

STRATEGIC MANAGEMENT, THE THEORY OF THE FIRM, AND DIGITALIZATION: REINTRODUCING A NORMATIVE PERSPECTIVE

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Abstract

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The theory of the firm, as we know it from the literature, focuses on the boundary question. Recently, the idea of ecosystems, an organizational arrangement that lies somewhere between the firm and the market poles, has been promoted as an adequate response to the ongoing trend of digitalization (Jacobides, Cennamo, & Gawer, 2018). What is missing in the extant literature is an answer to or reflection on the normative question of what role business firms should or could play in modern societies, where major (“grand”) challenges such as climate change, poverty, migration, and rising inequality are seen (George, Howard-Grenville, Joshi, & Tihanyi, 2016). Thus, a core element of the traditional theory of the firm has been neglected, with the consequence that its social relevance is no longer evident. We focus on the strategic management discipline, with an aim to reintroduce the lost normative perspective and to provide a guideline for future theorizing about business firms as well as guidelines for practice. The three cornerstones of our framework are (de-) growth, sustainability, and digitalization. We emphasize the digitalization angle and elaborate on what we call the “common good orientation” of digitalization, using the key terms “internet as a commons”, “open-source”, and “cooperative platforms”.

Keywords: Strategic Management, Grand Challenges, Digitalization, Growth, De-Growth, Sustainability, Theory of the Firm

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1. INTRODUCTION

It is often argued that the central question of the so-called theory of the firm is the boundary question, the question of whether a transaction is more effectively governed within firms, within markets, or within organizational arrangements somewhere between these two poles (Zenger, Felin, & Bigelow, 2011). In the context of “ecosystems”, this boundary question is addressed in theoretical approaches that investigate the implications of digitalization and artificial intelligence (AI) for the *raison d’être* of 1) in general, the business firm (Iansiti & Lakhani, 2020; Jacobides, Cennamo, & Gawer, 2018), or 2) specifically, the *multinational* business firm (Banalieva & Dhanaraj, 2019). A recent example can be found in a call for papers by the *Journal of Management Studies* titled “Corporate Strategy and the Theory of the Firm in the Digital Age” (Birkinshaw et al., 2018). This call highlights the market, firm, and intra-firm levels as the relevant levels of analysis; in particular, it focuses on the emergence of new industries and the formation of ecosystems that will shift the boundaries of the enterprise, thereby creating new management and knowledge-sharing needs.

As inspiring as these boundary-focused approaches are, we argue that one important element is often missing in extant literature: an answer to — or at least, a reflection on — the normative question of what role business firms should or could play in modern societies that are faced with major (“grand”) challenges, such as climate change, poverty, migration, and rising inequality (George, Howard-Grenville, Joshi, & Tihanyi, 2016). If such a normative foundation is left aside, a core element of the traditional theory of the firm and its underlying philosophies is neglected. Indeed, Adam Smith (1776/2009) considered himself a moral philosopher on this topic. He aimed at outlining the principles of a market economy, and the behavioral orientations of the individuals in such an economy, in the interest of material welfare. Modern economists have also adopted this position. Prominently, Friedman (1970) postulated that the only corporate social responsibility (CSR) is to maximize profits. Even the principal-agent theory shares this idea, at least implicitly, guiding shareholders (principals) to ensure that managers (agents) act in their interests (Jensen & Meckling, 1976).

We argue in this article that there is a need for a normative reorientation of the theory of the firm, not only in the interest of material welfare but also in the interest of addressing the aforementioned “grand challenges”— and in the interest of making the theory of the firm socially and practically relevant again. In response to the abovementioned attempts to incorporate digitalization into the theory of the firm, our aim and contribution are to create an expanded framework that, *inter alia*, sheds light not only on the potential of digital technologies to address the grand challenges but also on the “dark side of digitalization” (Banalieva & Dhanaraj, 2019; Verbeke & Hutzschenreuter, in press). Such a framework can open the door to a critical research agenda as well as offer guidelines for practice. In a recent *Academy of Management Review* editorial, Alvarez, Zander, Barney, and Afuah (2020) asked whether economically oriented approaches will have the power to incorporate a stakeholder orientation into the theory of the firm, or whether it

requires an “entirely new theory of the firm” (p. 712). We argue that the answer goes more in the latter direction, and while we share many of the ideas outlined in this editorial, we believe that, due to its anthropocentric foundations, a mere stakeholder orientation does not provide a solid basis for such a theory or framework (Scherer & Palazzo, 2007).

Our paper is structured as follows. We will first situate our framework in a specific theoretical context, namely that of *strategic management*, which has a particular affinity with the theory of the firm (Section 2). The framework we then develop in Section 3 is based on the cornerstones of (de-) growth, sustainability, and digitalization; we will briefly introduce these cornerstones and relate them to each other by reproducing selected empirical findings, but also by highlighting the normative content of these points of reference. Section 4 will use the example of digitalization to show that this normative content can be translated into guidelines that can also be relevant for corporate practice. Section 5 summarizes, names limitations of our approach, and gives a brief outlook on future research opportunities.

2. STRATEGIC MANAGEMENT AS A REFERENCE POINT FOR OUR APPROACH

As indicated, we position our framework, in line with the call for papers cited above (Birkinshaw et al., 2018), within the domain of *strategic management*, which borrows from many other disciplinary domains, such as economics, organizational theory, behavioral sciences, and sociology (Floyd, 2009). In strategic management, the “theory of the firm” has always had a prominent position: one only needs to recall the resource-based (Wernerfelt, 1984), knowledge-based (Grant, 1996), or attention-based *theory of the firm* (Ocasio, 1997). Originally, the strategic management discipline was based on the traditional microeconomic concept that described, under far-reaching rationality assumptions, how companies should behave to maximize their profits (Spulber, 2009). Accordingly, the strategic management discipline and its various approaches to develop a theory of the firm share the implicit assumption that business firms should find levers to improve their financial performance and work in the interests of their shareholders. Only recently do we find indications of more openness for serving other stakeholders, at least in the context of the resource-based view of the firm (Barney, 2018).

In addition to this at least implicitly normative theory of the firm, there also exists a descriptive stream established by Herbert Simon, James March, and Richard Cyert in the 1950s and 1960s (March & Simon, 1958; Cyert & March, 1963). This theory stream rightly indicates that the rationality assumptions of the (neo-)classical theory of the firm are exaggerated, and one must understand how decisions are actually made in companies. In this respect, it is not surprising that the prescriptive and normative schools in strategic management have found counterparts in various descriptive schools.

Mintzberg (1990) proposed that the two school types should eventually be combined. This notion of an integrated, or more precisely, “configurational” concept is also significant regarding the effects of digitalization (a topic of utmost importance for companies in the current business world) on the theory of the firm. However, we claim that the investigation must be carried out in reverse

order. One cannot only descriptively study (by empirical research) how companies are adjusting to the digitalization trend; rather, we assume that firms make use of various digital tools and applications as effective means to achieve certain goals that are also expressions of certain value attitudes. These goals can include increasing profits or advancing material welfare, but may also incorporate wider societal goals, such as enshrining CSR or the United Nations' Sustainable Development Goals. Hence, one must also focus on the *normative foundations* of companies' adjustment to digitalization by critically discussing the consequences of digitalization on organizations' stakeholders, as well as on our societal and natural environment.

This requirement is indeed important from the perspective of the domain of interest, strategic management (and organizational theory) if we consider another of its disciplinary cores: the desire to study the connection between system and environment and, as the purpose of strategy, to establish a fit (or co-alignment) between these vertices (Ansoff, 1965; Learned, Christensen, Andrews, & Guth, 1965; Thompson, 1967). Following this core ingredient, we argue that the environment no longer simply comprises the economic environment envisioned by (neo-)classical and/or industrial organization economists. Many other environments must also be addressed to tackle the abovementioned grand challenges (climate change, population growth, social inequality, etc.) (George et al., 2016) and contribute to the development of a theory of the firm. This will allow a *critical view* on contemporary business activities (Nyberg & Wright, in press), thereby developing principles that help, for example, to direct digitalization into the direction of a common good orientation.

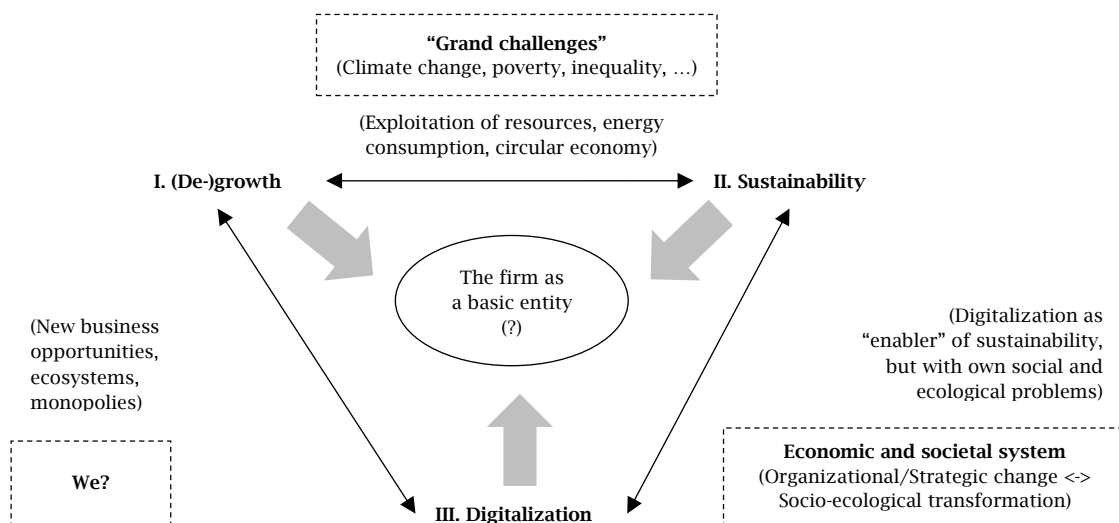
3. A FRAMEWORK FOR A THEORY OF THE FIRM IN THE DIGITAL AGE

What could be the reference points of such a theory? Figure 1 highlights three cornerstones: business (de-)growth, sustainability, and digitalization. Selecting *(de-)growth* and *sustainability* as the first two cornerstones allows us to maintain a connection

to the well-established goal paradigm of organization theory (Georgiou, 1973) and performance orientation within strategic management (Barney, 2018). Nevertheless, we keep them separate since performance measures and growth need not be positively correlated with each other (see below). The third cornerstone, *digitalization* (including AI), refers to at least one of the two trends highlighted in many current discussions. As Baum and Haveman (2020) recently wrote, these trends have "fundamentally altered the capabilities and organization of business enterprises and have transformed our ideas about what they should aim to achieve and how organizational theorists should study them" (p. 268). We neglect the other trend mentioned by Baum and Haveman (the globalization of finance, trade, and production), due to the recent counter-trend of *de*-globalization that can hardly be overseen at the moment (Witt, 2019). However, note that (de-)globalization and digitalization are related to each other, as has been highlighted in recent theories on multinational enterprises (Verbeke & Hutzschenreuter, in press).

Below, we explain the logic of our framework and summarize key research insights regarding its cornerstones and their interrelationships. Our aim is to show that extant research on these cornerstones (subsections 3.1-3.3) has led to mixed research results, which at first glance, undermines the normative reorientation that we call for in this article, but that need not be a problem if we consider the theory of the firm as a *critical* research endeavor (recall that the principle of critique has emerged as an essential ingredient of science in general; see, e.g., Hitchcock, 2018). In other words, our argument for a normative orientation of the theory of the firm does not imply that empirical research results should be neglected or denied. Quite the contrary, both research streams can mutually reinforce and inspire each other, as seen with regard to Mintzberg's "ten schools of thought" within strategic management. Discussing the relationships between the three cornerstones is another helpful step for the further development of such a critical research approach (subsections 3.4-3.6).

Figure 1. Basic tenets of a new theory of the firm: A framework



3.1. (De-)growth

Without any doubt, *growth* is the mantra of our modern political and economic discourse; when the gross domestic product (one of the main measurement constructs in this field) declines every government comes under pressure. No wonder then that in management, particularly in *strategic* management, the role of growth is also seen as critical (Coad, 2009). In the late 1950s, Edith Penrose published her *Theory of the Growth of the Firm* (Penrose, 1959), which became the anchor point for a resource-based approach (Wernerfelt, 1984) that embodies an important contribution of strategic management to the theory of the firm (Barney, 1991). Ansoff's (1965) product/market matrix is a simple and well-known tool that can show the options for growth. In corporate strategy, *diversification* (the lower right quadrant in Ansoff's matrix) is a core topic (Feldman, 2020), but Ansoff's approach is rather narrow. In many studies, product and market development (two of the other quadrants) are treated as diversification steps, especially in an internationalization context (Hafner, 2019). "Diversification" thus covers a broad spectrum of growth opportunities and must therefore be of fundamental strategic importance for every company. However, diversification research has produced mixed results (see, e.g., Ahuja and Novelli, 2017; Lütthge, 2020). The associated merger and acquisition (M&A) research (M&As as an important modus for diversification) shows that, at least from the bidder's shareholder perspective, M&A activities tend to lead to performance deterioration (see Halebian, Devers, McNamara, Carpenter, & Davison, 2009). This finding contradicts the often-expressed preference for growth.

Restructuring (Schweizer & Nienhaus, 2017) and divestiture research (Thywissen, 2015) address the other side of the coin. They suggest that divestitures are often rewarded by capital markets (e.g., Clubb & Stouraitis, 2002). This is another indication that the boundaries of the firm are or could be rather narrow, shifting the emphasis to market or in-between solutions (e.g., alliances or licensing) of the coordination problem (Coase, 1937; Williamson, 1975). Conversely, this research stream also posits that negative growth often involves people problems and that dismissal of managers and other employees occur in a conflict-intensive organizational climate. This dismissal negatively impacts survivors' creativity and commitment (Amabile & Conti, 1999) and damages the firm's reputation (Flanagan & O'Shaughnessy, 2005). Moreover, depending on the legal form (private versus publicly listed firms) and the size of the company (SMEs versus large firms), strategic goals, such as resilience to economic cycles and long-term market stability, are perceived as more important than growth in sales or employee numbers (Linnenluecke, 2017).

Taken together, the extant research on diversification, M&As, and divestitures does not provide a clear picture regarding whether the preference for growth is justified, even if we limit ourselves to the traditional strategic management paradigm. Taking it to the extremes, we find that strategic management and its theory of the firm should remain open on whether it is growth

or the opposite, *de-growth*, that better fuels a firm's prosperity. However, such insight has not become prominent so far, at least not within the (strategic) management tradition. We return to this point below.

3.2. Sustainability

A normative point of reference for a contemporary and critically oriented theory of the firm can be provided by various guiding constructs that extend well beyond the neo-classical preference for profit maximization (and the financial performance/shareholder value orientation prevalent in strategic management). One of these constructs, which has played a special role in shaping modernity, is *progressing* (Dolter & Victor, 2017). Kirsch (1990) developed a theory of the firm that relates progress to the consideration of the needs of those directly or indirectly affected by the firm's activities. This view is also associated with an evolutionary perspective, which takes into account two elements. The first is the systematic development of specific system capabilities — the ability to act, learn, and respond to stakeholder needs. The second is the unfolding of three rationality dimensions: cognitive-instrumental, moral-practical, and aesthetic-practical rationality. Both of these elements address the core components of a firm's theory. The rationality element refers to the basic *topos* of each microeconomic theory in the (neo-)classical tradition but goes beyond economic theory's obsession only for *instrumental* reasoning (see Habermas, 1984, 1987). Meanwhile, organizational (or dynamic) capabilities belong to the core of the current strategy and organizational theorizing (Teece, Pisano, & Shuen, 1997).

Alternatively, the concept of a *common good* could serve as a reference point. For example, Felber (2015) relates firm performance, not as much to achieving competitive advantage and financial results, as to cooperation and the greatest possible contribution to the common good. The operationalization of such an approach is based on the concept of a "common good balance sheet" which can be used to measure a firm's social responsibility, ecologically sustainable economic activity, internal democracy, and solidarity with society.

Various other candidates could be discussed in the present context, such as well-being and happiness (Kahneman, Diener, & Schwarz, 1999), resilience (Linnenluecke, 2017), "purpose" (George, Haas, McGahan, Schillebeeckx, & Tracey, 2021), or "stakeholder value" (Freeman, 1984), the latter also highlighted by Alvarez et al. (2020) and Barney (2018). We refrain from this concept because it is all too often most prominently in Mitchell, Agle, and Wood's (1997) stakeholder salience concept — used with a positivist undertone, considering only those stakeholders as relevant that have a voice and enough power to put a company's management under pressure. In contrast, Scherer and Palazzo (2007) have outlined a "postpositivist", "political" CSR/stakeholder theory that is combined with a concept of "deliberative" democracy. While we see the merits of this approach, we believe that it also suffers from a number of weaknesses. First, by focusing on the positive contributions of business firms to our societal welfare, it downplays much insights from empirical research in showing

the negative impact on our societal and natural environments. Second, it relates “democracy” only to the interplay between the state, business firms, and other institutions, but does not highlight the necessity to make the organizations themselves more democratic, not only by allowing more employee codetermination (Davis, 2020) but also by turning others affected into participants (Kirsch, 1974). Finally, rooting a normative theory approach in the “humanities” (Scherer & Palazzo, 2007, p. 1007) oversees that nature (animals, plants) may have their own standing as moral subjects and are not only instrumental for human beings living in the “Anthropocene” (Merchant, 2020).

Against this background, and closely related to the common good construct mentioned above, the concept of *sustainability* is another point of reference, and this is the one we highlight in our proposed framework. In strategic management, this term is well established: the resource-based approach has always focused on achieving *sustainable* competitive advantages (Bansal & DesJardine, 2014). In the current sustainability discourse, however, the concept of sustainability (as well as of resources) tends to have a different meaning: it focuses on addressing, relating, and measuring the economic, ecological, and social aspects of performance. The social aspects refer to the concept of CSR (corporate *social* responsibility) that has been highlighted, although with a critical undertone, also by Friedman (1970, see above). In a comprehensive literature review, Bansal and Song (2017) discussed the overlaps, but also the differences between the concepts of sustainability and CSR. In fact, the literature treats both concepts as largely synonymous, but it can also be argued that CSR refers to the moral and ethical orientation, whereas sustainability refers to the empirical (and often chaotic) consequences of an action and exemplifies complexity science (Gleick, 1997).

However, this distinction does not exclude that sustainability has its own moral roots. Bansal (2019) refers to the well-known definition given by the United Nations’ Brundtland commission that sustainable development is a development that “meets the needs for present generations without compromising the needs for future generations” (WCED, 1987), considering *social equity* as a “normative outcome” (Bansal, 2019, p. 9). We see this as an attractive value statement due to the United Nations’ global authority and the acceptance that the United Nations’ 17 global development goals, formulated in 2015, have found in the many companies that now structure their sustainability reporting around these goals. Complementary frames of reference have been proposed under the headings of the “doughnut economy” (Raworth, 2017) and “planetary boundaries” (Rockström et al., 2009), and once more gain their authority from the fact that they tie in with the development goals of the United Nations in their ecological, social, and economic dimensions, and are produced and disseminated by institutions such as UNESCO and the OECD (Leach, Raworth, & Rockström, 2013).

From the theory of the firm’s perspective, an important question that has been extensively discussed within strategic management is whether sustainability, as well as CSR, is positively or negatively related to financial performance. A positive relationship would confirm that there is a “business case” for sustainability or CSR and

financial performance (Carroll & Shabana, 2010), as has been prominently suggested by Porter and Kramer (2011) with their “shared value” concept. Meta-analyses (e.g., Wang, Dou, & Jia, 2016) have confirmed that there is, on average, a weak positive correlation between the two variables. However, a recent study by Awaysheh, Heron, Perry, and Wilson (2020) states that extant research has, at best, produced mixed results and that this applies to both causal directions — whether corporate social performance leads to better financial performance or vice versa. Their own study finds that there is no significant relationship between operating performance and CSR categories, when controlling for endogeneity; however, best-in-class firms receive higher relative market valuations than their industry peers.

To a certain degree, this result supports the profit maximization/financial performance orientation hypothesis of the classical theory of the firm. However, given the “grand challenges” mentioned above, questions remain open why firms in many cases, do *not* do what is to their own advantage and why they, for example, tend to trivialize the climate change problem as the “new normal” of their business environment (Ansari, Wijen, & Gray, 2013; Wright & Nyberg, 2017). In other words, the normative power of the profit maximization hypothesis or striving for the best possible financial results is not sufficient to adequately guide companies as well as theoretical empirical research. As a target criterion, economic sustainability does indeed need to be enriched by social and ecological aspects, the other elements of sustainability.

3.3. Digitalization

Digitalization is a dominant theme of our time; this can hardly be disputed and has already been highlighted above. In strategic management, Porter and Heppelmann (2014) showed how smart, connected products change the foundations of competition and force companies to make organizational and strategic changes (for an overview of the literature, see Hanelt, Bohnsack, Marz, and Marante, 2020). Various case studies from the Harvard Business School — for example, Siemens, General Electric, and Axel Springer — have recorded the pressure on companies to change and the pathways they can follow.

The organizational change includes not only setting up new functions or positions, such as a chief digitalization officer (Singh, Klärner, & Hess, 2020) but also involves a comprehensive *cultural change* (Hemerling, Kilmann, Danoesastro, Stutts, & Ahern, 2018). Recent studies on AI follow the same direction: Iansiti and Lakhani (2020) state that “AI is becoming the new operational foundation of business — the core of a company’s operating model, defining how the company drives the execution of tasks. AI is not only displacing human activity, but it is also changing the very concept of the firm” (p. 3), that is, “[c]ulture, capabilities, processes, and systems” (p. 108).

All these constructs refer not only to the boundary question but also to new concepts of intra-organizational development, such as agile work or holocratic organizations (e.g., Robertson, 2015). Furthermore, they refer to the need to disrupt business areas and marketing strategies in response

to the emergence of digital platforms, cloud services, and new business models for open-source software (Srniczek, 2017).

In sum, it seems safe to say that digitalization needs to be considered in the context of a theory of the firm, not so much as a goal in itself but as a critical lever to, achieve or not to achieve, the normative reflection points that define the two other cornerstones of our framework: (de-)growth and sustainability. This will become even clearer after presenting the above as a brief characterization of the cornerstones of what we consider to be a contemporary (and critical) theory of the firm, as well as selected research results on these elements, and proceed to the crucial question on how these elements or “cornerstones” are linked with each other (Figure 1).

3.4. (De-)growth and sustainability

Although some of the research results presented above may lead to different or conflicting conclusions, growth is a key concept in the theory of the firm in strategic management, in line with the seminal book by Penrose (1959). However, as the famous report to the Club of Rome (Meadows, Meadows, Randers, & Behrens, 1972) highlighted in the 1970s, and as Odum and Odum (2001), Victor (2008), and Jackson (2017) prominently elaborated further, growth can be a problematic reference point, if it leads to the exploitation of our planet’s scarce resources and to the disadvantage of future generations. There are several concepts that are still growth-oriented but aim at re-defining the core construct as “green” or “sustainable” growth (Bowen & Hepburn, 2014), often discussed now under the “circular economy” umbrella (Murray, Skene, & Haynes, 2017). Conversely, there are concepts that consider such modifications to be eyewash and can only imagine the observance of planetary boundaries within the framework of “de-growth” (Kallis et al., 2018).

Most of these concepts are macro-economically oriented, barely conveying any insights into how they can be translated to the firm level. Can we imagine companies that are not growing, and what does that mean for their strategic direction and success? What skills or capabilities would such companies have to possess? What would sustainable, non-growth-related business models look like? What consequences would a conscious lack of growth orientation have on employment opportunities and the motivation and educational needs of employees?

Answering such questions — which are related to ecological and social sustainability — offers, *inter alia*, opportunities to build links to the labor- (instead of shareholder value) oriented theory developed by the German trade unions in the 1970s, the abovementioned concept of a progress-oriented organization (Kirsch, 1990) from the 1980s/1990s, and the recent empirical research on diversification, M&As, and divestitures (see above). However, the link between sustainability and the (de-)growth theme could also enter new territories, both theoretical and empirical. For example, Faller (2016) hypothesizes and confirms empirically, that sustainability/CSR engagement makes firms more likely to engage as bidders and also more likely to be selected as targets due to legitimacy advantages and

positive reputation effects, and that both rationales can be combined: acquiring companies with high levels of CSR engagement aim for target firms that also prove to engage in CSR. As a second example, in his study on circular business models, Hofmann (2019) calls for research to answer the question “of how to handle the sharply rising complexity and hence [the] transaction costs associated with close collaboration in global fragmented and dispersed value creation networks” (p. 371). Hofmann offers “[s]hortening and downsizing value circles through the regionalization of value creation and delivery infrastructure as one possible solution” (ibid.), which is in agreement with the recommendations given by Paech (2012) for companies “on the road to a post-growth society” (subtitle).

3.5. (De-)growth and digitalization

From a competitive strategy viewpoint (Porter & Heppelman, 2014), digitalization offers a wide range of growth opportunities — a firm can simply offer attractive products preferred by digitalization-savvy customers. For example, media companies can hardly score points with print products anymore, as seen in the Axel Springer case (Burgelman, Siegel, & Luther, 2014; Burgelman, Siegel, & Kissick, 2016). A company has to completely transform its DNA if it wants to remain competitive. Therefore, Axel Springer sent its entire management team to Silicon Valley to stimulate cultural change within the company (Axel Springer, 2013). The organization of Silicon Valley, as the digitalization stronghold par excellence, could be taken as a blueprint for company restructuring (Keese, 2016), an idea that Hamel (1999) propagated at the zenith of the dot-com wave. The obvious challenge is to increase the agility and innovative capacity of employees and managers (Kane, Palmer, Philips, & Kiron, 2015) and secure pioneering advantages in digital markets (Brynjolfsson & McAfee, 2014). Accordingly, companies such as Siemens have recently expanded their corporate venture activities, which had been reduced after the financial crisis of 2008/9, with a special emphasis not only on Silicon Valley but also on Israel — another hotspot for digital start-ups (Yin, 2017).

These observations suggest that digitalization implies networking with other companies and building an ecosystem of different partners (Jacobides et al., 2018; Kohtamäki, Parida, Oghazi, Gebauer, & Baines, 2019). In terms of the boundaries of the firm, this means a major shift: it opens the door to “open innovation” (Chesbrough & Appleyard, 2007) and perhaps, also to “open strategy” (Luedicke, Husemann, Furnari, & Ladstaetter, 2017). Even small businesses can be part of such networks. Overall, one might conclude that an increase in digital business opportunities does not necessarily expand firm boundaries or increase its size. Instead, digitalization and the use of AI allow firms to economize on the scale, scope, and learning (due to often exponential network effects), across national borders and industries while maintaining a relatively lean physical infrastructure and a small workforce (Iansiti & Lakhani, 2020).

However, in some areas — particularly those in which services are marketed via digital platforms — digitalization may be associated with a significant

concentration of competition among few firms. Companies, such as Google, Apple, Facebook, and Amazon (GAFA) (as well as Chinese counterparts/rivals such as Baidu, Alibaba, Tencent, and Xiaomi) are dominant players in their field and must repeatedly answer antitrust courts. Digitalization is thus, a “double-edged sword” (Cusumano, Gawer, & Yoffie, 2019, Chapter 6), and the “growing up” of digital enterprises is not only an empirical question of descriptive interest in the extension of borders but has far-reaching normative implications. A theory of the firm must look at these ambivalent effects and examine their determinants.

3.6. Digitalization and sustainability

Digitalization can have a positive impact on sustainability and is a necessary component of the corresponding socio-ecological transformation of the overall economic system. Let us consider an example of the energy sector: If it switches to a decentralized supply of renewable energy, it will require smart grids and intelligent, (partially) automated controls, not only of energy networks but also increase of demand. This control is necessary so that energy users and providers can exchange necessary information for the sector to adapt demand to the fluctuating renewable energy supply. The same applies to the abovementioned concept of a circular economy. As Peter Lacy, Managing Director of Accenture Strategy, puts it, “[T]he circular economy will be a digital revolution or it will not be a revolution at all” (Lacy, 2015). He argues that first, waste can be avoided (e.g., streaming music instead of buying CDs). Second, digital technologies enable “assets that have dropped out of circulation to be introduced back into the market to earn second, third, or even fourth incomes” as well as more intensive use of resources (e.g., car-sharing). Third, they help reduce material inputs, transform manufacturing (e.g., 3D printing), and extend product lifetimes.

However, these potential benefits are at least partially offset by the associated disadvantages. In terms of environmental sustainability, the production of hardware, a requirement for all digitalization efforts, implies a significant consumption of valuable resources. Lange and Santarius (2020) cite the example of smartphones: “More than seven billion smartphones have been sold around the world in just the first ten years, having eaten up 38,000 tonnes of cobalt, 107,000 tonnes of copper, 157,000 tonnes of aluminum and thousands of tonnes of other materials during that period” (p. 14). These commodities are often extracted under harsh conditions (Downey, Bonds, & Clark, 2010). Furthermore, the power consumption of digital applications and the operation of networked devices, which already account for around 10% of the world’s electricity demand, is rapidly growing (Andrae & Edler, 2015). Additionally, e-commerce implies a significant increase in logistic services, again with severe environmental implications (Lange & Santarius, 2020).

Of course, traditional reference products (e.g., books versus e-readers) are also linked to resource consumption. Overall, it can be affirmed that the ecological advantages of digitalization, compared to those of the analog economy, are by no means automatic. A similarly balanced or unclear

picture arises when considering the social aspects of sustainability. Digital services can make our lives easier, through cashless payments, for example, but there are also significant privacy, cybersecurity, and algorithm bias problems (Cusumano et al., 2019, Chapter 6; Iansiti & Lakhani, 2020, Chapter 8). Digitalization can help reduce manual labor, but it may also contribute to job losses, even if many new jobs are created in selected areas (Brynjolfsson & McAfee, 2014). Regardless, ongoing digitalization will further boost knowledge-based companies, which will benefit knowledge workers but disadvantage less-skilled workers. Therefore, societal and intra-organizational inequality will most likely increase, an implication that has recently generated much research interest (Amis, Mair, & Munir, 2020; Bapuji, Ertug, & Shaw, 2020). These are undoubtedly aspects that need to be addressed by a contemporary, critical theory of the firm.

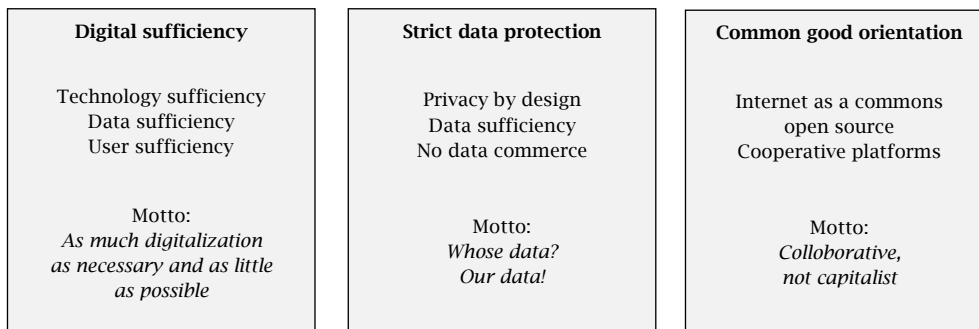
4. GUIDELINES FOR SUSTAINABLE DIGITALIZATION

The points above briefly address some of the topics that need to be integrated into a (critical) theory of the firm, developed from a strategic management perspective. Many of the findings are initially descriptive, but after incorporating them into our framework, they acquire a normative-prescriptive orientation. We believe that incorporating our empirical curiosity into such a normative-prescriptive framework opens up many fascinating research avenues. Some of these avenues focus on issues raised above, like the question of how we can translate the idea of (de-)growth or a circular economy from the national level to the firm level. But there is also a more general point.

In a thought-provoking article, Miller, Washburn, and Glick (2013) showed that in extant empirical research, the theoretical relationship between variables does not hold when it comes to operationalization, measurement of these variables, and the *dependent* variables, in particular. This will be even more applicable if we not only explore alternatives for measuring economic success (e.g., financial returns, Tobin’s Q, and growth) but also include dependent variables related to the environmental or social dimensions of sustainability. For example, it might be relatively easy to theorize about the relationship between (related and/or unrelated) diversification and financial performance, but what theoretical arguments can we offer to explain the impact of diversification on CO₂ emissions or employee satisfaction? Thus, one can conclude that the research opportunities are promising, but that the challenges are also enormous.

The normative-prescriptive orientation of the theory of the firm that we envision with our framework should not only provide avenues for future research, but also help build links with practitioners. In the following, we illustrate this claim by focusing on one specific example by providing recommendations on how companies should deal with the challenges associated with our third cornerstone: *digitalization*. We assume that these companies aim to contribute to the socio-ecological transformation needed for post-capitalism, post-growth, or a circular society (Jaeger-Erben & Hofmann, 2019). Lange and Santarius (2020) suggested three guiding principles with nine sub-principles, which are expected to lead to future-oriented digitalization strategies (Figure 2).

Figure 2. Principles of sustainable digitalization



Source: Lange and Santarius (2020, p. 107).

Firms can orient their business cases and develop products/services along all of these guiding principles. For instance, *Digital sufficiency* would guide companies to extend the lifetime of hardware as long as possible, design and/or use digital applications that require little data generation and transfer, as well as empower users by way of communication and product or service portfolio to refrain from energy- and resource-intensive lifestyles. Moreover, firms can set themselves a *Rigorous data protection* policy, which includes the highest data protection standards, as default options in their digital services and refrain from marketing user data to third parties (for more details, see Lange and Santarius, 2020). However, given the abovementioned discussion, this article particularly focuses on the right box, the *Common good orientation*, which revisits the abovementioned sustainability/CSR topic and simultaneously touches upon another core topic often seen as an essential ingredient of the theory of the firm: the ownership/property rights issue (Foss, Klein, Lien, Zellweger, & Zenger, 2020; Hart & Moore, 1990). We closely follow Lange and Santarius (2020, Chapter 5).

1. *Internet as a commons*: The Internet is a prime example of a virtual commons. The origin of a commons comes from the medieval public parish pastures, on which livestock owners of a village could feed their cattle in turns (Ostrom, 1990). In our contemporary world, there are countless examples of successful local and global commons, such as voluntary fire brigades or the oceans. The Internet has all the central characteristics of a commons: it exists only because its users have produced it themselves and continually re-create it. The content on the Internet is open to all and excludes nobody from using it. There is mostly no competition over the consumption of content and, perhaps most importantly, the Internet is not owned by anyone and can thrive best even though no individual or private interests dominates control.

However, as indicated earlier (recall “GAFA”), few parties, especially platform monopolists, attempt to colonize both the users and contents of networks for their own purposes. The Internet, therefore, faces the threat of transforming from a virtual commons, where all users (whether commercial, civic, or private) interact on an equal footing with each other, to a neo-feudalist marketplace dominated by the aforementioned individual actors (Cennamo, in press).

There is now an alarming double imbalance: there exists an imbalance between the few providers of the Internet and its mass of users, who are

increasingly being forced into the role of passive consumers. In addition, there is an imbalance between the few platforms and the mediation services that control key economic infrastructures, such as marketing and distribution channels, big data-based trend analyses, personalized advertising, and countless third-party vendors becoming increasingly dependent on these services. A theory of the firm in this context can either propagate massive up-scaling along the lines of a “winner takes all” strategy that generates (natural) monopolies, or it can elaborate on alternative business strategies that focus on the common good, at the organizational core, and help maintain the Internet as a commons. The latter approach would not only help ensure creative competition with the best possible results but also contribute to a positive digitalization-sustainability nexus since social and ecological preferences will be represented more authentically in the digital space. This authentic representation will occur if the subtle enticements of anonymous commercial bots, personalized advertising, interest-driven rankings of search results, and the impact of suggestive algorithms is prevented as much as possible, from biasing the market economy’s ideal of perfect information.

2. *Open-source*: Open-source aims to ensure that human knowledge is shared openly so that everyone benefits. Open-source programming principles have become deeply rooted in the history of digitalization and the Internet, and the organization of open-source networks has become an exciting topic in strategy and organizational research (zu Knyphausen-Aufseß & Schweizer, 2011). Some open-source applications have been successful (e.g., Linux, OpenOffice, and Firefox), though rarely market leaders. Regarding the principle of technical sufficiency in Figure 2, it can be stated that open source is an important part of ecological product design, which is promoted by the modularity of devices and the ability to repair or retrofit them. However, open source also helps promote a common good orientation to the degree that software — for example, the operating system Ubuntu, the messenger service Signal, and the office software LibreOffice — are available for free. Furthermore, open-source hardware, such as electrical appliances from Adafruit Industries or SparkFun Electronics, is often inexpensive, and almost anyone with Internet access can use them.

Open source allows one to conduct repairs and maintenance, among other things from the convenience of their home; hence, fewer services

need to be purchased from the market. Further, open source can be a starting point for developing new business models based on openly accessible designs and collective data sharing. Such models would not only contribute to a more democratic economy but also allow business models to function independently of constant growth in output or turnover. The widespread application of the open-source principle in software and hardware as well as in collective data sharing would fundamentally change the landscape of digitalization-related businesses and indeed promote a common good orientation (Felber, 2015).

3. *Cooperative platforms*: These platforms aim to enhance the fairness of decision-making and profit distribution in the digital economy. On the Internet, a monopoly is based, among other things, on network effects (Schiller, 2000). Therefore, not many small, local applications (e.g., national social networks), but rather a few global platforms such as Facebook, Google Plus, and LinkedIn tend to prevail. In some digital domains, this describes situations in which economists consider natural monopolies. In such situations, many small and scattered providers make little sense. However, the revenue and power of global platforms can be distributed more equally within society, even in the case of natural monopolies. To achieve this purpose, cooperative platforms come into play, which can take different forms. The investments in, and expenses of, cooperative platforms are borne by members, municipalities, cooperatives, or trade unions, and they can be characterized by joint ownership, democratic participation, and fair distribution of revenue (Scholz, 2016).

Wherever internet platforms emerge — and there are many areas in which natural monopolies are not expected to appear — the motto “collaborative rather than capital-accumulative” should be applied. Cooperative platforms can adopt different forms of organization, in different areas of application. For example, the sales platform Etsy was established as a socio-ecological alternative to Amazon; and Loconomics was established as a platform for service providers to offer alternatives to proprietary sites such as Taskrabbit or MyHammer. A second way to collaborate is producer platforms, like the cooperative photo service Stocksy or the streaming service Resonate. Finally, cooperative forms of organization can be established in joint efforts with unions (e.g., TransUnion Car Service and Union Taxi) or local communities (e.g., FairBnB). Digital cooperative business models would not satisfy the prevalent aspirations of a start-up that is rapidly scaled up and sold for a large sum of money to venture capital funds or major IT vendors, but they would serve the social objective of sustainability.

The reference to cooperatives and open-source networks once more suggests that a theory of the firm should not assume that economic transactions are necessarily best organized within the institutional context of firms and in the context of large, capital-market-driven companies. Following Coase's (1937) and Williamson's (1975) transaction cost theory model, the theory should remain open to alternatives. This explains the two question marks we have placed in the center element of Figure 1 above. Davis (2016) showed that the economic rationale for stock-listed public corporations may

have reached its peak and is increasingly supplemented or even substituted by other forms of organizational arrangements. Thus, the need for a socio-ecological transformation and for firm-level strategic and organizational change (or cultural change, as highlighted above in the context of the digitalization challenge) has an empirical counterpart in the ongoing development of the overall economic system.

5. CONCLUSION

This theory of the firm framework suggested in this paper does not replace the conventional considerations of the theory of the firm (with a focus on the boundary question). Instead, it complements the existing theory by carefully considering the socio-economic influences that both reflect on the complexity of increasing digitalization and recognize the abovementioned grand challenges facing our modern world (George et al., 2016). Of course, we are aware that the three cornerstones of our frame of reference are not without alternatives — there could be additional cornerstones (e.g., “democracy”), and the concept of sustainability certainly has a tendency to be used in an inflationary manner and end up meaning “all or nothing”. So, even our proposed theory has its limitations. However, it has the advantage that the frame of reference is simple enough to elaborate the crucial concern of our contribution: to point out clearly that strategic management research has to link empirical and normative aspects in a new way in order to be able to address the major challenges of our time.

In conclusion, we believe that business strategies that take these factors into account can, in the long-term, contribute to healthier competition, market stabilization (instead of a disruptive destabilization), and a reduction in transaction costs. Productive feedback loops between the mentioned dimensions provide arguments for such a hypothesis. Cooperative business models, especially when based on cooperation with customers, make business models more independent from short-term business cycles and, are more resilient while simultaneously contributing to the preservation of the Internet as a commons. The development of open-source applications increases the availability of free hardware and software and is, therefore, not only useful for building cooperative platforms but also for reducing the growing dependence of business models. Further, the greater involvement of customers and/or users in the production process contributes to achieving competitive advantages and also provides a basis for social and environmental customer preferences (the “We” highlighted in Figure 1) to prevail more easily. This, in turn, helps achieve sustainable production and consumption. Thus, a consideration of the common good orientation and sustainability in the digital age also provides a strong basis for companies to develop and renew themselves in the face of twenty-first-century challenges.

Academic research should be intellectually stimulating, but it should of course also be practically relevant, especially in times in which business firms find it difficult to develop a new strategic orientation that helps to re-adjust the fit

between “system” and “environment.” We argued in this article that to fulfill this advisory task, our “theory of the firm” is in need of a reintroduction of an engaged normative perspective with “(de-)growth” and “sustainability” as two cornerstones that help to make a constructive, albeit critical, use of digitalization — one of the two mega-trends that have a high impact of our current thinking and activities — the other one being (de-)globalization.

However, reintroducing such a normative perspective is, in our view, not only a necessity in the light of the “grand challenges” we have to address, but also an opportunity for many new research avenues, especially in the strategic management discipline. As we have explained above, in connection with diversification and M&A activities, for example, the question arises as to what impact these have on the sustainability position of companies and how the probability of appearing as a bidder or being selected as a target company is influenced by sustainability considerations. With regard to digitalization processes, Adner, Puranam, and Zhu (2019) state that they “will continue to push

firms in all industries to create and capture value differently, develop new business models and ecosystems, manage new forms of intellectual property, grow scale and scope differently, and create new opportunities and challenges for organization design and management practices. Digital transformation undoubtedly offers exciting times ahead for strategy researchers” (p. 260). This will be even more the case if the research is not interested in building new competitive advantages, as is primarily the case with these authors, but also critically reflects on the consequences in terms of (de-)growth and sustainability. As mentioned above, Miller et al. (2013) have pointed out that focusing on new dependent variables also requires rethinking theoretical explanatory models. But the measurement problems associated with these variables also pose new challenges for theoretical and empirical research, as does the question of how to link the more philosophically oriented ethical and legal aspects to this research. Indeed — exciting times ahead for strategy and organization researchers.

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