation strategy, or a digital business strategy, beneficial in situations where generic strategies are not enough to explain digital transformation strategy set up by industry-wide disruptions.

Strategic alignment is one of the most integral streams of study in information systems research rising from the beginning of the 1990s when it was first addressed (e.g. Henderson & Venkatraman, 1993). Henderson et al. (1993) describe that information technology takes a more strategic role in organizations, and one of the primary reasons organizations are failing to realize value from it was the misalignment between business and information technology strategies. They separate two perspectives to alignment that both are enabled by new technology: The first one Henderson et al. (1993) describe as *a competitive potential alignment perspective*, where new "information technology capabilities" impact the business strategy. Digital transformation often alters the firm's value creation, which results in structural changes within the firm (Matt et al. 2015). Considering all organizational strategies established in the firm's current organization structure, it is significant to acknowledge the extent to which digital transformation is adopted and the new skill requirements to manage the alignment correctly (Matt et al., 2015).

Apart from the previous perspective, the information technology strategy should also be aligned with the firm's current IS infrastructure, described as *a service level alignment perspective* (Henderson et al. 1993). Matt et al. (2015) argue that research on information technology strategies is prone to study this association more excessively than its innovative properties. In contrast, Marabelli et al. (2017) argue that information systems research, especially its strategy-as-practice stream of studies, is confronted with tensions between exploitative and explorative research areas. Furthermore, Matt et al. (2015) continue to argue that information technology can be considered one of the firm's functional strategies, which is system-centric rather than addresses the transformation of operational and functional properties. As a result, a digital transformation strategy aligns with information technology strategy and creates a new strategy that can be leveraged in the entire organization (Matt et al., 2015).

Matt et al. (2015) also bring up the central actors in a digital transformation. While approaching IS strategizing from a strategy-as-practice perspective could be a potential research stream to address the theme (e.g. Marabelli et al., 2017), not many studies can

be found discussing strategizing on a practical level in a transformational context (Matt et al., 2015). However, many studies discuss Chief Digital Officer (CDO) as a central actor in digital transformation (Vial, 2019). Horlacher and Hess (2016) outline that complexities produced by a digital transformation make it difficult for Chief Innovation Officers (CIO) to adjust to their new responsibilities. As a result, firms have started to establish CDO positions, whose task is to ensure that digital technologies are leveraged and aligned with other strategies within the firm (Horlacher et al., 2016; Vial, 2019). Horlacher et al. (2016) found that the CDOs proactively initiate transformations across different functions, handle digital transformations' strategic aspects, and communicate them. As a result, CDOs usually try to overcome the resistance by being the spokesperson of the transformation (Horlacher et al., 2016).

When it comes to other roles, CIOs are often perceived to operate in service delivery capacity or to represent a support function (Riedl et al., 2017). Riedl et al. (2017) argue that if a CIO manages the firm's digital transformation, it increases the CIO's strategic influence but can give away CIO's routine tasks to other positions. Kohli et al. (2011) argue that if a CIO holds the responsibility for digital transformation, the CEO works closely with the CIO. While Kohli and Johnson (2011) do not recognize the position of CDO, their statements may be applicable whether CIO or CDO is responsible for the digital transformation: CEO's tasks involve assisting in decision-making, helping to prioritize goals, and jointly establishing metrics for measuring success.

2.1.3 Value proposition

Matt et al. (2015) suggest that digital transformation often results in a changed value proposition, and it appears to be a widely studied area in digital transformation research (Vial, 2019). For example, Cennamo et al. (2020) argue that the advantages of digital transformation are achieved when firms can leverage ecosystems through new business models as the transformation often involves more actors that the organization itself. As a result, Cennamo et al. (2020) suggest that the ecosystem-centric value creation logic

brings many synergies as greater flexibility, lower hierarchies within firms, and new governing mechanisms that encourage collaboration. However, Matt et al. (2015) bring up that the more modern value creation logic deviates from a firm's core business, the more barriers it induces for coping with the transformation. They mention lack of competences, difficulties in monetizing, and difficulties in adjusting changed business scope as challenges digital transformation sets, many of which are answered with structural changes (Matt et al., 2015).

Subramaniam, Iyer, and Venkatraman (2019) highlight that emergent technologies and continuously unfolding digital transformations have shaped the modern business environment to transmute value chains and create interdependencies between firms. They also suggest that as traditional companies see how they can leverage the information surfacing from different ecosystems, this can work as an initiator for a digital transformation. However, firms do not necessarily have to be part of the ecosystem to enjoy considerable advantages. Schallmo, Williams, and Boardman (2017) point out that the advantages can be achieved through smaller networks – by exchanging data or initiating processes, fewer organizations can gain mutual benefits. This does not concern only inter-organizational collaboration, but the value-creating network can also be formed in customer-organization relationships (Schallmo et al., 2017).

Changes in value creation logic are linked to the channels where the value is extracted from (Subranamiam et al., 2019). Subramaniam et al. (2019) distinguish two different channels: production and consumption. This interpretation aligns with other studies, distinguishing digital channels into customer-facing channels, and software-enabled activity coordination across various functions, especially in production (Vial, 2019). Firstly, Klötzer and Pflaum (2017) suggest that instead of physical artifacts, the value can be found in "smart" products and digital supply chains in the manufacturing industry, which poses challenges for many who are not ready for the change. Whereas Subramaniam et al. (2019) discussed customization when it comes to using product-in-use information, the possibilities are various. Kohli et al. (2011) describe how a multi-national oil company

could synchronize their production with volatile demands and market price forecasts. As a result, as the study of Kohli et al. (2011) showcases, that the outcome of digitalized production channels can be overall efficiency.

Secondly, the consumption channel described by Subramaniam et al. (2019) links not only nested value ecosystems, i.e. versatility of attainable information through a firm's network, but also social media (e.g. Horlacher et al., 2016). Horlacher et al. (2016) describe through their case study how a firm can grow its online share and customer engagement through multichannel management. However, from a value perspective, the context is broader than social media considering firms' complementary products and services (Subramaniam et al., 2019). Subramaniam et al. (2019) point out that the range of complementary products and services is growing, and there are countless third-party entities that provide them.

Furthermore, new value creation logic brought by digital transformation appears to be linked to organizational agility. Kohli et al. (2011) propose that in volatile markets, firms should be able to adapt IT among other functions quickly, and if implemented correctly, digital transformation enables process redesign that offers agility in volatile markets. From another perspective, Klötzer et al. (2017) suggest that firms who seek network efficiencies should pay attention to organizational agility as the flow of information crosses organizational boundaries. This is due to the lean philosophy unfolding outside the firm's boundaries, which should be facilitated with ICT-utilization (Klötzer et al., 2017). Therefore, it may be possible that digital transformation plays a more significant role in different ecosystems as discussed (e.g. Sunramaniam et al., 2019) since if the digital maturity of cooperative firms differs a lot, it may affect their response to the market changes as a whole.

As in the case study of Kohli et al. (2011), also Chanias et al. (2019) found that agility and flexibility were some of the main drivers of the digital transformation strategy. Chanias et al. (2019) suggest that digital transformation strategy should promote the empirical

approach of "trial and error", which shows how agile concerns not only existing assets and resources but also strategy. As a result, it is understandable that firms that seek to implement an agile approach simultaneously with their digital transformation are exposed to different challenges (Smith et al., 2020). Smith et al. (2020) discovered how their case firm faced different paradoxes in agile implementation emerging from organizing, attention paid to projects, and knowledge management. What Smith et al. (2020) suggest is that already agile organizations can manage the paradoxes more successfully and are more able to adopt complex transformations.

2.2 Dynamic capabilities and organizational microfoundations

Microfoundations is about individuals, processes, and structures that through their interactions, contribute to the emergence of collective constructs (Felin et al., 2012). From a strategic management perspective, Felin and Foss (2005) note that organizations are not only organizations but are made of individuals, which is often neglected in understanding organizations as strategic entities. In recent research, Felin et al. (2015) highlight microfoundations as research heuristics to macro-management and a fit dimension to study digital transformation. This chapter aims to understand better the interplay between the macro-level and micro-levels of an organization when top-down changes are implemented.

Figure 4 puts together how dynamic capabilities and microfoundations are approached in this study. While dynamic capabilities cut through different levels of organization, routines, motivations, and social networks are studied with a bottom-up approach. This enables us to study the emergence of microfoundations where current resources are exploited and offers a good starting point to understand employee-level inertia. For example, Eisenhardt et al. (2010) argue that operational efficiencies are one source for economies of scale and scope and help manage the firm in dynamic marketplaces. Additionally, there is still limited empirical knowledge of how societal and strategic challenges

related to digital transformation can be managed at the operational level of organizations (Smith et al., 2020). Overall, Smith et al. (2020) argue that how digital transformations should be operationalized needs shed light upon.

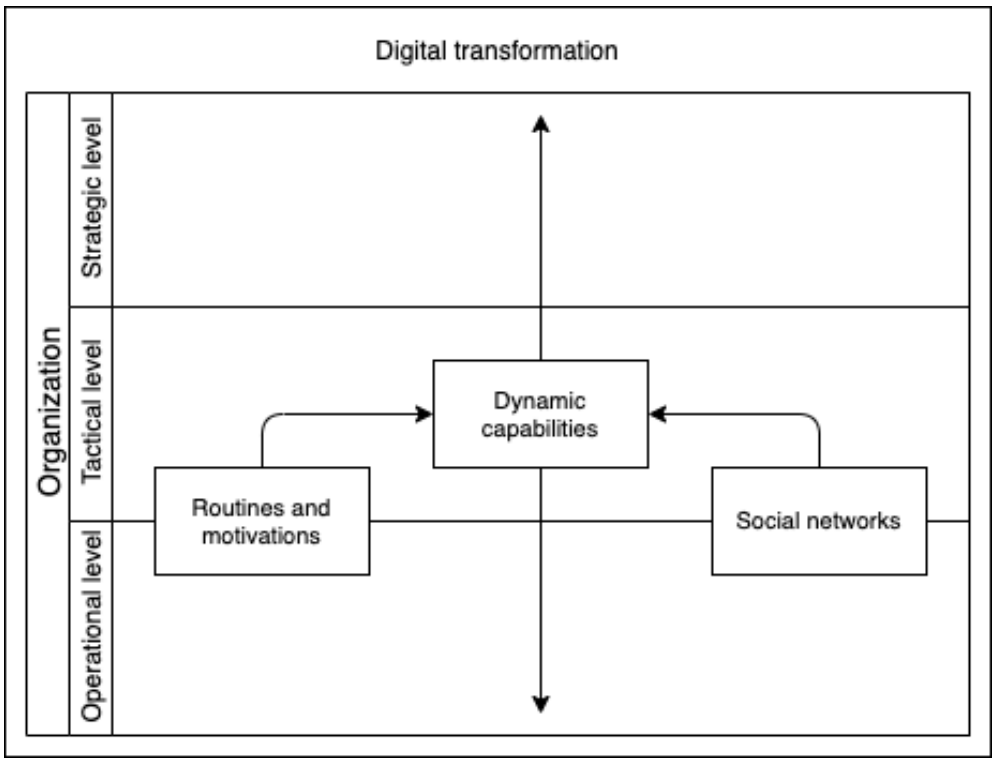

Figure 4. Conceptual framework for microfoundations of dynamic capabilities.

2.2.1 Dynamic capabilities

Dynamic capabilities refer to a firm's use of its resources to meet or even initiate a market change (Eisenhardt et al., 2000). Eisenhardt et al. (2000) describe that the resource-based view sees resources as the most important asset of the firm, and with the correct use of them, organizations are able to create value-creating strategies. Teece (2007) distinguishes dynamic capabilities into sensing, seizing, and reconfiguring capabilities (Figure 6). Eisenhardt et al. (2010) argue that many organizations compete in increasingly dynamic environments, technology being one of the destabilizing forces, which calls for managing dynamic capabilities more efficiently. Furthermore, as new opportunities and

threats are triggered continuously, reshaping dynamic capabilities can be considered appropriate (Warner et al., 2019).

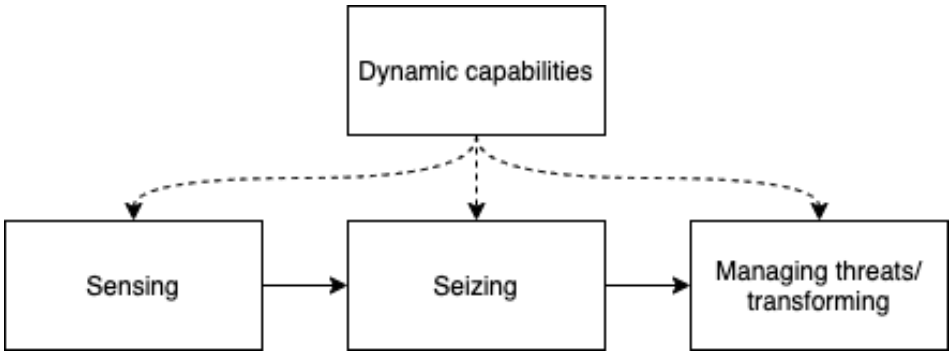

Figure 5. Dynamic capabilities (Teece, 2007).

Firstly, Teece (2007) argues that the microfoundations of dynamic capabilities may emerge from individuals' sensing opportunities that requires both information and abilities (capabilities and knowledge) to "sense" them. According to him, this can take place in macro processes, but the requirements regarding capabilities and knowledge remain. However, Teece (2007) acknowledges that despite the sensing can be initiated from the micro level, an organization must scale those skills into the organization's processes as they cannot remain nimble if they are dependent on the skills of few actors. Helfat and Peteraf (2015) point out that despite Teece (2007) highlights the role of organization and top-level management in sensing opportunities, the cognitive capabilities needed for sensing are spread around heterogeneously.

Helfat et al. (2015) argue that individuals' heterogeneity that affects their cognitive capabilities to sense emerges from differences in abilities to sense, concentrate, filter irrelevant information, and perceive information. Helfat et al. (2015) note that the abilities can be improved, increasing the heterogeneity of organizational performance equally how the abilities accumulate for early movers. The heterogeneity of individuals is something Teece (2007) does not discuss but instead emphasizes open innovation and innovation at the enterprise level. Therefore, regardless of his criticism towards Porter's Five Forces model's exogenic approach, his views on microfoundations remain narrow.

Warner et al. (2019) suggest that to answer better the fast-changing and technology-intensive marketplace, capabilities of "digital scouting", "digital scenario planning", and "digital mindset crafting" should be developed.

The second capability, seizing, takes place after an opportunity or threat is sensed, and concentrates on how they can be addressed through products or services (Teece, 2007). Teece (2007) explains how seizing can also be defined as how the managers perceive the customers' desires. His conceptualization relies heavily on enterprise-level solutions and argues how top management actions should strive for group commitment to innovate and meet those opportunities and threats. Helfat et al. (2015) argue that cognitive capabilities realize in investment decisions when it comes to seizing or designing a new business model, something that Teece (2007) widely discusses. However, Helfat et al. (2015) detail how abilities to seize, decisions to invest, and business model changes emerge from a heterogenic workforce's cognitive capabilities and skills.

Helfat et al. (2015) continue to argue that cognitive capabilities actualize abilities to solve and reason problems. They distinguish abilities to solve problems in either controlled rational approaches or "heuristic processing", latter of which is a much less analytical approach of jumping to a solution and working backward. Both approaches resemble the approaches to decision-making by Betsch et al. (2014), which distinguished deliberate and rule-based perspectives. Therefore, Helfat et al. (2015) argue that managers' abilities to seize opportunities are dependent on the effectiveness of these problem solving and reasoning abilities. They also highlight that these cognitive processes are heterogeneous, and the ones who can manage them efficiently will design superior business models and make more intelligent investment decisions.

Lastly, Teece (2007) defines the reconfiguration capability of how profitably growing organizations can recombine and reconfigure assets as the organization grows, and as the marketplace and technologies change. Warner et al. (2019) add that "improving digital maturity" is one of the required dynamic capabilities introduced by technology-intensive

marketplaces. The microfoundations of reconfiguration capability stem from abilities to decentralize, cospecialize (i.e. operational adoption and fit between different assets), and manage knowledge and the governance within the firm (Teece, 2007). Helfat et al. (2015) highlight that it also requires choice and action from the managers. They continue that the cognitive capabilities of "languages", communication and social cognition, benefit managers in coordinating and overcoming the possible resistance to change.

Here, "language" refers to verbal communication, other than non-verbal means to signal the communicator's message (Helfat et al., 2015). Together with other forms of communication, Helfat et al. (2015) elaborate that these abilities affect managers' skills to persuade, foster alignment, inspire in front of reconfiguration and the change it brings. They highlight that the abilities are essential for affecting employee response to change. Additionally, skilled managers can implement their social cognition capability to endorse cooperation among employees through understanding other viewpoints, which is a highly heterogeneous skill (Helfat et al., 2015). In summary, Eisenhardt et al. (2010) argue that the cognitive variety among members of an organization offers flexibility and efficiency regarding problem-solving, which indicates that all managers do not need to have equally high cognitive capabilities to carry out changes. However, managers' superior cognitive skills are linked to higher organizational performance. This relates to managerial dynamic capabilities perspective, and how individual instances explain dynamic capabilities. This remains as one of the research streams that advances research on the microfoundations of dynamic capabilities. (Schilke et al., 2018.)

2.2.2 Routines and motivations

Routines are studied to understand the connection between individuals and their actions. Collins (1981) describes how individuals pursue to make rational decisions but are often met with different limitations. For example, he raises the limitations of finding a comparable metric between the different alternatives, or narrow limited in the decision. In situations like these, people tend to rely on routine rather than investing a lot in the decision (Collins, 1981). Routines theoretically link to capabilities, and it appears that they

have implications for their respective microfoundations and are worth studying (Felin et al., 2012). For example, Lewin, Massini, and Peeters (2011) describe how routines link to firms' absorptive capacity in technologically intensive business environments, and the capacity can be developed by reflecting processes and updating their affected routines.

Decision-making is either a deliberate or rule-based process (Betsch & Haberstroh, 2004: 3–4). Betsch et al. (2004: 3–4) characterize deliberate decision-making as calculative with enough rationale to decide on, and the later one is limited by experience or knowledge. They continue to describe that repeated exposure to a specific task develops a routine that emphasizes the rule-based process and will develop the individual's behavior in the long term. Additionally, they point out that cognitive science acknowledges different approaches to how routines are formed, many of them agreeing that experience makes the decision process more efficient. Abell, Felin, and Foss (2008) explain that the process of developing routines mentioned above is indirectly reasoned to be one of the sources of competitive advantage due to better coordination of activities or overcoming prisoner's dilemma situations.

Abell et al. (2008) acknowledge that the capabilities view has "black-boxed" research on routines (Figure 5). To illustrate this, Felin et al. (2005) argue that since organizational capabilities are often studied at the collective level, the focus gets easily lost from individual-level considerations. For example, despite having a great emphasis on understanding routines in the context of adopting innovations and their general emphasis on the microfoundations, also Lewin et al. (2011) approach routines from a collective level. Felin et al. (2005) state the collective approach derives from assumption of individual homogeneity which conflicts with cognitive sciences which emphasizes the role of heterogeneous prior knowledge. They point out that this does not determine that the collective level is non-existent; instead, the collective explanation derives from individual-organization interplay.

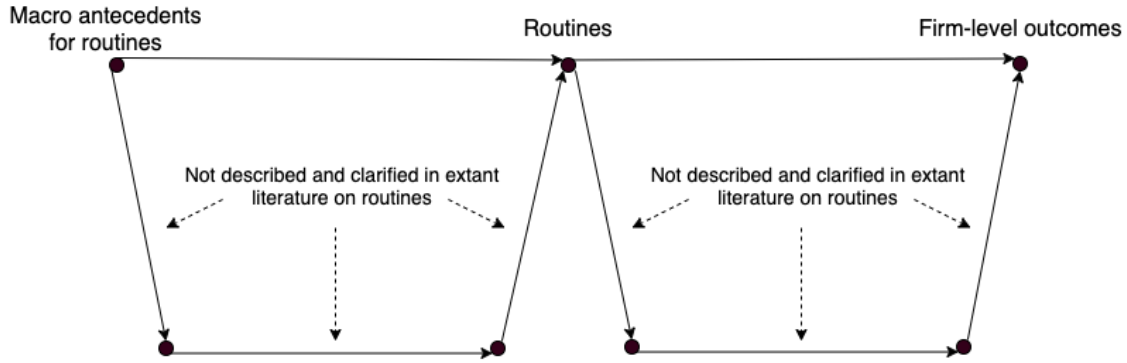

Figure 6. Explanation of routines (Abell et al., 2008).

Another parallel cognitive process that helps to understand an individual's actions from a microfoundations perspective is motivation. Research on motivations strives to explain why and how humans behave. The universal approach to motivated human action is distinguished between our desire to control and moments of goal engagement and disengagement. When it comes to control striving, the tendency has been addressed in research based on mammals' preference for behavior-event contingencies, use of exploration to control the external environment, and asymmetric patterns of affective responses to events. Here, positive events are reacted with positive affect and vice versa. On the other hand, goal engagement and disengagement can be described as motivational modes of "go" and "stop", where the individual is committed to the goal or not, which guides their behavior. (Heckhausen & Heckhausen, 2008: 1–2.)

Foss and Lindenberg (2013) argue that setting strategic goals respective to firm performance is essential due to value creation's emergence from employee motivations and strategic goals' overreach over the members of the organization. Extracting from the goal-framing theory that distinguishes between different overreaching goals, Foss et al. (2013) state that those goals can either reflect a desire to improve how one feels (hedonic), desire to improve one's resources (goal), or desire to act appropriately in collective context (normative). Ultimately, the goal of Foss et al. (2013) is to light up the dependencies between cognitive and motivational sciences and strategic management

theory. This seems to be appropriate, since as Collins (1981) concludes, actors' situational motivations complicate the macro discipline and the dynamics of social structure, counting types of inertia, are micro-situational.

Lindenberg and Foss (2011) propose that the firm's value creation is ultimately up to motivation among employees and how they can self-organize to reach common goals. Linberg et al. (2011) also conceptualize a normative framework for motivating employees called "joint production motivation" that highlights how organizational antecedents turn employee motivation into organizational benefits. Their bottom line is that organizations should move from individual incentives to joint production conditions by scaling the cognitive process of motivation to a collective level. They continue to propose several normative elements to foster beneficial employee motivation more efficiently as transparent task and team designs, group-level rewards, and mutual understanding.

2.2.3 Social networks and knowledge sharing

Networks create a structure of constraints and opportunities among the individuals that interact. Significant decisions are often trusted on other individuals of the same network, and members of the organization perceive the organizational relationships accurately hold an advantageous position. Individuals are also likely to interact with individuals with similar attributes, and the group identification gets stronger the less there are people with similar attributes. Equally important is to acknowledge networks of smaller components dyads, triads, and cliques. Therefore, knowing both which individuals form the different units of people and who influence their decision-making are both important. (Kilduff & Tsai, 2003: 10–11.)

When it comes to the influence of networks within an organization, Tasselli, Kilduff, and Menges (2015) argue that networks socially constrain individuals. Where Kilduff et al. (2003: 10) stated that people with similar attributes form networks, Tasselli et al. (2015) continue even further that network "makes" people to share similar values in essence. They elaborate it by pointing that two independent individuals with similar positions are

likely to develop similar attitudes. Additionally, when considering adoption, skilled individuals are able to persuade and influence on others with their social leverage (Muller et al., 2019). Hence, understanding the organization's networks can be essential to know how employees perceive a change, such as a digital transformation.

Muller and Peres (2019) suggest that social networks and their relation to innovation market performance are prominent research areas in innovation research. According to Muller et al. (2019), the underlying attribute in this phenomenon is how social networks affect their members' adoption behaviors. They continue that it stems from the social contagion that was discussed earlier (e.g. Tasselli et al., 2015) and how it influences the adoption decisions of network members. Liu, Huang, Dou, and Zhao (2017) found that the innovation capability of the firm is indirectly influenced by its networks through the knowledge acquisition that takes place in the social interactions between the individuals. However, Liu et al. (2017) note that this phenomenon is much less well-known than the social interactions between buyers and suppliers, such as how it influences one's organization's innovation capacity.

Muller et al. (2019) highlight some of the key characteristics from social network theory that induce adoption. Firstly, social interaction brings its members *aware* of the innovation. Secondly, *learning* takes place in the interactions, and not only is information conveyed, but also the individuals in the same network have an influential role. The more familiarity there is concerning the information source, the more trusted the source will become. Thirdly, *normative pressure* emerges from this peer perception. When a peer has adopted a product, the peer who has not becomes a potential adopter. Lastly, in some cases, *network externalities* take place when the number of adopters increases the usability of the product. (Muller et al., 2019.)

Lewin et al. (2011) highlight that building networks based on face-to-face interactions creates trust, commitment, and respect, all crucial to knowledge transfer processes. In cohesive networks in which individuals are embedded based on their shared attributes,

individuals can adopt more complex information (Muller et al., 2019). Muller et al. (2019) continue that the more ties per node there is in a network, the faster new adopters emerge, and the number of adopters, *magnitude*, improves. Marouf (2007) approaches the knowledge sharing within networks based on business and social ties and acknowledges how network research is firmly based on the separation of strong and weak ties. Marouf (2007) argues that the business relationship's strength contributes significantly more in sharing public information than a strong social relationship in sharing private information. However, as Kilduff et al. (2003: 54) discuss, it appears that more emphasis is on the strength of tie than the nature of it.

However, Kilduff et al. (2003: 55–56) highlight that weak relationships are not wasted, but they can often form bridges between different networks. Moreover, Kilduff et al. (2003: 56) continue that weak ties transmit information between dense networks due to their acquaintanceship nature and create cohesion among the fragmented structures. Felin et al. (2015) describe how bridging behaviors stimulate knowledge-based advantages at the macro-level, and it can be useful for organizations to recognize these individuals who create bridges and what ties they form between different networks. However, Marouf (2007) emphasizes that it is still structured knowledge that leads to macro-level learning and long-term benefits. Similarly, Abell et al. (2008) propose that the knowledge cannot be centralized only in the top management, and routines play a role in distributing tacit knowledge.

2.3 Organizational inertia in the context of digital transformation

The previous discussion on dynamic capabilities and microfoundations shows how complex the micro-level processes can be in a transformational context, and it was demonstrated how individual action stems from cognition ultimately. Schmid (2019) raises that many studies have found inertia to play a significant role in a digital transformation. For example, Makkonen, Johnston, and Javalgi (2016) argue that where the adoption of new technologies is a "critical determinant" to stay competitive, the biggest challenge of managing adoption behaviors is to control structural inertia. While dynamic capabilities

link to transforming organizations successfully (Teece, 2007), the new value creation paths are therefore affected by organizational inertia and can result in firms not realizing the value from the transformation (Figure 7). Followingly, different types of inertia are observed in the context of digital transformation to understand better organizational inertia in the context of technology-enabled transformation.

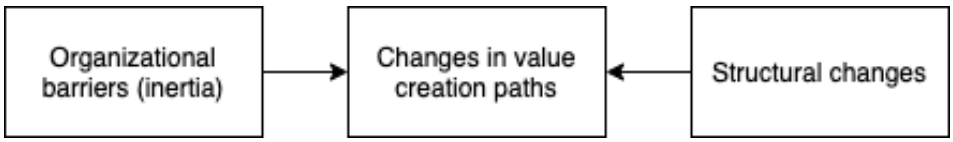

Figure 7. Digital transformation process (adapted from Vial, 2019).

2.3.1 Conceptualization of organizational inertia

The concept of inertia originates from physics and refers to how force must be applied to get a matter moving or stop from moving. Otherwise, the matter keeps moving or stay still, respectively. One of the most influential studies in organizational inertia theory, Hannan and Freeman (1984), describes how radical changes in organizations' strategy and structure rarely succeeded in front of external pressure. They argue that as the adoption of new organizational structures takes place at the population level, differences in succeeding in formulating new strategy and structure are partially explained by inertial forces. For example, cognition, routines, capabilities, resource commitments can be sources of inertia (Tripsas, 2009). Formal organizations have the advantage of reliability and stability, but they come with the downside of organization members wanting to keep the status quo (Hannan et al., 1984). Kelly and Amburgey (1991) found that where old organizations are more exposed to major changes to their core processes than younger ones, the inertia was also greater. As a result, old organizations are constrained by their history. Interestingly, support is also found that environmental change is associated to decrease in the probability of corporate-level change. (Kelly et al., 1991.) Consequently, Hannan and Freeman (1984: 151) define inertia followingly:

"... speed of reorganization is much lower than the rate at which environmental conditions change."

2.3.2 Structural inertia

According to Hannan et al. (1984), structural inertia emerges when an organization is slow to adjust its structure in response to changing external environment. They highlight that it does not mean that organizations would never change; instead, high inertia results in challenges to keep up with the changes in the external environment. For example, in a longitudal study focusing on internationalization of firms, Guillén (2002) observed South Korean firms' exapansion to China. In order to overcome structural inertia caused by changing environment and passage of time, firms were prone to imitate the entry of other South Korean firms to China. Continuing from Hannan et al. (1984), Hannan, Pólos, and Carroll (2004) note that structural change often creates a momentum that often results in a complete reorganization, and if avoided, it can be deadly for an organization. Individual's routines constrain the structural response as relying on routine is an unsuitable response to change (Schwarz, 2012). However, Yi, Knudsen, and Becker (2016) found that it can be vice versa, and routine rigidity offers the potential to explore how organizational adoption should be carried out at the micro-level timely.

Some of critique structural inertia theorization has met relates to neglecting internal forces since first studies in this area (e.g. Hannan et al., 1984) focus on adopting new structural changes due to external pressure (Schwarz, 2012). For example, Coyle & Horn (2009) describe a situation where it took three years for a telecom company to create a new planning process to meet the competition, but resulted in lost market share despite the threat was not immediate. After revisiting the concept and acknowledging some controversies related to their argumentation in Hannan et al. (1984), Hannan et al. (2004) define *architectural inertia,* organizational resistance to changing architecture. On the micro-level, Schwarz (2012) distinguishes between *unobtrusive (structural) inertia*, which refers to support and agreement on the need for new structural changes, and *deliberate (structural) inertia*, emerging from its intentional initiation. Schwarz (2012) finds that deliberate inertia explains the willingness to maintain the status quo since its nature

is predictable and instructive. However, as Hannan et al. (2004) put it, deliberate reluctance delays the cascade and can prohibit a company from making catastrophic changes to organizational structure.

Verhoef et al. (2019) acknowledge that research within "digital firms" and organization structure is scarce, but their association is still important. For example, they raise organizational agility, cross-functional teams, self-organization, and ambidexterity as prominent future research areas. When it comes to traditional organizations, the greater the firm in concern is in size, the greater the organizational inertia also towards agile transformation (Dikert, Paasivaara, & Lassenius, 2016; Hannan & Freeman, 1984). Dikert et al. (2016) found general resistance to change, skepticism towards new working methods, and top-down mandate creating resistance towards agile transformations. The challenges raised by Dikert et al. (2016) resonate with the findings of Schwartz (2012); all of them can all be considered as either deliberate or unobtrusive inertia depending on the employees' motivation for structural change (Schwartz, 2012).

2.3.3 Socio-technical inertia

Schmid et al. (2017) agree that information technology should serve the competitiveness and agility of the firm, but the rigidity in the interactions of social actors and information technology can create the opposite effect. Due to this tension between the different roles of information technology, Schmid et al. (2017) argue that understanding inertia is essential in the digital transformation context. He continues to define socio-technical inertia as this rigidity between human actors and information technology. In fact, in his more recent research Schmid (2019) describes that the essence of digital transformation lies in the change in these deep socio-technical structures. The definition of Besson et al. (2012) highlights individuals' embeddedness in these structures and how the development of time and consistency strengthens the inertia. However, the definition of Rowe, et al. (2017) is better aligned with the dominant definition of inertia by Hannan et al. (1984) and states that socio-technical inertia emerges when socio-technical systems do not keep in the pace of environmental changes.

For example, in their study of electronic vehicle market, Stenhilber, Wells, and Thankappan (2013) found that the penetration of electric vehicles is made more difficult by the socio-technical inertia caused by immature technology that has not reached a level of commericialization yet. In their study, Besson et al. (2012) found that the socio-technical inertia was dominant compared to other forms of inertia they argued to exist at the business level. They continue to describe that organizational transformation's socio-technical dimension consists of modularity, scalability, and interoperability, and how new technologies are more flexible and scalable. Besson et al. (2012) accommodate to the findings of Hannan et al. (1984) of how organizational maturity affects the amount inertia by noting that young organizations are more capable adapt organization architectures enabled by these advantages of new technologies mentioned above.

Dobbs, Koller, and Ramaswamy (2015) argue that in the age of digital disruption, it becomes more important for companies to disrupt themselves before a competitor does it. They connect this to the legacy assets many companies cope with, and how they create significant productivity gaps. While Schmid (2019) describes how the outer context for socio-technical inertia is similar to other definitions of inertia (e.g. Hannan et al., 1984; Rowe et al., 2017), the two-part interaction separates it. Schmid (2019) distinguishes between social and material – humans acting within their cognitive frames and social systems and the concrete entities with their overreaching architectures that create rigidity. Here, it is the interplay of both these socio-technical dimensions that distinguish it from socio-cognitive inertia, which highlights more individual routines and motivations, according to Besson et al. (2012). Schmid (2019) adds that apart from these architectural elements, skill allocation and process configurations can also create inertia.

Firms equipped with dynamic capabilities appear to have prerequisites to diminish the influence of socio-technical inertia (Rowe et al., 2017; Setzke, 2020). Rowe et al. (2017) argue that dynamic capabilities of sensing, routinizing past transformations, and reconfiguring strategic resources are used by firms to balance the inertia. Setzke (2020) has

somewhat similar results but does not emphasize the role of individual capability equally and focuses rather on the combination of capabilities. For example, he highlights the role of reconfiguring when combined with a centralized planning approach and does not find any support for seizing capabilities in reducing inertia. Therefore, stating that dynamic capabilities reduce socio-technical inertia is not unambiguous, and as Schmid (2019) puts it, the inertia is counterbalanced rather than overcome.

2.3.4 Cognitive inertia

Betsch et al. (2004: 3–4) argued that deliberate or rule-based behaviors guide an individual's decision-making processes, and if an individual does not have enough experience or knowledge to make a deliberate decision, the decision is based on a rule. Cognitive inertia refers to the rigidity of different cognitive frames that weakens an organization's ability to sense and adapt to changes (Laureiro-Martínez & Brusoni, 2018). Kim and Mauborgne (2003) see it relating to strategic reorientation, and how managers need to put face-to-face with problems and customers. For example, they describe how senior staff officers in NYTP were not able to step in their subordinates shoes, as they did not use public transportation themselves. Laureiro-Martínez et al. (2018) suggest that the phenomenon is larger than the interplay mentioned above between deliberate and rule-based behaviors, and research often adopts the view that it is the less-deliberate behavior that creates the inertia. Correspondingly, Tripsas et al. (2000) bring up cognitive adoption and how unsuccessful adoption of cognitive frames results in dysfunctionalities that can be deadly for organizations.

Laureiro-Martínez et al. (2018) argue that cognitive inertia emerges when an individual does not adapt their decision-making behavior as required. They name this phenomenon as "cognitive flexibility", where semiautomatic or deliberate responses are made after careful consideration of appropriate behavior. For example, Tripsas et al. (2000) discuss how Polaroid's top management was not able to make deliberate decisions when the competitive landscape was changing, which resulted in Polaroid being left behind in the quickly digitalizing imaging industry. Tripsas et al. (2000) add that not only cognitive

models such as routines are a source of inertia but also beliefs related to a firm's strategy. However, Yi et al. (2016) argue that inertia in routines reduces variability and offers stability when changes are made in the task environment. Although, as per organizational theorization, also Yi et al. (2016) note that routines slow down the adoption process, and they are a well-known source of organizational inertia.

Liang et al. (2017) separate resource rigidity and routine rigidity, where routine rigidity is divided into path dependence and cognitive inertia. This highlights how cognitive inertia concerns how individuals use their cognitive maps at a given moment of the decision compared to path dependence built up due to past decisions (Liang et al., 2017). However, self-reinforcing routines can develop into cognitive inertia over time, which points out the paradox where rule-based decision-making should be used at appropriate moments to remain adoptive, but the result is the opposite if used excessively (Laureiro-Martínez et al., 2018; Liang et al., 2017). Tripsas et al. (2000) acknowledge that path dependency can also be a source of inertia but cannot fully explain capability development difficulties. To elaborate on this, Tripsas (2009) describes how the feeling of threat coming from new technology can result in investing resources that support existing routines – a decision not dependent on the past decisions but rather the cognitive state at that moment.

Also Gilbert (2005) distinguishes between resource rigidity, failure to change resource investments patterns, and routine rigidity, failure to change processes that use those resources. Most importantly, their causal mechanisms differ: whereas perception of threat helps to overcome inertia in resources, it effect on inertia in routines is opposite (Gilbert, 2005). Betsch et al. (2004: 176) raise the persistency hypothesis that homogenous groups are more prone to stick to shared routines compared to individuals. However, Betsch et al. (2004: 189) agree with the views of Yi et al. (2016) that routine rigidity is not necessarily an obstacle but can rather give time to come up with a better problem-solving process. In other words, once groups come up with a better problem-solving solution despite it would take more time, the routines do not have to be actively managed,

which benefits the firm in the long run. If the benefits of this slowed-down change process realize, a firm can find ways for further exploration and adaptation (Yi et al., 2016). However, in the context of external threat, it is not enough for managers to commit when it comes to resources, but to take also into account the power of threat on routines (Gilbert, 2005).

2.4 Synthesis

Different phenomena, such as financial performance or diversification patterns, are often explained with macro-level phenomena in strategic management (Abell et al., 2008). Abell et al. (2008) argue that common measurement units as routines and capabilities need a more thorough understanding of their origins. Felin et al. (2005) add that multilevel analysis in strategic management tends to borrow some psychological theories without more comprehensive analysis. Felin et al. (2005) also criticize that many studies fall short of acknowledging when it is appropriate to approach the unit of measurement with a macro or micro-level lens, and many macro-level structures need more micro-level analysis to understand the phenomenon better. Recently, Felin et al. (2015) have argued that the microfoundations movement has impacted the macro discipline and remains important explanative variable in different contexts.

The proposed framework for the empirical part of this study is refined from Lenka, Parida, Sjödin, and Wincent (2018), which discusses organizational resistance towards the servitization strategy and how it can be overcome at the micro-level (Figure 8). The use of the framework is justified considering the similar tension between micro-level variable and top-down transformation initiative. It makes a clear distinction between macro and micro-level processes, something that Felin et al. (2005) have paid attention to. It also aligns with the general model of social science explanation discussed in Abell et al. (2008), and individual-organization relationship presented in Felin et al. (2005). Both of those frameworks highlight the individual's role as an explanative variable of macro-level phenomena, which also supports the microfoundational approach of this study.

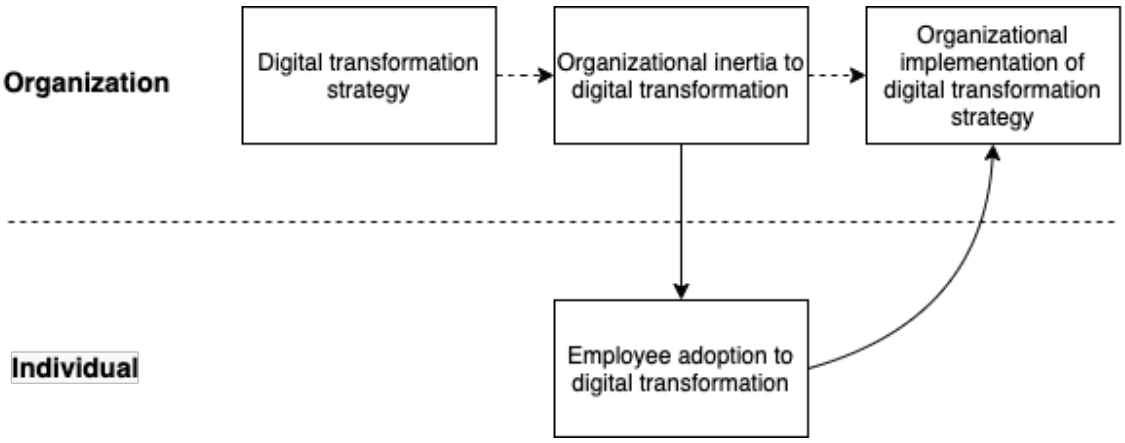

Figure 8. A model of individual-organization interaction during digital transformation (modified based on Lenka et al., 2018).

To conclude, digital transformation, microfoundations research, and types of organizational inertia were studied to understand the current state of the literature on organizational inertia in the context of digital transformation. The chosen lens for this examination was microfoundations literature. This sets the starting point for empirical studying on how organizational inertia connects with individual-level considerations and how firms can improve their digital transformation strategy implementation. The model of individual-organization interaction during digital transformation is aligned with the research questions and applied to evaluate the case firm's performance.

3 Methodology

This chapter aims to introduce the methodological premise of this study, given the research questions. This includes the introduction to the case selection process and data collection and analysis methods. Lastly, the reliability and validity of this study are addressed. The empirical part is carried out in a retrospective setting due to nature of the chosen case: Keltainen Pörssi (The Yellow Stock Market in Finnish) was Finland's most popular advertising magazine known especially for its C2C trade. First published in 1986, Keltainen Pörssi held almost a monopolistic market position around the 2000s. Beside the print, Keltainen Pörssi had established an online media in 1996. In a fast-changing environment, the print was first to be shut down in 2012, followed by the online media in 2016. This sets the starting point for a more detail observation of the case study as the single case study provides an illustration of established firm's rigidity for a successful renewal.

3.1 Research method and design

This study confronts presented strategic and organizational theory with an empirical case. The questioning of this study endorses *qualitative* methods of business research to answer the research questions. Qualitative methods are descriptive, and focus on the evidence that enables to understand the meaning of what is going on through what people tell you and what they do (Gillham, 2000: 10). The choice of qualitative methodology is supported by the limited knowledge of factors influencing the emergence and overcoming of the chosen types of organizational inertia (O'Gorman & MacIntosh, 2014: 66). Additionally, as the primary data lies in the interviewees' cognition and experiences, and to understand the phenomenon's underlying processes, acquiring qualitative data supports the research strategy of this study (O'Gorman et al., 2014: 78). This methodological premise builds up the *abductive* reasoning of this study, which rather than testing a theory, emphasizes making sense of what is found after it is found (Gillham, 2000: 6).

This study implements *a single case study* design. Firstly, the chosen case's criticality and uniqueness endorse the selection of a single case as the empirical research method (O'Gorman et al., 2014: 83). The criticality emerges from the theoretical perspective of this study, and how understanding on the microfoundations of dynamic capabilities is limited (Schilke et al., 2018). On other hand, Keltainen Pörssi is unique in that it was one of the first ones to establish an e-commerce platform in its market, yet this new era of commerce posed significant challenges for Keltainen Pörssi. Furthermore, the case is observed retrospectively with a longitude investigation period of over several years, which merits the use of this method (O'Gorman et al., 2014: 83). Secundary data is obtained to understand how the conditions in a real-life situation changed during a longer period of time, while the primary data focuses on a shorter and critical time period that centers around the acquisition by Sanoma. As a result, the evidence is obtained from more than one source which is one of the key characterisics for case study research (Gillham, 2000: 2). The end-result will strive to comprehend the challenges Keltainen Pörssi faced and develop new theory outlooks.

The chosen case will be used for exploratory research. This research choice is motivated by the inadequateness of current knowledge and broad research questions designed to build a theory on the phenomenon (O'Gorman et al., 2014: 82). This supports the explorative nature of case studies, which often focus on a "bounded system" defined by time and place (Eriksson & Kovalainen, 2015: 131). In this study, the time period starts from 1996 and ends in 2016. As mentioned above, the secundary data covers the observation of this time period, while the primary data centers around the 2000s where many significant and determining events took place. Therefore, this case study aims not to test theory constrained by hypothesis but to build knowledge on the meaning of the events during that time period as a basis for inductive reasoning. The lack of well-known and unsuccessful digital transformation cases in Finland puts exceptional value on the exploratory nature of this case study, outside of its research strategy context. For example, according to the study of McKinsey that only 16 percent of digital transformation are

successful (Boutetiere & Reich, 2018), but Finnish cases other than Nokia are difficult to point out (e.g. Vuori et al., 2016).

3.2 Case selection process

The starting point for this case selection process was to make a selection among industries that have gone through a digital transformation. Per Vial (2019), industry is an appropriate entity to observe digital transformation. The non-profit organization, World Economic Forum, evaluated in 2016 media as an industry that has already gone through several digitization waves. As a result, the boundaries between media and technology industries have broken down, and both traditional media companies and digitally-natives are expected to be technology-centric. (World Economic Forum, 2016.) Digitalization changes media industry fundamentally, and firms face constantly demands for operational and organizational change. Where operational efficiency is expected, companies are also expected to explore when it comes to content, processes, and business models. (Maijanen & Virta, 2017.) As Maijanen et al. (2017) describe, the digital transformation of the industry has led firms to implement multiplatform approaches, and change their strategies to respond to the change. Hence, the media industry was considered appropriate for this study.

Especially publishers have been affected of the digital transformation of the media industry. Sanoma Oyj is the biggest media group in Finland and known publisher of Helsingin Sanomat. Interest focused on publications Sanoma and other identified publishers have possibly divested or shut down. Based on a throughout search, several publications appeared. Sanoma's publication Keltainen Pörssi was selected as the case publication based on two principles. Firstly, whereas Keltainen Pörssi started as a tabloid-sized print in 1986, it was shut down in 2012. The online media, Keltainenporssi.fi, was also shut down after few years in 2016. Secondly, the sales of magazines and periodicals have constantly decreased, and internet has taken its market share from them (Figure 9). In other words, despite of its successful launch of online media, Keltainen Pörssi is an example unsuccessful response to industry-wide digital transformation, and therefore the case is

expected to provide information on organizational inertia in the context of an organization and industry-wide digital transformations.

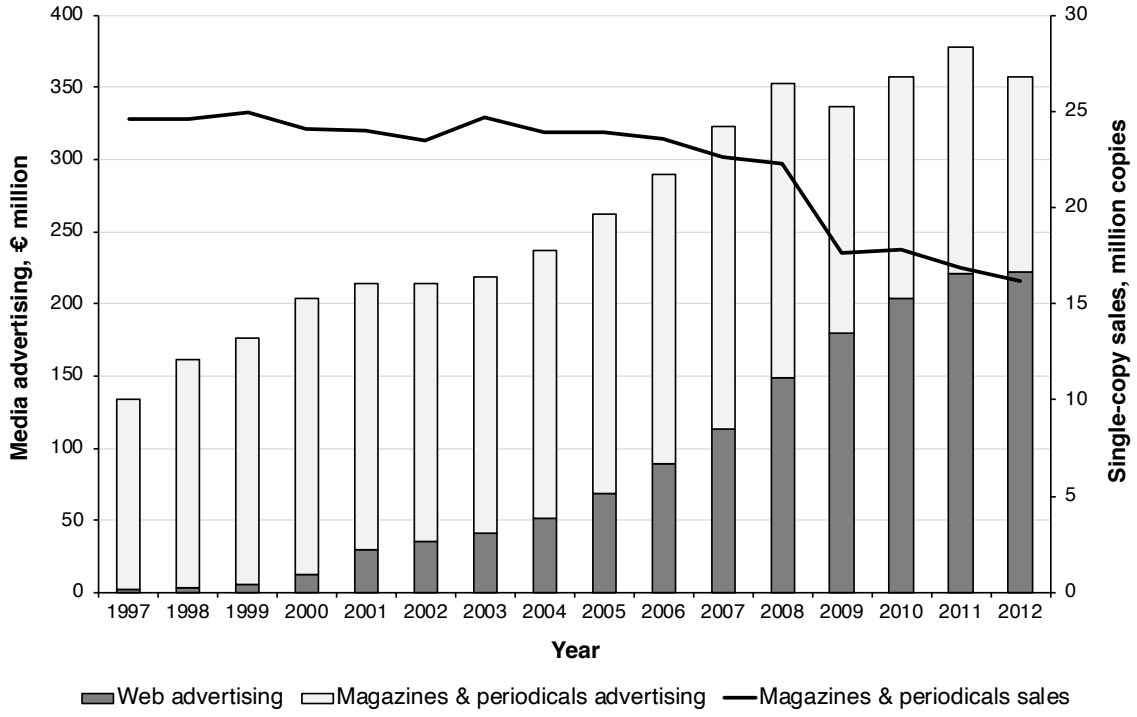

Figure 9. Mass media market volume in Finland 1997–2012 (adapted from Tilastokeskus, 2020).

3.3 Data collection and analysis

The data for this study is developed from primary and secondary sources. How both were collected and analyzed is introduced next.

3.3.1 Primary data

The primary data was collected by interviewing five former executives and managers. Every interviewee held a tenure of several years in their role, that centered around the dot-com bubble burst in the early 2000s. The gathered sample of interviewees held strategically important roles in regard to Keltainen Pörssi – a CEO, president and vice president of a business unit, and two product managers. As a result, valuable insights were

received about the time both before and after the acquisition by Sanoma. The interviews were long-term retrospective, which opens possibilities for memory loss regarding the subject (Danneels, 2010). As a result, the empiric data was triangulated with secondary data from publicly available sources. All interviewees were Finnish nationals, and the interviews were held in Finnish to capture the correct meanings of the answers and to group the answers more accurately. The answers also transcribed to English by the author immediately after the interviews in order to capture the meanings as accurately as possible. The interviews were carried out remotely between December 2020 and January 2021 by using video-communication tools.

The interviews were carried out based on the principles of *semi-structured interviews*. Semi-structured interviews enable reliable comparability between different interviews, which will help analyze efforts (O'Gorman et al., 2014: 119). O'Gorman et al. (2014: 199) continue that other strengths of semi-structured interviews cover all critical points while offering some flexibility for interviewees to express themselves. Although unstructured interviews are sometimes preferred in explorative research, this study was limited by time and the number of possibilities to conduct the interviews. Additionally, the retrospective setting was one of the key determinants in selecting interview type due to the interviewees' potential memory loss and the goal to gather comparable data. With similar reasoning, the questions were open-ended and followed a thematic order (Appendix 1). They focused on the circumstances during the interviewee's tenure and reflected the chosen theory baseline for this research. The transcribed data was interpreted through content analysis. The process of categorizing and coding the interview data was aligned was the research questions and ensured finding the existing and non-existing relationships between the interview data sets. While the challenge of the content analysis remained to be the amount of superfluous material, through a careful interpretation, the comparability between the data sets was assured. The process was data-driven, which was realized in the execution of the coding process.

3.3.2 Secondary data

Empirical data can be gathered from different sources, and case study researchers often engage in this triangulation. Gathering data from different sources contributes to a more objective analysis of the case by cross-checking the content (Eriksson et al., 2015: 138). An example of *data triangulation* is combining primary data with *secondary data* from a different source (Dubois & Gadde, 2002). Secondary data describes the researcher's already-available data to analyze (O'Gorman et al., 2014: 79). Secondary data was attained through publicly available annual reports, press releases, news articles, and looking past websites on www.archive.org, and was the first step of data gathering in this research. Annual reports and press releases were collected from Sanoma (previously known as SanomaWSOY), and news articles from Ilta-Sanomat, Yle, and Markkinointi & Mainonta. Ilta-Sanomat is a publication of Sanoma, and its coverage on Keltainen Pörssi is extensive as Keltainen Pörssi has been part of the Ilta-Sanomat business unit. Whereas Keltainen Pörssi was founded in 1986, the timeline of interest narrowed down between 1996 and 2016. Not only Keltainenporssi.fi was launched in 1996, but the data archives are also very limited to the time before that. The data was supplemented with information from past websites of Keltainen Pörssi on www.archive.org. Objectiveness and data triangulation between different sources were taken into account when analyzing the data. Based on the collected data, a timeline of the most significant events was constructed (Appendix 2).

3.4 Reliability and validity of the study

Reliability and *validity* are standard criteria to evaluate the quality of research both in social sciences and business research. The classic criteria for good-quality research is reliability, which relates to being able to replicate the findings consistently. The second criteria, validity, refers to the accurateness of description or explanation of the phenomenon. Validity comes true when the representation of results is accurate and backed with evidence. (Eriksson et al., 2015: 304.) In this study, the primary data's reliability is

achieved with a clearly described interview process, immediate transcription of each interview, and interviewee anonymity. The reliability of secondary data is achieved with the presentation of sources. The validity of this study emerges from the academic research that the theory and used framework build upon, data triangulation of two data sets from different sources, and the different positions the interviewees held in the case firm.

4 Findings

This chapter introduces the findings of this study. Firstly, a summary of secondary data is done. Secondly, the findings of primary data are introduced.

4.1 Background of Keltainen Pörssi

Keltainen Pörssi was firstly published in 1986. The easily-recognized and famously yellow magazine held a market leader position in Finnish advertising magazines, with two-thirds of Finnish consumers using Keltainen Pörssi. It operated in classifieds business, in which adverts are short and distributed into categories. The focus of it remained in trade between the consumers (C2C), even though intiatives were taken to include the sale of new goods (B2C). The magazine was published every Friday, and subscribers could get their hands on the magazine already on Thursday. It was a common sight in the magazine stands next to the cash counters of different stores. The tabloid-sized magazine made money per purchased magazine, from B2C advertising, and customers highlighting their adverts with different products (Table 2). Here, the lion's share of revenue came from issue sales as leaving an advert was free of charge for a consumer. It was published by Infosto Mediat, owned by Infosto Oy, before being acquired by Sanoma.

Table 2. Examples of pricing for consumers.

Issue	2,85 €
Online subscription (1 month)	approx. 8 €
Creating an advert (print & online media)	0 €
Advert first in online search results	3,90 € per week
Advert on front page on online	49 € per week
Red text in online advert	1,90 € per week

Starting from 1996, Keltainenporssi.fi was established. Following the same logic, adverts were short and could be browsed based on categories. Infosto Oy itself developed electronic marketplaces onto which Keltainenporssi.fi was also built. Apparently, establishing

the electronic marketplace was a response to the expectation that a part of classified adverts was expected to move over to the internet following the increasing number of internet users. Additionally, classified adverts' service product development affected the decision. From the beginning of 1998, the use of online media went behind the paywall – to be able to view an advert, a monthly subscription of approximately four euros had to be paid. While the paywall remained as the dominant revenue model for the online media, leaving adverts remained free of charge, and consumers could highlight their adverts with different products. Later that year, Sanoma Oy, a subsidiary of SanomaWSOY, acquired 35% of Infosto Oy and justified the deal with synergies both in print media and developing electronic marketplaces.

Following the timeline, the online auction Keltainen Pörssi Huutokauppa was established in the online media in 1999. Later that year, the online media achieved the milestone of over 0,5 million users. At that time, the online media accounted for 25% of all adverts in Keltainen Pörssi. Investments continued when Infosto Mediat established Keltainen Tori in 2000, an umbrella electronic marketplace for both new and used products from different platforms owned by Infosto Media. Sanoma Oy acquired the rest 65% of Infosto Oy late 2000–early 2001 and justified it with expected growth in the electronic marketplace, synergies, the profitability of Keltainen Pörssi, and how the publishing supports Sanoma's existing business portfolio. At that time, the market share of Keltainen Pörssi was 80%, with over 300 000 readers a week. After the acquisition, Keltainen Tori and Keltainen Pörssi Yhteisostot services were shut down due to focus returning on the used goods and cooperation with SanomaWSOY. Similarly, the online auction never took off. Previously, the portfolio of build around the online media had been extensive as Infosto Media had had plans of going public before the acquisition (Figure 10).

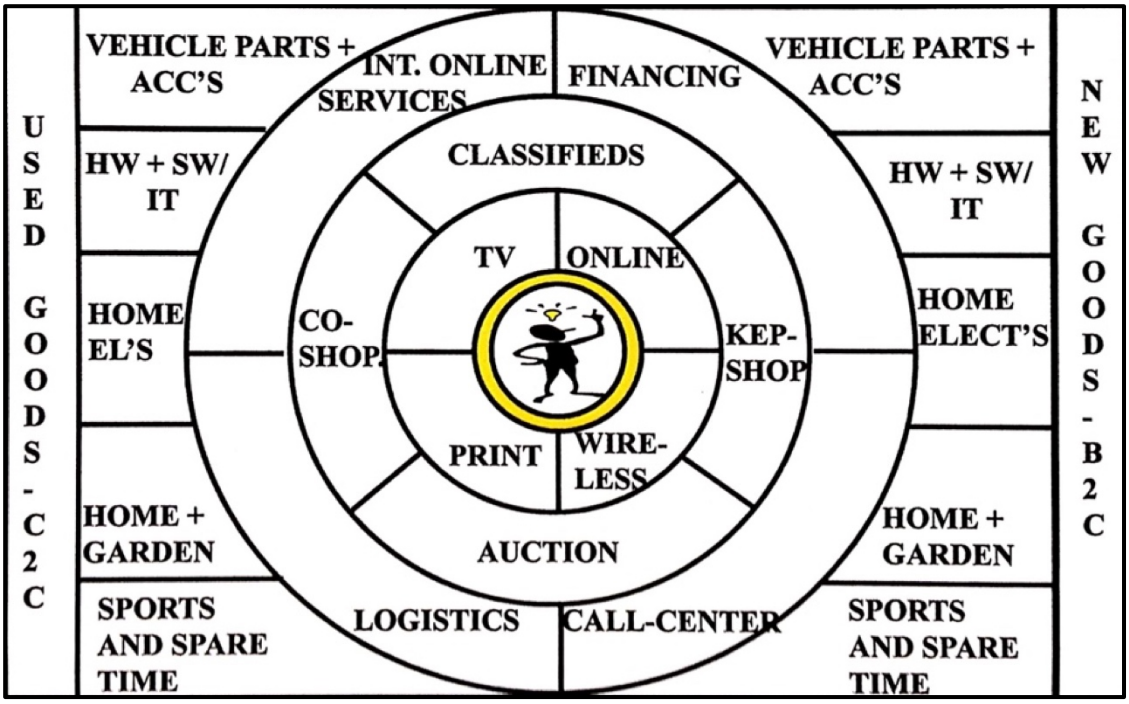

Figure 10. The portfolio of Keltainen Pörssi before the acquisition (from the interview data).

In 2003 Ilta-Sanomat business unit was established, to which Keltainen Pörssi was also placed within Sanoma (Figure 11). The market share of Keltainen Pörssi remained at around 80%. In the same year, the print and online media went through a visual transformation. Later, in 2005, Ilta-Sanomat Oy as a part of Sanoma purchased online auction service Huuto.net, which was expected to strengthen the position of Keltainen Pörssi and was added to the same portfolio. The online media of Keltainen Pörssi reached 100 000 weekly users in 2006. According to one gallop, the marketplace's popularity had increased by 66% in only two weeks. SanomaWSOY reorganized and established a new company Sanoma Digital in 2007 to enable flexible and faster product development. The online media of Keltainen Pörssi was added to this portfolio. Before the re-organization, the paywall was removed so that buyers and sellers can trade more effectively, following the industry trend.

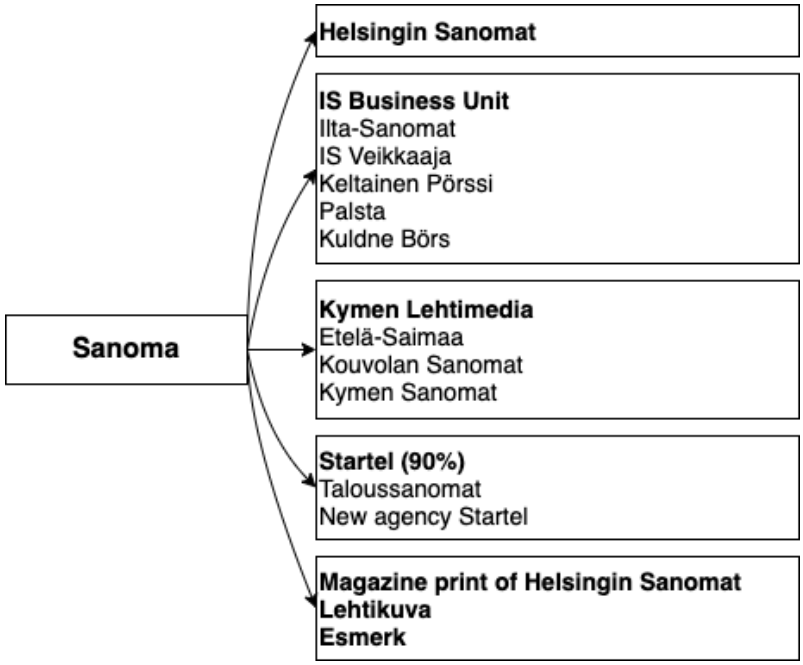

Figure 11. Organization matrix of Sanoma Oy in 2003.

The magazine lost 19% of its readers during a six-month period between 2007 and 2008. Publisher from Sanoma put a statement that when new magazines are continuously published, the consumption becomes more scattered, and recycling of magazines is decreased. To make it worse for Keltainen Pörssi, Tori.fi was launched in Finland in 2010. Tori.fi was the Finnish version of popular Swedish electronic marketplace Blocket.se, owned by Schibsted. Similarly to Keltainenporssi.fi, leaving an advert in Tori.fi could be done with no charge. While both medias focused on C2C trade, one of the profound differences lied in revenue models. While Keltainen Pörssi online media had implemented a paywall for years, Tori.fi was build on advertisement-funded logic. With large investments to drive traffic to the platform, Schibsted managed to make Tori.fi popular in a short period of time (Figure 12). Similarly to Blocket.se, Schibsted has managed to make Tori.fi the most popular electronic marketplace in its market.

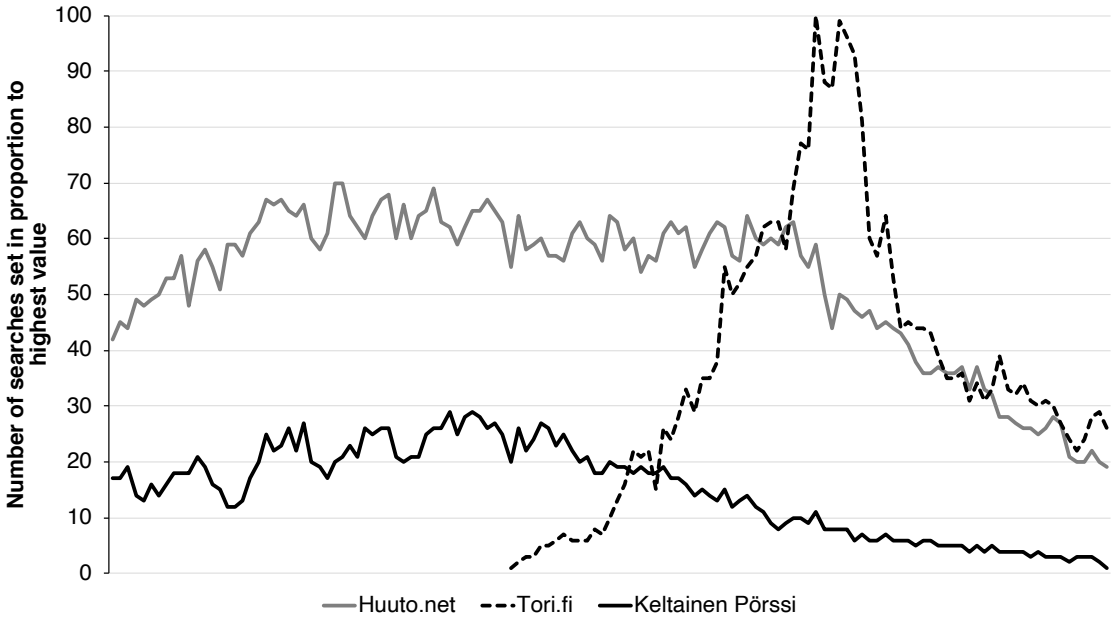

Figure 12. Search popularity data from August 2005 to June 2016 (Google Trends).

The printed version of Keltainen Pörssi was described come to the end of its life cycle after an employee cooperation negotiation in the Sanoma Magazines business unit in 2012. The followed re-structuring was described to answer to the changed consumption of media and quickly digitalizing environment. This was then followed by a group-level savings program of 60 million euros between 2013 and 2015 to ensure a competitive cost level. Employee cooperation negotiation that also concerned the online media took place in Sanoma Digital Finland in 2014. The aftermath was the restructuration of the eCom-unit. This was followed by the shutdown of the Sanoma Digital Finland business unit in 2015. In mid-2016, the online media got closed down as an independent market-place and was merged with Huuto.net. The director responsible for the Digital eCom-business commented that digitalization resulted in Huuto.net taking its share of the market with the cost of reduced use of Keltainenporssi.fi.

4.2 Sources of organizational inertia

Structural inertia that emerged comprehends the continuous balancing act between print and online media, the inertia brought by the change of ownership in the Sanoma acquisition, how it affected the strategic direction, and the slow transformation process when it comes to a traditional organization as Ilta-Sanomat. Since the pace of digital transformation in the online classifieds industry was fast, the challenge was considering what kind of effects different efforts had in the two different channels. The inertia was not deliberate but could have been a cut out for Keltainen Pörssi to keep up with the macro-environment changes described by Hannan et al. (1984). In fact, this was considered as one of the greatest challenges:

> *"I would consider the biggest challenge we faced was this 'cannibalism discussion' – how much to push online considering we had a print magazine and the size of revenue. The difference of the revenues was huge." (I2)*

Due to this, a lot of consideration was put into the decision-making, and the print and online media were reflected as an entity. The situation was challenging for a legacy organization:

> *"I said that the paywall should have been killed earlier, but it is not an as simple thing as it would also have meant that let's kill the print magazine. Because if you make your online service free of charge, nobody will buy the magazine anymore." (I4)*

After the acquisition, actions were taken, and approximately 50 employees in advertisement reception were trained to form a sales organization to develop a B2C advertising business. However, the change of ownership from a privately held company to a subsidiary of a multinational company had its influence on the strategy, and the direction where Keltainen Pörssi was headed took a significant change: many businesses under the Keltainen Pörssi brand were killed, and Keltainen Pörssi was placed under recently-founded Ilta-Sanomat business unit:

> *"It was so that everything else was abandoned than the core business and the core business was classifieds." (I2)*

> *"There was thought of copy sales in the background. That the print magazine revenue is pursued and Keltainen Pörssi as a magazine sold. Copy sales were stronger than subscription sales. So that sales were pursued where Ilta-Sanomat was strong, and it was really good in copy sales at the time." (I5)*

However, there were synergies in this arrangement from a print point of view, and the potential business units where Keltainen Pörssi could have been placed were limited (Figure 11). Besson et al. (2012) argued that it is easier for immature organizations to adopt new organizational structures enabled by the advantages of new technologies. For Ilta-Sanomat, who had its digitalization strategy already placed, it meant slower transformation process compared to born-digitals:

> *"Here comes the humans' limited ability and how long it takes before the process is finished to play. This kind of transformation process of a traditional organization is slow. In this sense, start-ups win because they do not have the burden to go through this process entirely." (I3)*

Many of the practices implemented in IT reminded of the best practices similar to modern agile methodologies. Most of the development was done in-house as directly implemented solutions were non-existent. For example, this meant directly collaborating with banks to enable payment options. Besson et al. (2012) described how modularity, scalability, and interoperability were the cornerstones of socio-technical inertia. However, due to low degree of technological development (e.g. the lack of modular solutions) and how it affected how the IT development was done, some inertia emerged:

> *"A platform reform was done, that is, the old platform started to be quite old, and there was done all kinds of interesting stuff because general web servers and technologies had not offered all the things necessary for those web services, so there was some in half self-coded web server and other similarities." (I4)*

Despite the agility in IT development, the pace and how the development had to be carried out affected negatively to scalability:

> *"And we were really agile in fact – we build them really fast, but maybe the problem was that they were built so quickly that they were not that scalable in a sense as everything was built quite like a bubblegum to be added." (I1)*

Socio-technical inertia was the least recognized type of inertia by the interviewees. Cognitive inertia emerged from the defensive approach and how it affected sense, seize, and reconfigure capabilities. This links to findings of Laureiro-Martínez et al. (2018) and how deliberate decision-making should be implemented in ill-structured problems. While adaptative actions were taken place under Sanoma's ownership, such as emphasis was put moved to B2C revenue models when free platforms started to roll out and Ilta-Sanomat had its digital strategy being implemented, there were signs of defensive actions despite changes in macro-environment were sensed:

> *"…they had an extremely defensive approach, that is, let's do what we have to do and let's give others to try and if it works, we will come with our big mass and win these others." (I2)*

> *"It was in a sense a delaying battle since the number of magazine readers was constantly decreasing when people moved more and more to the internet, and by noticing that these kinds of things could more easily be done online because of the easiness to search and all other similar things." (I4)*

Three additional sources of organizational inertia were recognized, which turned out to play a significant role in the case. Firstly, adapting from Tripsas (2009), the identity of Keltainen Pörssi worked as a lens that filtered the choices that were made. This was mostly associated with the 'advertise for free' slogan, and how it guided the choices that were made:

> *"But maybe there was a classic strategic topic – it was largely about that we had previously defined that in which business we operate, and we had defined that we operate in advertise for free business and in that case, you will find the competitors from that business which was mainly from the Palsta-magazine which was the competitor." (I1)*

Identity caused inertia as the changes in the market were identity-challenging and resulted in the inability to lead the transformation. For example, consumers leaving adverts free of charge led to a tension compared to business customers, which caused challenges in a market in which the logic was fundamentally changing:

> *"…and the slogan behind it [concept], advertise for free, lead to the inability to lead the transformation." (I3)*

Secondly, Vorbach, Wipfler, and Schimpf (2017) discuss the role of business model inertia in regard to disruptive technologies and recognize that cognitive patterns, unclear business models for first movers, path-dependence of business model evolvement, and resource-based restrictions are sources are generally noted sources of business model inertia in literature. The case of Keltainen Pörssi connects with the theory in different ways. For example, the revenue model in new digital marketplaces was not established, which posed challenges for first movers:

> *"It certainly has been the point where if I again observe my own actions critically in the light of history, so I did not understand, and we did not understand enough the significance what could have been the revenue model of building these kinds of digital marketplaces." (I3)*

Originally, the paywall that was implemented online was created to imitate the revenue model of the print that sold extremely well. As noted above, the revenue model of copy sales was considered being a challenge on how to lead the transformation. This connects to business models as cognitive patterns and how established companies derive the logic from extant business models. Soon after, the industry went through a transformation from being funded by the consumer to funded by advertising and forced to make changes to revenue model as the new model was driven by a number of visitors:

> *"We were ahead of time considering we had a paywall already back then. The reality is for that kind of online service; a paywall would not have been a successful model since a lot of free online services came to the marketplace." (I1)*

> *"But as I noted that we gave up of it [paywall] at some point due to strategic reasons as we saw that we want to boost the online more. So, it was challenging, there was not a clear vision." (I2)*

The third additional source of inertia that emerged was a success trap. It surfaces from both the success of the paywall and the strong position Keltainen Pörssi held. Success traps are recognized concepts of organizational inertia that prevents organizations from breaking out of existing competencies in changing environments (Wang, Senaratne & Rafiq, 2015). Keltainen Pörssi held a market share close to monopoly and did exceptionally well in copy sales. Later, before the aforementioned transformation in the market, Keltainen Pörssi had managed to commercialize the paywall online. However, success was not eternal and caused a dilemma of at what stage the revenue model should have been abandoned:

> *"It started to look like that it [paywall] is not the winner model. We should have given up on it much earlier in retrospect. But there was pretty good money coming in… That is why we did not give up on the paywall but continued to sell read time as we had a really good market share in a way, or a foothold in people's minds in free to advertise thinking, and we had good things to advertise." (I1)*

> *"A hard spot was when the extremely strong revenue model started to become dysfunctional, and you saw and understood that you are driving to a wall and fast. Of course, the timeline got probably distorted for us inside, but it was a money-making machine for a long time that people actually paid for as the content was so rich and good, and people were ready to pay for it, no doubt. So, when you have a thing that produces well but there are signs in the air that this will not continue for a lifetime, so at which stage you kill the money-making machine in a sense and pursue better revenue and start re-building it." (I4)*

However, the situation was made more difficult when cash flows from the print had to be taken into account. This resulted in a structural problem, where the incoming cash flows had to be counted as an entity, and the reasonable point of action was difficult to determine.

4.3 Organizational inertia and the success of digital transformation

The portfolio of products built around Keltainen Pörssi was diverse, and this was enabled by the extremely well-selling print. Investments to online allowed Keltainen Pörssi to target new demographics. Whereas Sanoma coming along with a minority share in Infosto Media, was considered to boost the mentality, the full acquisition had a different effect. In general, this can be described as a loss of autonomy since the strategic direction changed, and Keltainen Pörssi had to adapt to Sanoma's existing portfolio. For example, the investments became more carefully calculated, and the agility of the team was affected:

> *"There I saw as a problem that the business and revenue of Keltainen Pörssi compared to other accounts Ilta-Sanomat and Helsingin Sanomat was so small so that the resourcing was also small. Maybe then Keltainen Pörssi online media did not necessarily get – or then it started to show whether you can invest or not, and that kind of autonomy was lost." (I5)*

> *"And then Sanoma strongly emphasized as a strategy that there must be concentrated platforms and brand uniformity must exist. There everyone had to go in the same direction simultaneously so that the agility was lost." (I5)*

Sanoma had experience of B2C from Oikotie, which was placed under Helsingin Sanomat. However, C2C was the more robust area for Keltainen Pörssi. Many businesses outside the classifieds were abandoned, as mentioned earlier. Additionally, some projects were halted per the new owner's vision. This relates to both structural and cognitive inertia – to divesting businesses and Sanoma holding a defensive approach:

> *"That process [developing search features in online media further] we then kicked off, and it was under development, but then when the new owner came along, we had quite different views about the development plan. I pushed it forward like crazy, but the new owner said no." (I2)*

The strong brand of Keltainen Pörssi centered around jacks of all trades who tried to find the best deals from the newest advertisements. The cheapness associated with the brand and the slogan of 'advertise for free' were seen as the corner stones of identity

that resulted in concept impoverishment. Whereas Tripsas (2009) approached identity from how the technology challenges it, for Keltainen Pörssi this concerned its concept more extensively:

> *"First of all, we struck against this auction concept so that in principle, the concept impoverishment has been the fundamental mistake or question we were not able to solve. For Keltainen Pörssi, it was 'advertise for free', for Huuto.net it was the auction process, and it allowed Tori to enter the market. Which has managed to win Huuto.net." (I3)*

However, Keltainen Pörssi had tools along with the Palsta acquisition when it comes to concept renewal. For example, Palsta, the main competitor for Keltainen Pörssi, had different verticals built around it at the time it was acquired by Keltainen Pörssi. Always being smaller than Keltainen Pörssi, Palsta was shut down at some stage. B2C verticals ended up taking the market space:

> *"And the money has ultimately being made in those B2C verticals – it has been the winning concept in this area in Finland which ended up being the concept built around Nettix. It was the one which won this consumer market." (I3)*

The successful copy sales model of Keltainen Pörssi was transformed into a 'read time' model, a paywall that successfully took off in its online media. Its success resulted in Keltainen Pörssi holding on to it, which rebounded on Keltainen Pörssi when the industry started to shift towards being funded by advertisements. The business model depreciated since the ones who benefited from this were those who managed to drive as much traffic to the platform as possible, which meant free platforms in this case. The effect got stronger because the lost traffic affected the pricing of this new revenue model:

> *"Because we drained the number of visitors with it [paywall], we opened a possibility for competitors to enter the market, and the draining of the number of visitors affected the pricing of B2C advertisements." (I4)*

Despite Keltainen Pörssi being first in the online classifieds market, the newcomers were able to start from the same line following the changed market conditions:

> *"…then the understanding came that the paywall or 'advertise for free' business model is not enough, but you will have to build those B2B revenue models and B2C advertisement models subject to charge. As the other competitors started to build." (I1)*

Ultimately, holding on to the paywall realized in lost marketspace in addition to affecting the pricing of B2C advertisements. Here it meant that free platforms managed to drive traffic to their platforms with large investments. For example, Schibsted, with its large investments in Tori.fi, allowed rapid growth and benefited from the situation:

> *"…then Tori and this kind of free platforms were able to grow, and we acknowledged too late in a way that the paywall was bad since we had not grown in visitors because we were behind the paywall whereas the competitor had grown as they were free for users." (I1)*

At the same time, Keltainen Pörssi competed in C2C business with Huuto.net that was free in both ways. Additionally, Nettix managed to succeed with its verticals in segments important for Keltainen Pörssi pushed by the shift in revenue models:

> *"What was the main competitor back at that stage was obviously Huuto.net which was the one that gained [marketspace] in C2C business had a couple of reasons: first of all, it was free in both ways, and the second that auction was maybe exciting in some way, we had not managed to get our auction so big and strong at that stage. Then Nettix was, of course, strong in our strong segments – cars, boats, camper vans, and motorcycles and in a way, they were able to drive that consumer traffic and present it that 'as this is free for our readers you will get eyes with this' and managed to get a foothold from there." (I4)*

Sanoma Media Finland, a subsidiary of Sanoma Digital sold Huuto.net to ePrice Oy in 2019. Alma Media, one of the biggest media groups in Finland and a competitor of Sanoma, recently announced the acquisition of Nettix with 170 million euros. While Alma Media invests in marketplaces with great results, Sanoma has continued to invest in teaching materials. (Mikrobitti, 2019; Talouselämä, 2021.)

4.4 How to overcome organizational inertia

Interviewees were not directly asked how organizational inertia can be overcome. However, the goal was to collect any areas of improvement that the interviewees recognized to understand better how the different types of organizational inertia can be overcome. Firstly, structural inertia was linked to incorrect placement:

> *"And the decision went so that we were slapped the Keltainen Pörssi under Ilta-Sanomat. And the idea was the biggest common driver is copy sales. And this is a totally wrong way of thinking. Keltainen Pörssi was not a copy sales business. It was a classifieds business. And you had to understand the conformity to law." (I2)*

As mentioned earlier, Sanoma was limited by its current portfolio where Keltainen Pörssi could have been placed. However, it was not until 2007 when the online media was placed under Sanoma Digital, abandoning the paywall simultaneously. Here, the correct placement is associated with understanding the business concept and positioning it accordingly. Taking into account how identity was connected concept impoverishment, a burden caused by the slogan, it appears that identity also connects to understanding the business concept and correct positioning:

> *"And then I remember that in the strategy work, the big realization in a way, which sounds ridiculous in retrospect, was that we are in fact in classifieds business. That we defined it differently in a way, which sounds funny in retrospect, that what the competitive field is." (I1)*

Considering that most IT development was down by its own developers and how the online media was able to create value, an interesting perspective would have been to go even further when it comes to positioning. For example, comparing to the sources of value creation by Amit and Zott (2001), the study conducted at the time of the dot-com bubble burst in 2001 supports profiling Keltainen Pörssi as a technology company. However, such thinking did not mentality did not prevail at the time:

> *"Maybe the other thing understood long later on is that we should have considered ourselves are a technology company by it was not so mainstream thinking at the*

> *time as it is today. Really many of the firms that do some consumer service or B2B service even more think themselves as a technology company because that is where the competitive advantage is born." (I1)*

Business model inertia and inertia caused by the success trap were associated with reconfiguring capabilities. The changes in the industry were sensed and new business models became existent, but Keltainen Pörssi was slow to reconfigure due to extant revenue model and its success. This meant holding on to a revenue model that was seen to come to its end. Paywall can be seen to opposite logic to the new requirements where maximal traffic is one of the important values creating factors. This does not mean that the paywall as a revenue model was insufficient but rather not reconfiguring the existing assets as the market changed:

> *"In order to get B2B advertisements subject to a charge, you must drive enough traffic." (I4)*

> *"If you advertise for free, read for free, and you managed to avoid [from becoming tangled] to how the business is done, the question is what remains. Maybe you can advertise something, but it would have been quite a poor return if we had built around the being funded by advertisements." (I3)*

Wang et al. (2015) argued that not being trap in your own success is extremely important in regard to strategic renewal in the light of environmental change. If reconfigured earlier, there would have remained a possibility to remain competitive:

> *"It would have been a tough race even though the technology would have been in order in a sense and would have abandoned the paywall early enough, so it would have been an extremely tough race. After all, Sanoma did not manage in it with Oikotie or Huuto.net in a way." (I1)*

Firms that are able to avoid success traps, and have better capabilities absorb and transform are likely to develop and apply dynamic capabilities better than competitors (Wang et al. (2015). For Keltainen Pörssi, the success trap links to reconfiguring capabilities as the market changes were sensed.

5 Conclusions

Keltainen Pörssi went through significant changes through this study's interest period, both on micro and macro levels. Most of all, change of ownership and the early industry life cycle posed challenges for a business with a great legacy. Its digital transformation was self-initiated and started successfully. After the dot-com bubble busted and the new owner took over, the path of development changed. This was followed by several industry-wide disruptions enabled by rapid technological developments, which posed opportunities for newcomers. Having started its digital transformation successfully, Keltainen Pörssi had a hard time keeping up with the fast-paced industry. After abandoning the print in 2012, this was followed later by the shutdown of online media.

5.1 Summary and discussion

The literature review of this study was started by defining digital transformation. It was noted that current definitions call for more generic definitions since the boundaries of digital transformation are not equally unambiguous as many studies state. This was linked to the overall incompleteness of many definitions of digital transformations. It was also presented how organizational inertia affects new value creation paths enabled by the digital transformation. Then, dynamic capabilities and their organizational micro-foundations were discussed to build the gap between individual considerations and a more common capability view. As it was observed, dynamic capabilities research itself does not make clear connections to micro-level considerations, but the bridges have to be built. As a result, routines, motivations, and social networks were discussed. Lastly, three types of organizational inertia, structural, socio-technical, and cognitive inertia, were defined to provide a basis for exploring the emergence of inertia in the case. On top of these, additional sources of inertia were recognized after an empirical observation (Table 3).

Table 3. Recognized types of organizational inertia.

Type of inertia	How it realized
Structural inertia	Balancing act between print and online media, placement within the new organization and the divestments followed by this, alignment within the new organization
Socio-technical inertia	Unscalabity, lack of modular solutions
Cognitive inertia	Defensive approach to macro-level changes
Identity	Slogan 'advertise for free' and inability to lead the transformation outside of it
Business model inertia	Non-existent business models in a new market, how new business model was derived from the existent one
Success trap	Successful business model (paywall) and strong position lead hanging on the revenue model in changing market which drained traffic and allowed new competitors to enter

The first research question concerned the sources of organizational inertia (Figure 13). The three types of organizational inertia that were theoretically reviewed were structural, socio-technical, and cognitive inertia. After confronting the theory with the case, three additional sources of inertia were recognized. Structural inertia emerged from the balancing act between print and online media, change in the strategic direction after the acquisition, and the slow transformation process of Ilta-Sanomat. The inertia was not deliberate and was a consequence of a selection process (Hannan et al., 1984; Schwarz, 2012). It was partially explained by inflexible structures and how that reflected as slowness to adjust to a fast-changing environment (Hannan et al., 1984; Verhoef et al., 2019). Socio-technical inertia was linked to a low degree of technological development and how this affected how the development was carried out. These findings align with the findings of Besson et al. (2012) by pointing the role of old technologies as the source of inertia. Cognitive inertia emerged from the Sanoma's defensive approach towards macro-level changes. The self-confident approach resonates with the findings of Laureiro-Martínez et al. (2018) that suggest less-deliberate decision-making as the source of inertia.

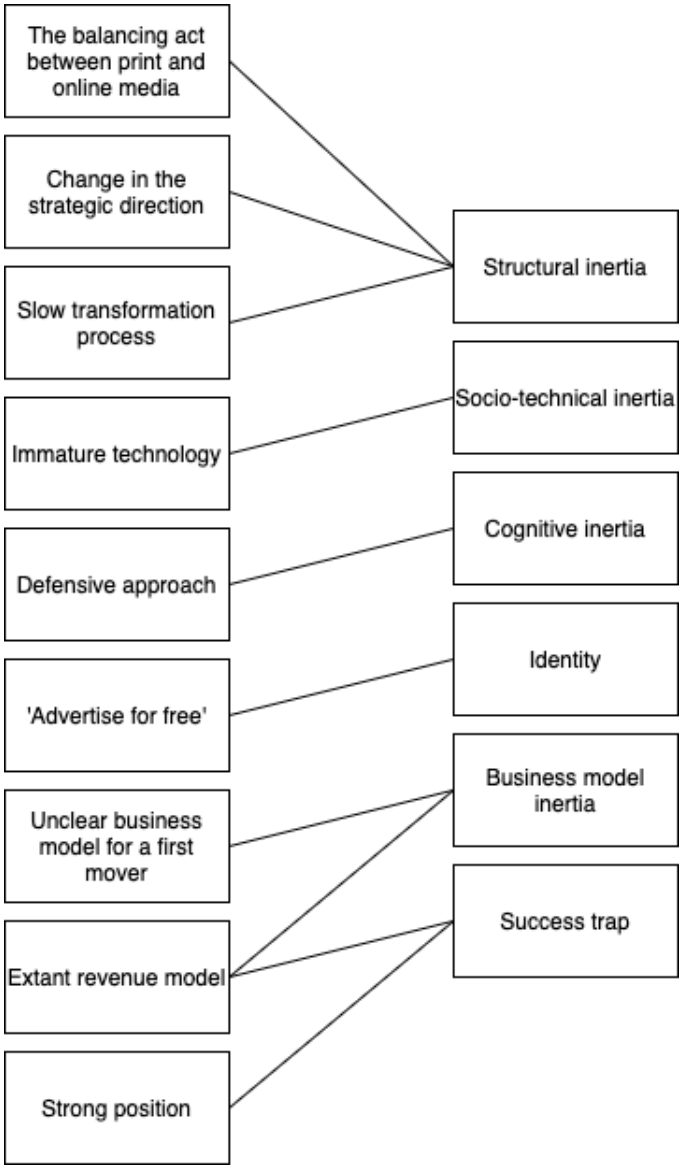

Figure 13. The sources of organizational inertia.

Identity was recognized as a source of inertia, culminating in the slogan "we are an advertise for free business". Here, a slogan and a concept caused tensions to changes in the environment. Business model inertia concerned unclear business models for first movers in the online classifieds industry, which realized as a cognitive pattern where new revenue model was derived from the dominant logic of extant copy sales revenue model. Similar business model inertia is an acknowledged problem of technology swifts and radical technological change (Vorbach et al., 2017). Lastly, inertia developed from a success

trap of the paywall that caused being left behind in the shifting industry. Whereas past success is not a proxy for success traps, it was realized for Keltainen Pörssi as it prevented it from breaking out from exploiting current competencies when the market had already started to change (Wang et al., 2015).

The second research question dealt with how the organizational inertia affected the digital transformation's success (Figure 14). Loss of autonomy was recognized being a result of the changed ownership and alignment in the new organization. Allowing teams to self-organize and grassroots level empowerment endorse agility (Dikert et al., 2016), in which Keltainen Pörssi had previously excelled. Concept impoverishment resulted from inertia caused by the identity and how it ensued to the inability to lead the transformation. This was not deliberate, as in the case of Kodak (Lucas et al., 2009), but the management could not solve challenges regarding it. For example, doubts emerged during an interview whether the brand would have stretched to what Nettix managed to do with its verticals.

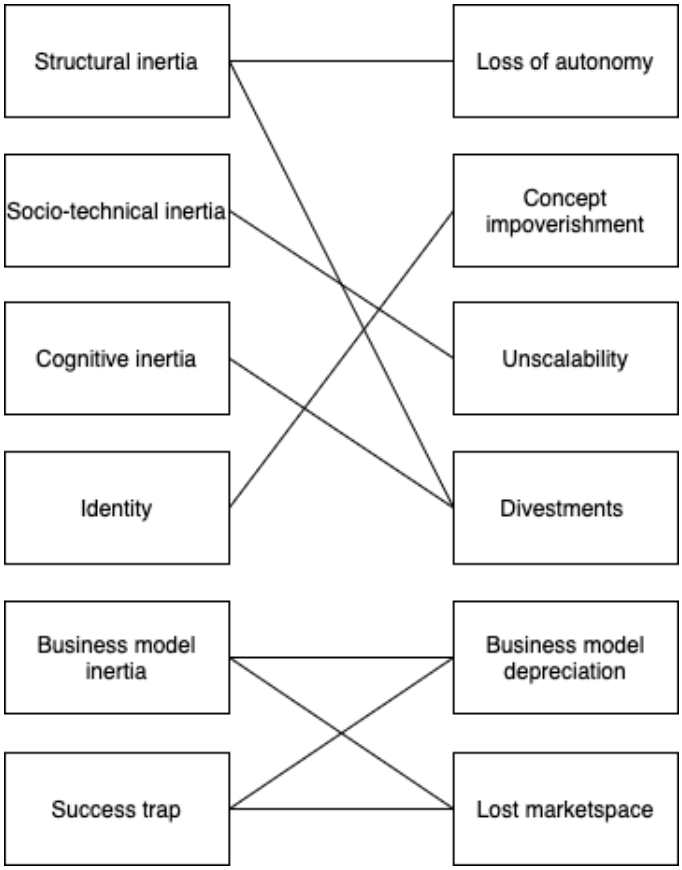

Figure 14. The outcomes of organizational inertia.

Unscalability was a recognized outcome of socio-technical inertia, which understood how the technological development was done at the time. Divestments resulted from structural inertia, i.e. how the non-core businesses were abandoned, and cognitive inertia caused by the defensive approach. The reasoning remained somewhat unclear but may be linked to Keltainen Pörssi's strong copy sales and the perception built around it. Business model depreciation was caused by the business model's inertia and success trap, which appeared as hanging on to the extant revenue model and the consequences it had when moving to a new revenue model. In other words, the paywall diminished traffic, which was to become the dominant logic of new revenue models. Similarly, this resulted in a lost marketspace as competitors managed to gain users with free platforms.

The third research question focused on how the recognized types of organizational inertia can be overcome. Three themes applicable to this case were observed (Figure 15). First relates to understanding the business concept and how it filters the actions. For Keltainen Pörssi, it meant that the concept should have been approached more as a classifieds business and how it could have decreased the structural inertia. This relates closely to the second theme, correct positioning, which is two-sided. It connects to structural inertia from the correct placement in the organization that would endorse an agile way of working. This is important for rapid learning and experimentation with digital solutions (Smith et al., 2020). On the other hand, this relates to how the business is positioned in the market. It emerged from the interviewees that all did not share the common understanding of the position of Keltainen Pörssi at the time. In digital markets, effective positioning becomes more critical (Cennamo et al., 2020).

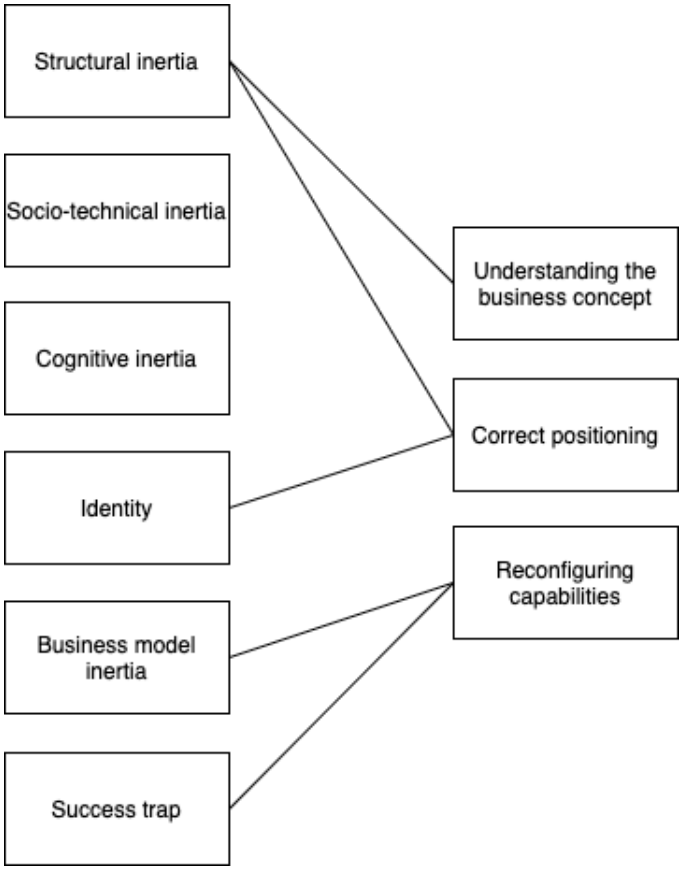

Figure 15. Overcoming organizational inertia.

The last theme that emerged was reconfiguring capabilities. This connects to business model inertia and success trap and leaves an opening to whether Keltainen Pörssi could have succeeded in the classifieds industry. Firstly, this connects to the extant revenue model and how incumbents remain constrained to find new value creation methods (Vorbach et al., 2017). As the revenue model changed, Keltainen Pörssi should have been able to reconfigure more efficiently to drive more traffic and gain a foothold in the changing market. Secondly, success traps negatively affect transformative capabilities, and success traps are a crucial part of responding to environmental change (Wang et al., 2015). Due to the late actions Keltainen Pörssi took, this resulted in harming their own business and losing market space.

5.2 Theoretical implications

The goal of this study was to confront a case of digital transformation with an organizational inertia perspective. With a focus on an incumbent business, six different types of organizational inertia were recognized. This study successfully built the gap between management and information systems literature by recognizing several types of inertia in a single case study that are emphasized differently in these two research areas. While this study's findings cannot be generalized, it builds knowledge on more well-known and recently recognized types of inertia and how they play together. As a result, this study builds the foundation for future research on how different types of organizations can be overcome and address such aspirations' complexity.

This study also sheds light on dynamic capabilities and their microfoundations. While changes in market were sensed, processing those changes was moderated by organizational inertia and resulted in not taking immeadiate actions to reconfigure existing assets. On a more detail level, more knowledge was gained of dynamic capabilities in respect to emergence of success trap and business model inertia while clear connections to their microfoundations remain somewhat open. The connection between cognitive patterns and cognitive inertia was made through this case, which highlighted cognitive flexibility and how decision-making processes should be adjusted per situation (Laureiro-Martínez et al., 2018). As a result, future research could focus on deepening understanding of the microfoundations of these three sources of inertia.

While this study's approach was employee-level adoption, it did not play a role in this transformation. Quite the opposite, several connections were made to industry-wide transformation and what kind of effects this had on Keltainen Pörssi. Drawing from the study of Lanamäki et al. (2020) and Vial's (2019) review, this study suggests further exploration of digital transformation definitions. Correspondingly to the study of Lanamäki al. (2020), the digital transformation of Keltainen Pörssi was not always driven by intentionality, or the intention-outcome relationship was not always clear. Whereas digital

transformation is often seen as a self-initiated process, the dot-com bubble, digital transformation of the entire media industry, and changes in global networks had their influence on Keltainen Pörssi. This calls for more focus put on the relational model proposed by Lanamäki et al. (2020).

5.3 Managerial implications

This study develops an understanding of the causes of organizational inertia through a real-life business case. The findings suggest how managers need to recognize the sources of organizational inertia to lead an organization's transformation in a changing environment. Whereas the concept of inertia is often associated with the objective to keep the status quo, the findings suggest that the inertia is not deliberate more often. As a result, this builds the understanding of the difficulty to recognize sources of inertia for managers to overcome their effect. Additionally, the findings show how several types of inertia can simultaneously occur, highlighting managers' capability to lead the transformation in a complex environment where several types of inertia may have a combined negative effect.

The study also builds knowledge about the potential outcomes of organizational inertia. Recognizing the outcomes helps managers to make connections to the sources of inertia and to overcome them. Although, the outcomes may vary a lot per context. The associations between types of inertia and their outcomes were not equally clear compared to their sources, which points to the overlapping effects of different types of inertia and demonstrates how managers may find it challenging to track inertia sources with a bottom-up approach. Whereas this was not the main focus of this study, it builds managers' knowledge on how significant the outcomes of inertia may become, which was realized as lost marketspace and concept impoverishment in this case.

The study contributed by providing managers insight into how many recognized types of organizational inertia can be overcome. In this case, the means culminated between understanding the concept and positioning it accordingly, and how changing environment

links to reconfiguring capabilities. This helps managers connect between recognized types of inertia and how their effects can be diminished with the recognized counterbalancing factors. Additionally, the study builds managers' understanding of dynamic capabilities' role as counterbalancing factors of inertia in changing environment. A good example of this was when the changes in the environment were sensed, and a new revenue model became existent, but it took time for Keltainen Pörssi to reconfigure its assets.

Looking back at how the recognized types of inertia realized, areas of improvement can be found. Even though synergies existed when placing Keltainen Pörssi under the Ilta-Sanomat business unit, a different arrangement can be rationalized. While the decision was driven by the issue sales logic and lack of other alternatives, this harmed the online media, which had previously implemented new features in an agile and autonomous way in a fast-changing environment. To keep synergies between print and existing portfolio, placing the online media in a separate unit can be justified. Additionally, the overly self-confident and defensive approach to macro-level changes could have been turned into a competitive advantage if the market change had been seen as an opportunity rather than as a tardy change approaching the market.

The slogan 'advertise for free' and how it was drilled down to the concept of Keltainen Pörssi links to the business model inertia, and how Keltainen Pörssi suffered from having existing business models in the market. To overcome this, Keltainen Pörssi would have needed a business model where advertising was either free or subject to charge whether the advertiser was a consumer or a business. Looking back at how the market developed, moving earlier to the advertisement-funded revenue logic would have supported this. While it can be argued that building the business model build on top of this logic would not have been profitable in the beginning, it ended up causing a success trap which ultimately led Keltainen Pörssi to lose market space. Moving earlier to advertisement-funded revenue model would have supported the traffic-driven business logic, which ended up playing a major role in new electronic marketplaces.

References

Abell, P., Felin, T., & Foss, N. J. (2008). Building micro-foundations for the routines, capabilities, and performance links. *Managerial and Decision Economics*, 29(6), 489–502. https://doi.org/10.1002/mde

Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal*, *22*(6-7), 493-520. https://doi.org/10.1002/smj.187

Besson, P., & Rowe, F. (2012). Strategizing information systems-enabled organizational transformation: A transdisciplinary review and new directions. *Journal of Strategic Information Systems*, 21(2), 103–124. https://doi.org/10.1016/j.jsis.2012.05.001

Betsch, T. & Haberstroh, S. (2014). *The routines of decision making*. 2nd ed. New York: Psychology Press.

Boutetiere, H., & Reich, A. (2018). *Unlocking success in digital transformations*. McKinsey Digital. https://www.mckinsey.com/business-functions/organization/our-insights/unlocking-success-in-digital-transformations

Bower, J. L., & Christensen, C. M. (1995). Disruptive technologies: Catching the wave. *Harvard Business Review*, 73(1), 45–53.

Cennamo, C., Dagnino, G. B., Di Minin, A., & Lanzolla, G. (2020). Managing digital transformation: Scope of transformation and modalities of value co-generation and delivery. *California Management Review,* 62(4), 5–16. https://doi.org/10.1177/0008125620942136

Chanias, S., Myers, M. D., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *Journal of Strategic Information Systems*, 28(1), 17–33. https://doi.org/10.1016/j.jsis.2018.11.003

Collins, R. (1981). On the microfoundations of macrosociology. *American Journal of Sociology*, 86(5), 984–1014. http://www.jstor.org/stable/27787

Coyne, K. P., & Horn, J. (2009). Predicting your competitor's reaction. *Harvard Business Review*, 87(4), 90-97.

Danneels, E. (2011). Trying to become a different type of company: Dynamic capability at Smith Corona. *Strategic Management Journal*, 32(1), 1–31.

https://doi.org/10.1002/smj

Dikert, K., Paasivaara, M., & Lassenius, C. (2016). Challenges and success factors for large-scale agile transformations: A systematic literature review. *Journal of Systems and Software*, 119, 87–108. https://doi.org/10.1016/j.jss.2016.06.013

Downes, L., & Nunes, P. (2013). Big bang disruption. *Harvard Business Review*, 44-56.

Dubois, A., & Gadde, L. E. (2002). Systematic combining: An abductive approach to case research. *Journal of Business Research*, 55(7), 553-560.

Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263–1273. https://doi.org/10.1287/orsc.1100.0564

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10-11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Eriksson, P., & Kovalainen, A. (2015). *Qualitative methods in business research: A practical guide to social research*. 2nd ed. London: Sage.

Felin, T., & Foss, N. J. (2005). Strategic organization: A field in search of micro-foundations. *Strategic Organization*, 3(4), 441–455. https://doi.org/10.1177/1476127005055796

Felin, T., Foss, N. J., Heimeriks, K. H., & Madsen, T. L. (2012). Microfoundations of routines and capabilities: Individuals, processes, and structure. *Journal of Management Studies*, 49(8), 1351–1374. https://doi.org/10.1111/j.1467-6486.2012.01052.x

Felin, T., Foss, N. J., & Ployhart, R. E. (2015). The microfoundations movement in strategy and organization theory. *Academy of Management Annals*, 9(1), 575–632. https://doi.org/10.1080/19416520.2015.1007651

Foss, N. J., & Lindenberg, S. (2013). Microfoundations for strategy: A goal-framing perspective on the drivers of value creation. *Academy of Management Perspectives*, 27(2), 85–102. https://doi.org/10.5465/amp.2012.0103

Gilbert, C. G. (2005). Unbundling the structure of inertia: Resource versus routine rigidity. *Academy of Management Journal*, 48(5), 741–763. doi:10.5465/amj.2005.18803920

Gillham, B. (2000). *Case study research methods*. 1st ed. Bloomsbury Publishing.

Guillén, M. F. (2002). Structural inertia, imitation, and foreign expansion: South Korean firms and business groups in China, 1987–1995. *Academy of Management Journal*, 45(3), 509-525. https://doi.org/10.2307/3069378

Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 49(2), 149–164. https://doi.org/10.2307/2095567

Hannan, M. T., Pólos, L., & Carroll, G. R. (2004). The evolution of inertia. *Industrial and Corporate Change*, 13(1), 213–242. https://doi.org/10.1093/icc/13.1.213

Heckhausen, J. & Heckhausen, H. (2008). *Motivation and action*. 2nd ed. New York: Cambridge University Press.

Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850. https://doi.org/10.1002/smj

Henderson, J. C., & Venkatraman, N. (1993). Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal*, 32(1), 4–16. Retrieved from https://search.proquest.com/docview/220297257?accountid=12834

Horlacher, A., & Hess, T. (2016). What does a chief digital officer do? Managerial tasks and roles of a new C-level position in the context of digital transformation. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 5126–5135. https://doi.org/10.1109/HICSS.2016.634

Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? *International Journal of Information Management*, (in press). https://doi.org/10.1016/j.ijinfomgt.2020.102183

Kelly, D., & Amburgey, T. L. (1991). Organizational inertia and momentum: A dynamic model of Strategic Change. *Academy of Management Journal*, 34(3), 591–612. https://doi.org/10.5465/256407

Kilduff, M., & Tsai, W. (2003). *Social networks and organization.* 1st ed. London: Sage.

Kim, W. C., & Mauborgne, R. (2003). Tipping point leadership. *Harvard Business Review*, 81(4), 60-69.

Klötzer, C., & Pflaum, A. (2017). Toward the development of a maturity model for digitalization within the manufacturing industry's supply chain. *Proceedings of the 50th Hawaii International Conference on System Sciences*, 4210–4219. https://doi.org/10.24251/hicss.2017.509

Kohli, R., & Johnson, S. (2011). Digital Transformation in Latecomer. *MIS Quarterly Executive*, 10(4), 141–156.

Lanamäki, A., Väyrynen, K., Laari-Salmela, S., & Kinnula, M. (2020). Examining relational digital transformation through the unfolding of local practices of the Finnish taxi industry. *Journal of Strategic Information Systems*, 29(3), 1–21. https://doi.org/10.1016/j.jsis.2020.101622

Landry, J. T. (2015). The future and how to survive It. *Harvard Business Review*, 93(12), 20-21.

Laureiro-Martínez, D., & Brusoni, S. (2018). Cognitive flexibility and adaptive decision-making: Evidence from a laboratory study of expert decision makers. *Strategic Management Journal*, 39(4), 1031–1058. https://doi.org/10.1002/smj.2774

Lenka, S., Parida, V., Sjödin, D. R., & Wincent, J. (2018). Exploring the microfoundations of servitization: How individual actions overcome organizational resistance. *Journal of Business Research*, 88, 328–336. https://doi.org/10.1016/j.jbusres.2017.11.021

Lewin, A. Y., Massini, S., & Peeters, C. (2011). Microfoundations of internal and external absorptive capacity routines. *Organization Science*, 22(1), 81–98. https://doi.org/10.1287/orsc.1100.0525

Liang, H., Wang, N., Xue, Y., & Ge, S. (2017). Unraveling the alignment paradox: How does business-IT alignment shape organizational agility? *Information Systems Research*, 28(4), 863–879. https://doi.org/10.1287/isre.2017.0711

Lindenberg, S., & Foss, N. J. (2011). Managing joint production motivation: The role of goal framing and governance mechanisms. *Academy of Management Review*, 36(3), 500–525. https://doi.org/10.5465/AMR.2011.61031808

Liu, X., Huang, Q., Dou, J., & Zhao, X. (2017). The impact of informal social interaction on innovation capability in the context of buyer-supplier dyads. *Journal of Business Research*, 78, 314–322. https://doi.org/10.1016/j.jbusres.2016.12.027

Lucas Jr, H. C., & Goh, J. M. (2009). Disruptive technology: How Kodak missed the digital photography revolution. *The Journal of Strategic Information Systems*, 18(1), 46-

55. http://dx.doi.org/10.1016/j.jsis.2009.01.002

Maijanen, P., & Virta, S. (2017). Managing exploration and exploitation in a media organisation–A capability-based approach to ambidexterity. *Journal of Media Business Studies*, 14(2), 146-165. https://doi.org/10.1080/16522354.2017.1290025

Makkonen, H., Johnston, W. J., & Javalgi, R. R. G. (2016). A behavioral approach to organizational innovation adoption. *Journal of Business Research*, 69(7), 2480–2489. https://doi.org/10.1016/j.jbusres.2016.02.017

Marabelli, M., & Galliers, R. D. (2017). A reflection on information systems strategizing: the role of power and everyday practices. *Information Systems Journal*, 27(3), 347–366. https://doi.org/10.1111/isj.12110

Marouf, L. N. (2007). Social networks and knowledge sharing in organizations: A case study. *Journal of Knowledge Management*, 11(6), 110–125. https://doi.org/10.1108/13673270710832208

Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business and Information Systems Engineering*, 57(5), 339–343. https://doi.org/10.1007/s12599-015-0401-5

Mikrobitti (2019). *Huuto.net vaihtoi omistajaa*. Retrieved from: https://www.mikrobitti.fi/uutiset/huutonet-vaihtoi-omistajaa/a295e2a9-79a1-47c5-9f16-6f81f4140411

Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, 24(9), 934–948.

Muller, E., & Peres, R. (2019). The effect of social networks structure on innovation performance: A review and directions for research. *International Journal of Research in Marketing*, 36(1), 3–19. https://doi.org/10.1016/j.ijresmar.2018.05.003

O'Gorman, K.D. and MacIntosh, R. (2014). *Research methods for business and management*. 2nd Edition. Goodfellow Publishers Limited.

Pramanik, H. S., Kirtania, M., & Pani, A. K. (2019). Essence of digital transformation—Manifestations at large financial institutions from North America. *Future Generation Computer Systems*, 95, 323–343. https://doi.org/10.1016/j.future.2018.12.003

Riedl, R., Benlian, A., Hess, T., Stelzer, D., & Sikora, H. (2017). On the relationship between information management and digitalization. *Business and Information Systems*

Engineering, 59(6), 475–482. https://doi.org/10.1007/s12599-017-0498-9

Rowe, F., Besson, P., & Hemon, A. (2017). Socio-technical inertia, dynamic capabilities and environmental uncertainty: Senior management views and implications for organizational transformation. *Proceedings of the 25th European Conference on Information Systems*, 405–420.

Schallmo, D., Williams, C. A., & Boardman, L. (2017). Digital transformation of business models-best practice, enablers, and roadmap. *International Journal of Innovation Management*, 21(8), 1–17. https://doi.org/10.1142/S136391961740014X

Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals*, 12(1), 390-439. https://doi.org/10.5465/annals.2016.0014

Schmid, A. M. (2019). Beyond resistance: Toward a multilevel perspective on socio-technical inertia in digital transformation. *Proceedings of the 27th European Conference on Information Systems*, 1–19.

Schmid, A. M., Recker, J., & vom Brocke, J. (2017). The socio-technical dimension of inertia in digital transformations. *Proceedings of the 50th Hawaii International Conference on System Sciences*, 4796–4805. https://doi.org/10.24251/hicss.2017.583

Schwarz, G. M. (2012). The logic of deliberate structural Inertia. *Journal of Management*, 38(2), 547–572. https://doi.org/10.1177/0149206309361206

Setzke, D. S. (2020). Reducing socio-technical inertia during digital transformation – The role of dynamic capabilities. *Proceedings of the 28th European Conference on Information Systems*, 1–13.

Smith, P., & Beretta, M. (2020). The gordian knot of practicing digital transformation: Coping with emergent paradoxes in ambidextrous organizing structures. *Journal of Product Innovation Management*, 0(0), 1–26. https://doi.org/10.1111/jpim.12548

Steinhilber, S., Wells, P., & Thankappan, S. (2013). Socio-technical inertia: Understanding the barriers to electric vehicles. *Energy policy*, 60(1), 531-539. https://doi.org/10.1016/j.enpol.2013.04.076

Subramaniam, M., Iyer, B., & Venkatraman, V. (2019). Competing in digital ecosystems. *Business Horizons*, 62(1), 83–94. https://doi.org/10.1016/j.bushor.2018.08.013

Talouselämä (2021). *Mikä ihmeen median kriisi? Sanoman markkina-arvo on noussut viiden vuoden aikana 260 ja Alman 180 prosenttia.* Retrieved from: https://www.talouselama.fi/uutiset/mika-ihmeen-median-kriisi-sanoman-markkina-arvo-on-noussut-viiden-vuoden-aikana-260-ja-alman-180-prosenttia/d9904d78-349a-4529-8039-0b0e1754bffa

Tasselli, S., Kilduff, M., & Menges, J. I. (2015). The microfoundations of organizational social networks: A review and an agenda for future research. *Journal of Management*, 41(5), 1361–1387. https://doi.org/10.1177/0149206315573996

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. https://doi.org/10.1002/smj

Tilastokeskus (2020). *Mass media market volume in Finland 1997–2019*. Retrieved from http://www.stat.fi/til/jvie/index.html

Tripsas, M. (2009). Technology, identity, and inertia through the lens of "The Digital Photography Company." *Organization Science*, 20(2), 441–460. https://doi.org/10.1287/orsc.1080.0419

Tripsas, M., & Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management Journal*, 21(10), 1147–1161. https://doi.org/10.1002/9781405164054.ch23

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2019). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, (in press). https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Vorbach, S., Wipfler, H., & Schimpf, S. (2017). Business model innovation vs. business model inertia: The role of disruptive technologies. *BHM Berg-und Hüttenmännische Monatshefte*, 162(9), 382-385. https://doi.org/10.1007/s00501-017-0671-y

Vuori, T. O., & Huy, Q. N. (2016). Distributed attention and shared emotions in the innovation process: How Nokia lost the smartphone battle. *Administrative Science Quarterly*, 61(1), 9-51. https://doi.org/10.1177/0001839215606951

Wang, C. L., Senaratne, C., & Rafiq, M. (2015). Success traps, dynamic capabilities and firm performance. *British Journal of Management*, 26(1), 26-44. https://doi.org/10.1111/1467-8551.12066

Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001

World Economic Forum (2016). *Digital Transformation of Industries: In Collaboration with Accenture (Media Industry).* Retrieved from http://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/wef-dti-mediawhitepaper-final-january-2016.pdf

Yi, S., Knudsen, T., & Becker, M. C. (2016). Inertia in routines: A hidden source of organizational variation. *Organization Science*, 27(3), 782–800. https://doi.org/10.1287/orsc.2016.1059

Appendices

Appendix 1. Research questions

Background	Please describe your role and responsibilities Which were the most signigicant events during your time working with Keltainen Pörssi or Keltainenporssi.fi? Which were the major consequences of these events?
Organizational inertia	Which were the major challenges? In which did you succeed? How the commercialization of online media succeeded? What kind of return was received from investments? How investments to online media were justified considering the non-existancy of similar services? How the organization structure at the time supported both print and online media?
Business models	How the increased use of internet affected the customer processes related to advertising papers (both B2B and B2C)? What challanges related to copying a successful revenue model? How strong did these two businesses (print and online media) affected on one to another? What pros and cons related to implementing an internet-based business model as a first mover?

Appendix 2. Timeline