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An attention-based view of short-termism

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**AN ATTENTION-BASED VIEW OF SHORT-TERMISM:
THE EFFECTS OF ORGANIZATIONAL STRUCTURE**

ABSTRACT

Debates about short-termism in business tend to center around the role of shareholder pressures and managers' incentives, while the role of organizational structure remains understudied. In our paper, we adopt an attention-based lens to elucidate the role of organizational structure in directing the attention of management towards pressures for short-term results at the expense of the long term. Specifically, we argue that greater operational scale, hierarchy, bureaucracy, and workforce flexibility reduce slack resources available to senior managers and increase the complexity of information presented to them in different ways. As a result, the senior managers shift their attention to short-term pressures, which are more easily understood, at the expense of attention for long-term considerations. Analysis based on a survey of senior managers in 3,221 private firms in the Netherlands provides support for our arguments.

INTRODUCTION

'It's easy to be a short-term hero. [...] But the goal for this company – and it's very difficult to do – the goal is to follow a four or five-year process.' – Paul Polman, CEO Unilever, *Financial Times*, April 5th, 2010

This quote illustrates the importance of intertemporal choices in management practice, such as between allocating resources to immediate concerns or using them to make investments that are expected to generate returns over the long term (Benner, 2010; Garcia-Castro, Arino, and Canela, 2011; Matta and Beamish, 2008). A growing body of evidence suggests a prevalence of 'short-termism' in business (Barton and Wiseman, 2014: 48), whereby managers prioritize investments that boost short-term results at the expense of long-term investments (Graham, Harvey and Rajgopal, 2005; Souder, Reilly, Bromiley and Mitchell, 2016). Short-termism not only has potentially important consequences for shareholders (Souder et al., 2016) but also for the firm itself, in terms of organizational performance, team functioning, and competitive behavior (Bakker, Boros, Kenis, and Oerlemans, 2013; Hughes-Morgan and Ferrier, 2017).

As such, an important stream of literature has focused on explaining managers' temporal orientation (Lavery, 1996), defined as 'the relative cognitive dominance of the near versus distant future' (Reilly, Souder and Ranucci, 2016: 1172). While some research emphasizes individual-level dispositional traits (Nadkarni and Chen, 2014; Shipp, Edwards and Lambert, 2009), most studies focus on the role of situational or contextual features that shape managers' temporal orientation. In particular, pressures from shareholders and financial incentive structures have been shown to shift managers' focus towards the short-term (Asker, Farre-Mensa and Ljungqvist, 2015; Flammer and Bansal, 2017; Gopalan, Milbourn, Song and Thakor, 2014; Souder and Bromiley, 2012; Souder and Shaver, 2010; Thanassoulis and Somekh, 2016; Zhang and Gimeno, 2016). This is because failure to meet analysts' earnings expectations can cause their firms' valuations to suffer, leading managers

to look for options to prop up share prices in the short-term (Bartov, Givoly and Hayn, 2002; Bhojraj, Hribar, Picconi and McInnis, 2009). While generating important insights, this overt focus on shareholders and corporate governance reveals little about organization-level (internal) antecedents of short-termism (Lavery, 1996; Miller, Le Breton-Miller and Scholnick, 2008). In particular, the role of organizational structure has thus far been overlooked in existing research (Marginson and McAulay, 2008).

In addition, despite lack of existing research, scholars are increasingly turning to the role of managerial cognition in explaining intertemporal choices (Reilly et al., 2016).

Cognition-based perspectives emphasize that because managers have limited cognitive capabilities, their capacity to make rational decisions is bounded by the information that is available to them (Simon, 1997). In this paper, we adopt the attention-based view (Ocasio, 1997) to investigate the link between features of organizational structure and the temporal orientation of managers. The attention-based view (ABV) is a meta-theoretical perspective that describes organizations and their structures as systems of distributed attention (Joseph and Ocasio, 2012), whereby attention is defined as ‘the noticing, encoding, interpreting, and focusing of time and effort by organizational decision makers’ on issues and answers’ (Ocasio, 1997: 189). Existing research has already demonstrated the important role senior managers’ attention patterns play in strategy formulation (Cho and Hambrick, 2006; Levy, 2005; Ocasio and Joseph, 2005) and corporate entrepreneurship (Bouquet and Birkinshaw, 2008; Monteiro, 2015; Ren and Guo, 2011). The ABV may therefore be a useful lens to understand how organizational structure shapes senior managers’ temporal orientation (Lavery, 1996; Marginson and McAulay, 2008).

Ocasio (1997) states that focus of attention of senior managers is linked with the context in which they are present. Hence, in line with ABV, we will link organizational structure with the attention structure to understand its impact on the focus of attention of

senior managers, in terms of their intertemporal choices (cf. Joseph and Wilson, 2018). We conceptualize organizational structure as how different tasks, roles, and responsibilities are divided, managed, and integrated across the different parts of the organization (Greenberg, 2011). This has an impact on the information flows, distribution of resources, and the roles and responsibilities of different employees in the organization, which in turn shape how and where senior managers allocate their attention (Ocasio and Joseph, 2012; Joseph and Wilson, 2018). We theorize on the effects of four features of organizational structure that we expect will steer managers' attention towards the short term: operational scale, management bureaucracy, hierarchy, and workforce flexibility.

To test our hypotheses, we collected the data through a survey of senior managers of 3,221 private firms in the Netherlands. We study private firms as they provide an ideal empirical setting for investigating the effects of organizational structure on managers' perceptions of time pressure because private firms do not face any pressures from shareholders to prioritize short-term financial gains over long-term growth (Bhojraj, Hribar, Picconi, and McInnis, 2009; Kasznik and McNichols, 2002). Analysis of our data reveals that short-termism is associated with features of the organization itself, in particular operational scale and hierarchy. In so doing, we show how cognitive mechanisms that explain the temporal orientation of senior managers are shaped by the characteristics of organizational structure in accordance with the ABV (Ocasio, 1997; 2011).

THE ATTENTION BASED VIEW OF THE FIRM

Cognitive psychology research on attention since early 1900s has focused on how the human mind interprets and processes stimuli (Posner and Boies, 1971). The ABV, introduced in 1997 by William Ocasio, departs from this purely cognitive view on attention to take a structural view on attention (also see Elsbach, Barr, and Hargadon, 2005). This means that attention decisions of senior managers depend on the context in which they are present. The

context includes the attention structure at the organization-level and the communication channels through which the senior managers obtain information about the environment (Ocasio, 1997; 2011).

Attention structure relates to the broad term for the ‘social, economic, and cultural structures’ (Ocasio, 1997: 195) present within a company. Attention structure impacts the design and functioning of the communication channels, while it also shapes the focus of attention, i.e. the issues that actually get attention, as senior managers have to be selective in their attention allocation decisions (Cyert and March, 1963). Attention structure consists of four inter-related factors: rules of the game, players, structural positions, and resources. Rules of the game are an integral part of the attention structure and include the ‘formal and informal principles of action, interaction, and interpretation’ (Ocasio, 1997: 196) that govern the behavior of players or employees: defining what is considered acceptable within the organization and what the players or employees are not allowed to do. Senior managers are the most central player in the organization as they are involved in strategic decision making (Hambrick and Mason, 1984). The social identity, role, and authority given to a player in the organization is labelled as structural position. Finally, resources are assets possessed by an organization that enable it to perform business operations and can serve as a competitive advantage.

Communication channels are the mediums through which senior managers interact with other employees within the organization. These mediums include formal meetings and informal interactions that take place through different modes, such as face-to-face conversations or via e-mail (Ocasio and Joseph, 2005; Joseph and Ocasio, 2012). In addition, senior managers can obtain company documents through these channels that help them obtain information about the changes in the environment (Ocasio, 1997). In addition, these channels give senior managers the opportunity to interact frequently with employees and get

themselves acquainted with the business operations, thereby enabling senior managers to have a better understanding of the resources and capabilities possessed by the company (cf. Ren and Guo, 2011; Vuori and Huy, 2016). Senior managers can engage in detailed discussions about the environment and contest ideas by participating in these channels on how they can effectively capitalize upon opportunities and tackle the threats being faced by the company in line with the available resources and capabilities (Ocasio, Laamanen, and Vaara, 2018; Yu, Engleman, van de Ven, 2005).

The ABV combines both top-down (schema-driven) and bottom-up (stimulus-driven) attention (Ocasio, 2011). Top-down attention primarily has links with traditional attention research in cognitive psychology. Cognitive schemas of senior managers help them interpret and categorize information; these schemas are shaped by their own knowledge and experiences (Dutton and Jackson, 1987). Senior managers scan the environment on their own and use communication channels within the organization to search for relevant information about the environment (Li, Maggitti, Smith, and Tesluk, 2013). Attention decisions are based on the cognitive schemas of senior managers: they identify and act upon information received from the environment in accordance with their existing knowledge. In simple terms, this means that senior managers give more attention to issues that they can easily understand and interpret (Monteiro, 2015). For example, senior managers with a R&D background tend to give more attention to innovation relation issues as compared to senior managers with a background in manufacturing or finance (Kwee, van den Bosch, and Volberda, 2011).

Employees within the company and external stakeholders (such as customers) can demand attention of senior managers for the issues or information that they think should be considered and given due importance (Bouquet and Birkinshaw, 2008). This is labelled as bottom-up or stimuli driven attention. For example, customers can share suggestions for alterations in existing products or give ideas for new products which can be offered by an

organization (Khanagha, Volberda, and Oshri, 2017). These stimuli from players within the company and external actors serve as an additional source of information about the environment and business operations, so this can often lead to information overload for the senior managers. In this scenario, senior managers have the tendency to give attention to only those stimuli that support their own intentions or plans. Attention is a limited resource, so senior managers are unable to invest time and effort in interpreting and acting upon novel issues and solutions (Haas, Crisuolo, and Geroge, 2015; Piezunka and Dahlander, 2015). Senior managers can only properly understand and act upon bottom-up stimuli if they have slack attentional resources. They can utilize the slack time and resources in understanding the specific issues or information provided in more detail and later on take appropriate action (cf. Barnett, 2008).

SENIOR MANAGERS AND TEMPORAL ORIENTATION

Intertemporal choices involve tradeoffs between short-term and long-term objectives. Investing in a promising long-term project, for instance, excludes the option to use the invested resources for short-term objectives, such as boosting sales through increased advertising. Traditional perspectives suggest that such tradeoffs can be resolved by comparing the net present value of each strategic alternative, which is equal to the sum of the associated current and (discounted) future cash flows (Fisher, 1907; 1930; Samuelson, 1937): the strategic option with the highest net present value gains priority over alternatives. Yet, studies of intertemporal decision-making in practice typically find anomalies (Graham et al., 2005). For instance, evidence shows that the investment horizons of publicly traded firms are typically shorter than those associated with the highest levels of performance (Souder et al., 2016). This suggests that senior managers systematically deviate from making optimal intertemporal choices and give greater preference to short-term objectives over long term ones (Slawinski and Bansal, 2015).

This preference for short-termism can be explained by research on managerial cognition. Attention of senior managers is a scarce resource, meaning that managers cannot give attention to all the tasks and the information they receive. They need to be selective about where to give attention and which issues or tasks to ignore (Cyert and March, 1963; Ocasio, 1997). In addition, senior managers have limited cognitive abilities: their capacity to make decisions is bounded by the information that is available to them and how they can process or interpret it (Simon, 1997). In general, senior managers are in a position within the company where they have to deal with multiple tasks and obtain a lot of information about the company and the broader environment, normally in excess of what they can deal with. Hence, when senior managers are overburdened with tasks and information, they have the tendency to seek greater control and certainty in their decision-making, especially when the information they receive is complex and difficult to comprehend (Dearborn and Simon, 1958; Walsh, 1988).

Senior managers often lack adequate knowledge about the business operations of the company. Denrell, Arvidsson, and Zander (2004), for instance, show that senior managers lack knowledge of the resources and capabilities possessed by the different administrative units located within the company, thus raising concerns about the ability of the senior managers to develop corporate-level strategies. In addition, senior managers have been criticized for making strategic decisions only to exhibit or signal their superior hierarchical position in the company, even in scenarios where they lack knowledge and expertise to properly evaluate the options and make the right decision (Ciabuschi, Forsgren, and Martin Martin, 2011). This paucity of knowledge is a product of the lack of communication with managers and employees at lower levels (especially middle managers), who are more involved in the business operations and can make better assessments of the resources needed (cf. Vuori and Huy, 2016).

Longer-term plans and objectives require in-depth knowledge of the business operations of the company and the environment. Senior managers need to be able predict the changes in the environment in the long-term and be confident that the company has (or can develop) resources and capabilities which can effectively deal with the threats and opportunities that might arise in the future (Hamel and Prahalad, 1993). When senior managers lack the relevant knowledge required to set long-term objectives, they are apprehensive about making uncertain and risky plans. Consequently, senior managers prefer short-term objectives because the financial implications of these decisions can easily be predicted (Slawinski and Bansal, 2015). This is line with attention research which shows that senior managers give greater attention to issues that they are comfortable and confident in interpreting and acting upon, rather than being risk taking and searching for novel solutions (e.g. see Piezunka and Dahlander, 2015, Monteiro, 2015). In the case of Nokia, Vuori and Hoy (2016) highlight that when senior managers lack knowledge of business operations due to the absence of communication with middle managers, they are more likely to focus their attention on short-term product innovation at the expense of long-term innovation development. The senior managers make decisions based on their existing schemas, as they are unable to give attention to bottom-up stimuli from the middle managers.

ORGANIZATIONAL STRUCTURE AND TEMPORAL ORIENTATION

Organizations are normally divided in departments such as marketing, finance, and human resources, with each department being responsible for separate tasks and having the authority to make decisions for their own respective domains. Senior managers are responsible for formulating the strategies that offer guidance on how these different functions operate and co-ordinate their activities (Chandler, 1962; Mintzberg, 1992). In addition, senior manager identify specific issues of strategic importance for the company and channel the attention of the entire organization towards a particular direction (Wilson and Joseph, 2015). The

different departments then distribute their attention across multiple aspects of the environment: primarily viewing those issues from their own perspectives and providing senior managers with the relevant information about the environment in order to formulate effective strategies. At the same time, they give their own input on how those issues can be addressed in line with their own resources and capabilities (Rerup, 2009).

With respect to the ABV, we link organizational structure with attention structure, which has an impact on the focus of attention of senior managers, i.e. the preference for short-term over long-term objectives and vice-versa. We have selected four factors of organizational structure: scale, management bureaucracy, hierarchy, and workforce flexibility, for this study. Scale and management bureaucracy are associated with rules of the game component of attention structure. These two factors have an impact on the way in which the organizations operate and are managed. For instance, increase in scale of operations is associated with greater specialization of the organization on the lines of tasks, products, and services (Lawrence and Lorsch, 1967), while increase in management bureaucracy is affiliated with greater demands for control and co-ordination of the different employees and business divisions (Adler and Borys, 1996). Furthermore, hierarchy is linked with how much decision-making power is given to players, such as senior managers (Weber, 2009), while workforce flexibility deals with how an organization manages its human resources to cope effectively with changes in the environment (Chatwani, 2019).

On the whole, organizational structure has an impact on the attention load and the nature of information that is received by senior managers from employees and units within the company. Organizational structure can regulate the quantity of information and issues that reach the senior managers, hence impacting the attention load of senior managers. For example, decentralization of decision-making can reduce the demand for attention and potentially increase the slack attention available to senior managers (cf. Brock and Yaniv,

2007; Crilly and Sloan, 2014). In addition, organizational structure has an impact on the nature of information that is received by senior managers, either increasing or decreasing the complexity of the information. For example, an increase in product specialization can enhance complexity, as senior managers may lack knowledge about the business operations of these specialized units, thus making it challenging to effectively comprehend and act upon the information they receive (Joseph and Wilson, 2018). The four features of organizational structure we theorize on here impact the attention load and/or complexity of information presented to the senior managers in different ways. We address each of these factors separately in the following sub-sections.

Operational Scale

Companies greatly vary in terms of their operational scale: some operate from a single facility with a few dozen employees, while others employ thousands of people spread across multiple facilities. Company operations tend to expand when their business is characterized by increasing returns to scale. In this case, extending the scale of their operations will reduce marginal costs, which helps to keep prices down. Such returns to scale may, for instance, result from being able to spread fixed production costs over a larger volume of output, but may also result from increasing market power, enabling firms to acquire inputs at a better price or to sell outputs at a higher price. Hence, increasing operational scale is often associated with positive outcomes, i.e. increase in social and financial performance of the company (Darnall, Henriques and Sadowsky, 2010; van Dijk, 2011).

Furthermore, as companies expand their operational scale, they become more specialized: companies tend to have departments and divisions that specialize or focus their activities on a certain task, product, or service (Argyris, 1957; Lawrence and Lorsch, 1967). Hence, scale not only increases the amount of information received by the senior managers, it also adds to the complexity of the information and issues that the senior managers have to

deal with. Senior managers may then be unable to properly interpret and understand the information they receive from specialized entities, as they lack adequate knowledge about the entire spectrum of business operations of the company (cf. Simon 1997). When overburdened with information, senior managers will be unable to prioritize or give salience to bottom-up stimuli; instead they will make their attention decisions in line with their existing knowledge and expertise (Haas et al., 2015; Piezunka and Dahlander, 2015). In so doing, they will give greater priority (or attention) to short-term performance rather than long-term decisions. Preferring a sense of control as operational scale increases, the senior managers will prioritize short-term issues, which are more easily understood and managed (Slawinski and Bansal, 2015).

In contrast, companies with a smaller operational scale afford senior managers more slack resources to shift their attention away from short-term issues. They can for instance discuss and work closely with relevant actors or players present within and outside the domain of the company to pursue long-term investments (cf. Barnett, 2008; Rhee and Leonardi, 2018). Rather than relying solely on the information provided to the senior managers by the functional managers and taking it at face value, the senior managers can use the slack resources to engage in a discussion with functional managers to evaluate the operational feasibility and strategic value of the information being provided and make the appropriate decision (cf. Peeters, Massini, and Lewin, 2014; Shepherd, McMullen, and Ocasio, 2017). This enables the senior managers to get a better understanding of the information being presented to them and give adequate attention to bottom-up stimuli, thus reducing the likelihood of them rejecting the information, merely because it does not conform to their existing knowledge and expertise (Dearborn and Simon, 1958; Walsh, 1988). This leads to the following hypothesis:

Hypothesis 1: The greater the company's operational scale, the more senior managers will focus their attention on short-term performance.

Management Bureaucracy

As companies divide tasks among various people, they need a system to ensure that all members of the company are efficiently fulfilling their tasks. This often requires companies to have administrative control mechanisms and hire managers that coordinate the processes and supervise the work done by their subordinates. We refer to this phenomenon as management bureaucracy (Kleinknecht, Kwee, and Budyanto, 2016). Management bureaucracy is likely to increase when the firm's primary activities are particularly complex and require extensive co-ordination. A possible risk of having more bureaucracy is that it may lead to more formalized decision-making at the senior management level (Adler and Borys, 1996).

In highly bureaucratic organizations, senior managers are more likely to interact and communicate with managers who are involved in administrative activities, rather than with managers that are more closely involved with the business operations of the companies (Ocasio and Joseph, 2005). Given managers' limited attention capabilities (Simon, 1997), this means that attention of senior managers increases towards administrative activities (i.e. mainly control and co-ordination) at the expense of attention towards the primary business operations of the company. Consequently, these control and co-ordination mechanisms reduce the knowledge possessed by senior managers about the business operations of the company. They create a sense of unfamiliarity that senior managers experience in relation to specific sets of issues (and answers) that they do not interact with frequently (Nooteboom, van Haverbeke, Duysters, Gilsing, and van den Oord, 2007). Senior managers lack an in-depth understanding of the resources and capabilities those operations depend on, which are typically key to the firm's long-term competitive advantage and rely heavily on tacit

knowledge (Dierickx and Cool, 1989; Lecuona and Reitzig, 2014; Peteraf, 1993). For example, due to these control mechanisms, senior managers at the headquarters of organizations with multiple administrative units have to rely on financial information presented to them by the managers of these units to make their attention decisions, rather than having an understanding of the operational context in which these financial numbers were achieved by the different units (cf. Mudambi, 1999).

On the whole, high levels of management bureaucracy compel senior managers to make their attention decisions based on their existing schemas, as they do not have the slack resources to engage in additional environmental scanning or properly evaluating the bottom-up stimuli from employees (cf. Peeters et al., 2014; Shepherd et al., 2017; Yaniv and Brock, 2008). In this situation, the senior managers would prefer to focus their attention on issues they feel they are better able to control, such as actions that increase short-term performance and whose payoffs are more easily quantified (Slawinski and Bansal, 2015). We hypothesize as follows:

Hypothesis 2: The greater the management bureaucracy, the more senior managers will focus their attention on short-term performance.

Hierarchy

Organizations consist of groups of people that work on a collective goal. In order to coordinate activities, they typically create a form of hierarchy, in which people report to a superior. Such hierarchies originate from the need to supervise workers and the limited time and attention available to each individual manager for such supervision. The senior managers can delegate the decisions of lesser importance to subordinates, who may delegate decisions further down the chain to their own subordinates (Blau, 1968; Garicano, 2000), but senior managers have the ultimate authority and responsibility for all the decisions. Employees working at lower levels of the organization simply comply with the orders and directions of

the senior managers; these employees do not have the autonomy to make decisions as all the power lies in the hands of the senior managers (Weber, 2009).

In hierarchical organizations, senior managers are overburdened with tasks and decision-making responsibilities (Baum and Wally, 2003). This implies that senior managers will not have any slack attentional resources to invest in environmental scanning and properly evaluate bottom-up stimuli. In addition, hierarchical organizations are often characterized by established rules and routines (Jacobides, 2007): for example, middle managers have defined roles and are not give much voice in strategy formulation and knowledge sharing.

Consequently, middle managers would be unwilling to engage in voluntary bottom-up attention-seeking activities. Instead, they might simply perform all the activities that are obligatory and share only that information which is required or desired by the senior managers (cf. Finlay, Martin, Roman, and Blum, 1995).

Senior managers are dependent on information provided by lower managers, who act as information filters (Bower, 1986). Yet, not all information reaches top management. In particular, information that is difficult to communicate, such as tacit knowledge about the key resources and capabilities in operations, may remain limited to the lower hierarchical levels (cf. Szulanski, 1996). As a result, when senior managers are looking for opportunities to improve the firm's performance, investments that contribute to the accumulation of resources and capabilities contributing to the long-term competitive advantage may be less salient to top management than short-term performance 'fixes' as they are detached from the business operations of the company and lack knowledge about the resources and capabilities possessed by the company (cf. Crilly, 2017). Hence, we expect that managers' perception of short-term performance pressures increases with the number of hierarchical layers:

Hypothesis 3: The more hierarchical the organization, the more senior managers will focus their attention on short-term performance.

Workforce Flexibility

Organizations have a flexible workforce when they have a significant proportion of employees with temporary contracts, in comparison to employees with permanent contracts. Generally companies hire a part of their employees on temporary contracts to be in a position to respond to changes in the environment. Organizations can tackle changes in the environment by altering their human resource allocation over time. For instance, organizations can reduce their employee base when market demand slows down, hence lowering the risk that they have to pay for employees which do not have any work to do (Chatwani, 2019).

High workforce flexibility allows organizations to more quickly adapt to changes in the environment, especially when they are situated in a dynamic and competitive environment. In addition, constant changes in the human resource portfolio of the company can reduce wage costs, but research has shown that employees on temporary contracts are generally not loyal and committed to long-term goals and aspirations of the organization, especially in comparison to the employees on permanent contracts. Senior managers also do not completely trust employees on temporary contracts and are generally apprehensive of investing in their training and development (Zhou, Dekker, and Kleinknecht, 2011). As a result, these employees are unable or unwilling to actively participate in knowledge sharing and innovation driven activities; broadly meaning that they will not actively engage in bottom-up attention seeking activities (Svenson, 2011). A flexible workforce weakens the historical memory and continuity of learning, thus forcing the senior managers to frequently change goals (Lucidi and Kleinknecht, 2010; Kleinknecht, van Schaik, and Zhou, 2014).

Fear of opportunism from untrustworthy or disloyal employees requires close control and monitoring from the senior and middle managers, based on the assumption that majority of employees given temporary contracts are at the lower levels of hierarchy (Zhou et al.,

2011). Additional attention to human resource issues reduces slack resources available to senior managers for searching novel information about the environment and engaging in discussions with the middle managers or employees at lower levels of the company (cf. Barnett, 2008). In addition, a highly flexible workforce increases administrative responsibilities of middle managers, as the middle managers have to be closely involved in the recruiting, evaluation, and monitoring of the employees on temporary contracts. Middle managers can thus find it challenging to effectively perform their role as a mediator between the lower and senior level managers (Huy, 2002). Middle managers will also be unable to keep senior managers updated about changes in the environment and share information regularly about the business operations of the company (cf. Ren and Guo, 2011). Thus we expect that increase in workforce flexibility will compel senior manager to give more preference to short-term performance objectives in comparison with longer term ones:

Hypothesis 4: The greater the workforce flexibility, the more senior managers will focus their attention on short-term performance.

METHOD

Sample

Data was collected in conjunction with the biannual Netherlands Employers Work Survey (WEA) conducted in 2014 (van Emmerik, de Vroome, Kraan and van den Bossche, 2015). The WEA survey monitors trends and developments in personnel policies of both for-profit and not-for-profit organizations with at least two working people. It draws a sample from a Dutch establishment file (LISA), stratified by industry and organization size. The survey is a pre-existing survey and was extended with additional questions specific to this study. The data was collected in the time period ranging from October 20th, 2014 to December 31st, 2014. A representative sample of 23,833 business establishments was approached to participate in the survey. After an initial announcement letter, companies were called to

check whether they indeed had employees. If so, their managers received an e-mail with an invitation to participate in the online questionnaire (i.e. a total of 15,458 organizations were contacted).

A maximum of three reminders were sent in the six weeks after the initial call. Responses were accepted until January 16, 2015. During this period, 5,109 responses were received, resulting in a response rate of 33% (or 21.4% of the initially selected sample). In order to check for a systematic non-response bias, 175 managers that did not fill in the survey were called and asked to answer two of the survey questions. We were able to reach and get answers to these questions from 100 managers. The distribution of the answers to these questions did not differ from the answers of the group that did fill in the survey, suggesting that non-response bias does not affect our results.

The initial sample included non-profit organizations, organizations in the public sector, and organizations in highly regulated sectors such as health care, education, government, and agriculture. These type of organizations are likely to substantially differ from for-profit organizations, so we limited our analysis to the managers of for-profit firms, operating in the service and manufacturing industries (NACE-codes 1000 to 8400). This selection criterion reduced our sample to 3,221 firms, which was used to conduct the analysis. The firms in the sample on average have 91.8 employees. Table 1 provides details about the final sample.

Insert Table 1 here

The sample consists entirely of privately-owned firms. This is important not only because it allows us to avoid the context of shareholder pressures and other aspects of traditional corporate governance, but also because privately-owned firms are the predominant organizational form in the global economy. In the U.S. for instance, less than one percent of firms are publicly listed, while privately owned firms account for more than two-thirds of

total non-government employment and more than half of aggregate non-residential fixed investments (Asker et al., 2015). In the absence of shareholder pressures, managers still face important intertemporal choices, such as whether to cut costs in response to intensified competition (D'Aveni, Dagnino and Smith, 2010; Wiggins and Ruefli, 2005), or to make investments aimed at improving long-term competitive advantage, such as R&D (Marginson and McAulay, 2008; Zollo and Winter, 2002).

Dependent Variable: Perceived Short-term Performance Pressures

Scholars have used several measures of managers' short-termism. Some have asked managers to indicate the time they devote to issues that will impact financial results within particular future time periods (Abernethy, Bouwens, and Lent, 2013; Lawrence and Lorsch, 1967).

Others have used accounting data as outcome measures, such as the level of R&D investments (Asker et al., 2015; Bushee, 1998) or the horizon of capital investments (Martin, Wiseman and Gomez-Mejia, 2016; Souder et al., 2016; Souder and Shaver, 2010; Souder and Bromiley, 2012) in order to capture short-termism. In addition, some scholars have analyzed the language or the choice of words used in corporate documents to measure managers' attention towards the short-term (Brochet, Loumioti and Serafeim, 2015; Nadkarni and Chen, 2014; Nadkarni, Chen and Chen, 2016).

We measure attention to short-term pressures using a survey question that asked managers to respond to a statement reflecting perceptions of the importance of short-term performance measures (in line with Marginson and McAulay, 2008), primarily because accounting data and corporate documents of small and medium sized companies are not widely available (hence unable to be used for this purpose). We asked the respondents to indicate (on a five-point Likert scale) the extent to which they agree with the following statement: 'At my company, results need to be achieved in the short-term, even if this comes at the expense of results in the long term'. A higher score indicates more relative attention to

short-term performance. By asking managers about their perception of the extent to which short-term results need to be achieved in the company, we aim to reduce the extent to which personal beliefs about the desirability of prioritizing short-term results affect their answer. Even though we relate the question to the context in which the respondent operates, we treat the answer as an indicator of the individual managers' perception of short-term pressures rather than as an indicator of the corporate culture because managers' perceptions of short-term performance pressures within companies may vary, e.g., based on their functional roles (Marginson and McAulay, 2008).

The question was pre-tested in interviews and a survey among 383 managers participating in a yearly business event in the Netherlands to verify that respondents interpreted the question as intended. The qualitative responses during the interview and the examples provided in the survey's open question, as well as the normal distributions of the responses to the statement, indicated that the question serves as a reliable indicator of the perceived short-term performance pressures.

Independent Variables

Operational scale is measured by the number of employees in the firm (Pugh and Hickson, 1976). In addition, *hierarchy* represents the vertical dimension of organizational structure and is defined as the number of positions between the CEO and the most junior position in the firm (Rajan and Wulf, 2006). Hierarchy is measured on a six-point scale in which 1 to 5 indicates the respective number of hierarchical levels in the organization and 6 indicates six or more hierarchical levels. We operationalize *management bureaucracy* as the percentage of the firm's employees that belong to management staff (Kleinknecht et al., 2016). Finally, firms in the Netherlands have various ways to hire employees on a flexible basis, including giving employees a temporary contract, hiring employees via an employment agency, or outsourcing work to freelancers/independent contractors. We asked firms about the total

number of full-time equivalent workers and how many of them have permanent contracts. The variable *workforce flexibility* is calculated based on these two questions, equaling the number of employees on temporary contracts as a percentage of total employees (Zhou et al., 2011).

Control Variables

Souder and Shaver (2010) find that managers' attention to the short-term may increase as a result of relatively poor past performance. We therefore include a dummy variable indicating *decreased productivity*, which equals one when the respondent indicated that labor productivity '(strongly) declined' over the past two years (as opposed to '(strongly) grew' or 'remained the same'). As this question was asked in the same section of the survey as our dependent variable, it may be subject to common method bias. In accordance with the guidelines to reduce the risk of such bias (Podsakoff, MacKenzie, Lee and Podsakoff, 2003), different scale anchors were used and the order of the five-point Likert scale was reversed (strongly reduced to strongly increased) compared to the question about short-term performance pressures (totally disagree to totally agree). Furthermore, we included the question about labor productivity rather than about profits in order to reduce the extent to which respondents associate the two questions which each other.

We also include a dummy variable indicating that a firm is *foreign owned*, as past research shows that foreign owners tend to focus more on the short-term (Dill, Jirjahn and Smith, 2016), which is probably related to information disadvantages concerning the local environment (Bae, Stulz and Tan, 2008; Kang and Kim, 2010). The dummy variable is equal to one when the respondent indicated that the organization is (a subsidiary of) an international company. Furthermore, we control for the function of the respondent (*CEO, HRM manager, Subsidiary manager* or *Other*) as the perception of short-term performance pressures may differ across organizational roles (Marginson and McAulay, 2008). Most of the respondents

are CEOs. Other respondents were primarily human resource managers or subsidiary managers.

Finally, we control for the *industry* in which a company is active, by including dummies indicating the industry at two-digit NACE level. We merged several industries in order to have sufficient observations per category. In particular, we merged the manufacturing industries with low numbers of observations into three main categories, using the cumulativeness classification as developed by Peneder (2010). This cumulative index measures the degree to which ‘a firm’s ability to create new knowledge depends on the stock of knowledge it has already acquired’ (Peneder, 2010: 327).

RESULTS

We tested our hypotheses using an ordinal regression analysis because the dependent variable is measured on a five-point Likert scale. The proportional odds test, testing the null hypothesis stating that the relationship between all pairs of groups is the same, turned out to be insignificant (Chi-square = 99.631). Hence, indicating that the ordinal regression model is the right model to use in this case (Hutcheson and Moutinho, 2008).

Table 2 presents some descriptive statistics and the correlations among the main variables included in the study. The mean value of 2.70 and standard deviation of 1.04 of the dependent variable indicates that respondents tend to slightly disagree with the statement that they focus on the short-term, although there is reasonable variance (see Figure 1). Table 2 also reveals significant positive as well as negative correlations between the perceived short-term performance pressures and several of the explanatory and control variables. In addition, we find significant correlations among some of the explanatory variables themselves, such as among operational scale and hierarchy. The relatively low correlations, however, indicate that the instruments used capture different dimensions of organizational structure.

Insert Table 2 and Figure 1 here

We report the regression results in Table 3. The first model, in which we report the results for our control variables, shows that perceived short-term performance pressures are higher in companies in which labor productivity declined over the past two years, in line with past research (Souder and Shaver, 2010). We also find some evidence for the idea that foreign-owned firms exhibit greater attention towards short-term performance measures (Dill et al., 2016). Finally, we find that the function of the respondent is also associated with the extent to which short-term performance pressures are perceived: CEOs tend to perceive less short-term pressures than other managers, while managers of subsidiaries face greater pressures and thus give greater attention to short-term performance measures (Jaques, 1990).

Insert Table 3 here

With respect to our hypotheses, we find positive and statistically strong support for hypotheses 1 and 3, indicating that managers in companies with a larger operational scale and more hierarchy give greater attention towards short-term performance. Furthermore, we find support for hypotheses 2 and 4, which proposed that management bureaucracy and workforce flexibility is associated with higher attention towards short-term performance, albeit at weaker significance levels. In general, except for the effects of management bureaucracy, these statistical effects are also sizable in real terms: on average, a one standard deviation in operational scale, hierarchy, bureaucracy and workforce flexibility shifts the perception of short-term performance pressures with 0.2, 0.2, 0.07 and 0.06 points on the five-point Likert scale, respectively. Jointly, the one standard deviation lows and highs of these structural measures account for a difference of more than 1 point on the five-point Likert scale. As the companies in the sample vary in terms of operational scale, we tested the robustness of the results by estimating the same model for two different threshold levels of operational scale: firms with over 50 employees, and firms with over 10 employees. The results, available upon

request, are quantitatively similar to the main results, indicating that our findings are robust to differences in organizational scale.

CONCLUSION

Theoretical Contribution

In this paper, we took an attention-based perspective to theorize that features of organizational structure affect managers' perceptions of short-term performance pressures by determining the information managers attend to when making strategic decisions (Ocasio, 1997; Simon, 1997). Because short-term results are more easily observed and communicated than potential long-term results, managers are more likely to focus on the short-term when structural features inhibit the senior managers from gaining up-to-date knowledge about the environment and the business operations (Crilly, 2017). Analyzing data from a large-scale survey conducted among managers of private firms in the Netherlands, we found evidence that perceptions of short-term pressures are higher when firms have greater operational scale, more hierarchy, higher levels of bureaucracy, and greater workforce flexibility. On the basis of these findings, our paper makes two contributions to management research.

First, by theorizing on and providing empirical support for the role of organizational structure on managers' temporal orientation, we contribute to the debate on short-termism in business (Barton and Wiseman, 2014; Reilly et al., 2016). As pointed out by Lavery (1996), scholars have long emphasized the role of economic and governance factors, such as shareholders pressures and financial incentive structures, while paying relatively little attention to the role of individual and organizational factors. While recent research has started to shed light on the individual-level antecedents (e.g. Nadkarni and Chen, 2014), empirical analysis of the organizational dimension has remained limited (Marginson and McAulay, 2008). The findings in this paper indicate that organizational factors such as operational scale, hierarchy, management bureaucracy and workforce flexibility also affect managers'

perceptions of short-term pressures, providing support that the antecedents of short-termism extend beyond the scope of shareholders pressures and financial incentive structures.

Second, by theorizing about the temporal dimension of attention in relation to organizational structure, our paper contributes to the ABV (Ocasio, 1997). We build on the combination of top-down and bottom-up attention to explicate how concrete structures of the organization, such as operational scale, hierarchy, management bureaucracy and workforce flexibility, may impact the attention demand and degree of complexity of information received by the senior managers. If these structures place greater attention demands on senior managers, then they will not be able to give due attention to bottom-up stimuli or even engage in environmental scanning to gain more information about the environment and the business operations of the organization. This will lower the senior managers' feeling of control over long-term issues and shifts their temporal focus to the short-term (Crilly, 2017). In so doing, we establish a cognitive mechanism that explains how structural features of the organization as a distributed system of attention (Ocasio, 1997) shape temporal aspects of attention (Tuggle, Simon, Reutzler, and Bierman, 2010).

Limitations and Future Research

There are some limitations in this paper, which can be addressed in future research. For one, the analysis is based on data from a single survey. Hence, common method bias may have influenced some of the results, although we have tried to limit the effect by following the guidelines provided by Podsakoff et al. (2003) and by using mostly factual survey questions to explain our dependent variable. Furthermore, self-report questionnaires like we have used in this paper may underestimate the degree to which managers' behavior is affected by their perception of short-term pressures because managers may give a socially desirable answer. As such, future research may validate the results in this paper by means of other measures, such as based on content analysis of corporate documents and capital expenditures (Brochet

et al., 2015; Souder and Bromiley, 2012). Also, the analysis in this study was based on a single country; as organizational features and their effects may vary across contexts, future research is needed to validate the effects in other countries.

More generally, the results in this paper encourage further research into the effects of organizational structures on short-term pressures. For instance, while the analysis in this paper is limited to private firms, one would expect that concrete structures such as operational scale, hierarchy, management bureaucracy and workforce flexibility, also impact senior management attention patterns with regards to intertemporal choices in publicly listed companies. In fact, the external pressures for short-term results are likely to be greater for publicly listed companies (Asker et al., 2015), given the greater attention paid to quarterly earnings on capital markets (Barton and Wiseman, 2014; Zhang and Gimeno, 2010; 2016). Hence, one could imagine that the effects of organizational structures on perceived short-term performance pressures may actually be stronger in this context. The findings in this paper therefore encourage future research into the effects of organizational structures on perceived short-term pressures in listed firms.

In addition, future research may examine potential moderators of the effects found in this paper. In management practice, it may not always be feasible or desirable to limit the firm's operational scale, management bureaucracy, hierarchy and workforce flexibility, in order to reduce managers' focus on the short-term. Hence, greater insights about the potential factors that moderate the effects, would be of great value to practitioners. One could, for instance, imagine that concrete structures that place less competing demands on senior manager's attention, may increase their attentional slack and for instance enable senior managers to interact more frequently with middle managers, leading to an increase in their knowledge of the business operations of the company (Barnett, 2008). Such exchanges increase senior managers' understanding of the firm's competitive resources and capabilities

and deepen their awareness of the necessity to invest in them (Addison, 2009; Fauver and Fuerst, 2006), thereby reducing their susceptibility to short-term performance pressures (Kleinknecht, 2015).

Taken together, the findings in this paper support the idea that the sources of short-term pressures may extend beyond public firms to affect management more integrally (Lavery, 1996; Marginson and McAulay, 2008). While most research on short-term pressures focuses on publicly listed firms (Reilly et al., 2016), the results indicates that also managers of private firms may perceive pressures for short-term performance to be so dominant that long-term performance may be compromised. The ubiquity of short-term performance pressures suggests that these problems deserve more attention from management scholars.

REFERENCES

- Abernethy, M. A., Bouwens, J., & Lent, L. (2013). The role of performance measures in the intertemporal decisions of business unit managers. *Contemporary Accounting Research*, 30(3), 925-961.
- Addison, J. (2009). *The economics of codetermination: Lessons from the German experience*. New York: Palgrave MacMillan.
- Adler, P. S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41(1), 61-89.
- Argyris, C. (1957). *Personality and organization: the conflict between system and the individual*. Oxford, UK: Harpers.
- Asker, J., Farre-Mensa, J., & Ljungqvist, A. (2015). Corporate investment and stock market listing: A puzzle? *Review of Financial Studies*, 28(2), 342-390.
- Bae, K., Stulz, R. M., & Tan, H. (2008). Do local analysts know more? A cross-country study of the performance of local analysts and foreign analysts. *Journal of Financial Economics*, 88(3), 581-606.
- Baum, R.J. & Wally, S. (2003). Strategic Decision Speed and Firm Performance. *Strategic Management Journal*, 24(11), 1107-1129.
- Bakker, R. M., Boroş, S., Kenis, P. and Oerlemans, L. A.G. (2013), It's only temporary: Time frame and the dynamics of creative project teams. *British Journal of Management*, 24: 383–397.
- Barnett, M. L. (2008). An attention-based view of real options reasoning. *Academy of Management Review*, 33(3), 606-628.
- Barton, D., & Wiseman, M. (2014). Focusing capital on the long term. *Harvard Business Review*, 92(1/2), 44-51.

- Bartov, E., Givoly, D., & Hayn, C. (2002). The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics*, 33(2), 173-204.
- Benner, M. J. (2010). Securities analysts and incumbent response to radical technological change: Evidence from digital photography and internet telephony. *Organization Science*, 21(1), 42-62.
- Bhojraj, S., Hribar, P., Picconi, M., & McInnis, J. (2009). Making sense of cents: An examination of firms that marginally miss or beat analyst forecasts. *The Journal of Finance*, 64(5), 2361-2388.
- Blau, P. M. (1968). The hierarchy of authority in organizations. *American Journal of Sociology*, 73(4), 453-467.
- Bouquet, C., & Birkinshaw, J. (2008). Managing power in the multinational corporation: How low-power actors gain influence. *Journal of Management*, 34(3), 477-508.
- Bower, J. L. (1986). *Managing the resource allocation process: A study of corporate planning and investment* Harvard Business Press.
- Brochet, F., Loumioti, M., & Serafeim, G. (2015). Speaking of the short-term: Disclosure horizon and managerial myopia. *Review of Accounting Studies*, 20(3), 1122-1163.
- Brock, D.M. & Yaniv, E. (2007). Knowledge is not Enough: Organisational Attention and Replication Strategies. *Service Industries Journal*, 27(7-8), 831-847.
- Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *Accounting Review*, 73(3), 305-333.
- Cho, T. S., & Hambrick, D. C. (2006). Attention as the mediator between top management team characteristics and strategic change: The case of airline deregulation. *Organization Science*, 17(4), 453-469.
- Chandler, A.D. (1962). *Strategy and Structure Chapters in the History of American Enterprise*. Boston: MIT Press.
- Chatwani, N. (2019). *Organisational Agility Exploring the Impact of Identity on Knowledge Management*. Basingstoke, UK: Palgrave Macmillan.
- Ciabuschi, F., Forsgren, M., & Martin Martin, O. (2011). Rationality vs ignorance: The role of MNE headquarters in subsidiaries' innovation process. *Journal of International Business Studies*, 42, 958-970.
- Crilly, D. (2017) Time and space in strategy discourse: Implications for intertemporal choice. *Strategic Management Journal*, 38(12), 2370-2389.
- Crilly, D. & Sloan, P. (2014). Autonomy or Control? Organizational Architecture and Corporate Attention to Stakeholders. *Organization Science*, 25(2), 339-355.
- Cyert, R. & March, J. (1963). *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice Hall.
- Darnall, N., Henriques, I., & Sadorsky, P. (2010). Adopting proactive environmental strategy: The influence of stakeholders and firm size. *Journal of Management Studies*, 47(6), 1072-1094.
- D'Aveni, R. A., Dagnino, G. B., & Smith, K. G. (2010). The age of temporary advantage. *Strategic Management Journal*, 31(13), 1371-1385.
- Dearborn, D.C. & Simon, H.A. (1958). Selective perception: A note on the departmental identifications of executives. *Sociometry*, 21, 140-144.
- Denrell, J., Arvidsson, N., & Zander, U. (2004). Managing Knowledge in the Dark: An Empirical Study of the Reliability of Credibility Evaluations. *Management Science*, 50, 1491-1503.
- Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12), 1504-1511.

- Dill, V., Jirjahn, U., & Smith, S. C. (2016). Do foreign owners favour short-term profit? evidence from Germany. *Cambridge Journal of Economics*, 40(1), 123-140.
- Dutton, J.E. & Jackson, S.E. (1987). Categorizing Strategic Issues: Links to Organizational Action. *Academy of Management Review*, 12, 76-90.
- Elsback, K., Barr, P.S., & Hargadon, A.B. (2005). Identifying Situated Cognition in Organizations. *Organization Science*, 16(4), 422-433.
- Fauver, L., & Fuerst, M. E. (2006). Does good corporate governance include employee representation? Evidence from German corporate boards. *Journal of Financial Economics*, 82(3), 673-710.
- Finlay, W., Martin, J.K., Roman, P.M. & Blum, T.C. (1995). Organizational structure and job satisfaction: do bureaucratic organizations produce more satisfied employees? *Administration & Society*, 27(3), 427-450.
- Fisher, I. (1907). *The rate of interest: Its nature, determination and relation to economic phenomena*. New York: Macmillan.
- Fisher, I. (1930). *The theory of interest*. New York: Macmillan.
- Flammer, C., & Bansal, P. T. (2017). Does long-term orientation create value? evidence from a regression discontinuity. *Strategic Management Journal*, 38(9), 1827-1847.
- Garcia-Castro, R., Ariño, M. A., & Canela, M. A. (2011). Over the long-run? short-run impact and long-run consequences of stakeholder management. *Business and Society*, 50(3), 428-455.
- Garicano, L. (2000). Hierarchies and the Organization of Knowledge in Production. *Journal of Political Economy*, 108(5), 874-904.
- Gopalan, R., Milbourn, T., Song, F., & Thakor, A. V. (2014). Duration of executive compensation. *The Journal of Finance*, 69(6), 2777-2817.
- Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1), 3-73.
- Greenberg, J. (2011). *Behavior in organizations* (10th ed.). Upper Saddle River, NJ: Prentice Hall.
- Haas, M.R., Criscuolo, P. & George, G. (2015). Which Problems to Solve? Online Knowledge Sharing and Attention Allocation in Organizations. *Academy of Management Journal*, 58(3), 680-711.
- Hambrick, D.C. & Mason, P.A. (1984). Upper Echelons: The Organization as a Reflection of its Top Managers. *Academy of Management Review*, 9(2), 193-206.
- Hamel, G & Prahalad, C.K. (1993). Strategy as Stretch and Leverage. *Harvard Business Review*, 71(2), 75-84.
- Hughes-Morgan, M. & Ferrier, W. J. (2017), 'Short interest pressure' and competitive behaviour. *British Journal of Management*, 28: 120–134.
- Hutcheson, G. D., & Moutinho, L. (2008). *Statistical modeling for management*. London: Sage.
- Huy, Q.N. (2002). Emotional Balancing of Organizational Continuity and Radical Change: The Contribution of Middle Managers. *Administrative Science Quarterly*, 47(1), 31-69.
- Jacobides, M. G. (2007). The inherent limits of organizational structure and the unfulfilled role of hierarchy: Lessons from a near-war. *Organization Science*, 18(3), 455-477.
- Joseph, J., & Ocasio, W. (2012). Architecture, attention, and adaptation in the multibusiness firm: General electric from 1951 to 2001. *Strategic Management Journal*, 33(6), 633-660.
- Joseph, J. & Wilson, A. J. (2018) The growth of the firm: An attention-based view. *Strategic Management Journal*, 39(6), 1779-1800.

- Kang, J., & Kim, J. (2010). Do foreign investors exhibit a corporate governance disadvantage? an information asymmetry perspective. *Journal of International Business Studies*, 41(8), 1415-1438.
- Kasznik, R., & McNichols, M. F. (2002). Does meeting earnings expectations matter? evidence from analyst forecast revisions and share prices. *Journal of Accounting Research*, 40(3), 727-759.
- Khanagha, S., Volbreda, H., & Oshri, I. (2017). Customer Co-Creation and Exploration of Emerging Technologies: The Mediating Role of Managerial Attention and Initiatives. *Long Range Planning*, 50(2), 221-242.
- Kleinknecht, A., Kwee, Z., & Budyanto, L. (2016). Rigidities through flexibility: Flexible labour and the rise of management bureaucracies. *Cambridge Journal of Economics*, 40(4), 1137-1147.
- Kleinknecht, A., van Schaik, F. N., & Zhou, H. (2014). Is flexible labour good for innovation? evidence from firm-level data. *Cambridge Journal of Economics*, 38(5), 1207-1219.
- Kleinknecht, R. H. (2015). Employee participation in corporate governance: Implications for company resilience. *European Journal of Industrial Relations*, 21(1), 57-72.
- Kwee, Z., van den Bosch, Frans A.J., & Volberda, H. W. (2011). The influence of top management team's corporate governance orientation on strategic renewal trajectories: A longitudinal analysis of Royal Dutch Shell plc, 1907–2004. *Journal of Management Studies*, 48(5), 984-1014.
- Laverty, K. J. (1996). Economic “short-termism”: The debate, the unresolved issues, and the implications for management practice and research. *Academy of Management Review*, 21(3), 825-860.
- Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly*, 12(1), 1-47.
- Lecuona, J. R., & Reitzig, M. (2014). Knowledge worth having in ‘excess’: The value of tacit and firm-specific human resource slack. *Strategic Management Journal*, 35(7), 954-973.
- Levy, O. (2005). The influence of top management team attention patterns on global strategic posture of firms. *Journal of Organizational Behavior*, 26(7), 797-819.
- Li, Q., Maggitti, P.G., Smith, K.G., Tesluk, P.E. & Katila, R. (2013). Top Management Attention to Innovation: The Role of Search Selection and Intensity in New Product Introductions. *Academy of Management Journal*, 56(3), 893-916.
- Lucidi, F., & Kleinknecht, A. (2010). Little innovation, many jobs: An econometric analysis of the Italian labour productivity crisis. *Cambridge Journal of Economics*, 34(3), 525-546.
- Marginson, D., & McAulay, L. (2008). Exploring the debate on short-termism: A theoretical and empirical analysis. *Strategic Management Journal*, 29(3), 273-292.
- Martin, G. P., Wiseman, R. M., & Gomez-Mejia, L. R. (2016). Going short-term or long-term? CEO stock options and temporal orientation in the presence of slack. *Strategic Management Journal*, 37(12), 2463-2480.
- Matta, E., & Beamish, P. W. (2008). The accentuated CEO career horizon problem: Evidence from international acquisitions. *Strategic Management Journal*, 29(7), 683-700.
- Miller, D., Breton-Miller, L., & Scholnick, B. (2008). Stewardship vs. stagnation: An empirical comparison of small family and Non-Family businesses. *Journal of Management Studies*, 45(1), 51-78.
- Mintzberg, H. (1992). *Structure in fives: Designing effective organizations*. Upper Saddle River, NJ: Prentice Hall.

- Monteiro, L.F. (2015). Selective attention and the initiation of the global knowledge-sourcing process in multinational corporations. *Journal of International Business Studies*, 46(5), 505-527.
- Mudambi, R. (1999). MNE internal capital markets and subsidiary strategic independence. *International Business Review*, 8, 197-211.
- Nadkarni, S., & Chen, J. (2014). Bridging yesterday, today, and tomorrow: CEO temporal focus, environmental dynamism, and rate of new product introduction. *Academy of Management Journal*, 57(6), 1810-1833.
- Nadkarni, S., Chen, T., & Chen, J. (2016). The clock is ticking! Executive temporal depth, industry velocity and competitive aggressiveness. *Strategic Management Journal*, 37(6), 1132-1153.
- Nooteboom, B., van Haverbeke, W., Duysters, G., Gilsing, V., & van den Oord, A. (2007). Optimal cognitive distance and absorptive capacity. *Research Policy*, 36(7), 1016-1034.
- Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal*, 18, 187-206.
- Ocasio, W. (2011). Attention to attention. *Organization Science*, 22(5), 1286-1296.
- Ocasio, W., & Joseph, J. (2005). An attention-based theory of strategy formulation: Linking micro and macro perspectives in strategy processes. In: G. Szulanski, J. Porac, and Y. Doz (ed.) *Strategy Process (Advances in Strategic Management, Volume 22)*. Emerald Group Publishing Limited, pp.39 - 61.
- Ocasio, W., Laamanen, T., and Vaara, E. (2018). Communication and attention dynamics: An attention-based view of strategic change. *Strategic Management Journal*, 39, 155-167.
- Peeters, C., Massini, S., & Lewin, A.Y. (2014). Sources of Variation in the Efficiency of Adopting Management Innovation: The Role of Absorptive Capacity Routines, Managerial Attention and Organizational Legitimacy. *Organization Studies*, 35(9), 1343-1371.
- Peneder, M. (2010). Technological regimes and the variety of innovation behaviour: Creating integrated taxonomies of firms and sectors. *Research Policy*, 39(3), 323-334.
- Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179-191.
- Piezunka, H. & Dahlander, L. (2015). Distant Search, Narrow Attention: How Crowding Alters Organizations' Filtering of User Suggestions. *Academy of Management Journal*, 58(3), 856-880.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Posner, M.I. & Boies, S.J. (1971). Components of Attention. *Psychological Review*, 78, 391-408.
- Pugh, D.S. & Hickson, D.J. (1976). *Organizational Structure in its Context*. Westmead, UK: Saxon House.
- Rajan, R. G., & Wulf, J. (2006). The flattening firm: Evidence from panel data on the changing nature of corporate hierarchies. *The Review of Economics and Statistics*, 88(4), 759-773.
- Reilly, G., Souder, D., & Ranucci, R. (2016). Time horizon of investments in the resource allocation process: Review and framework for next steps. *Journal of Management*, 42(5), 1169-1194.
- Ren, C. R., & Guo, C. (2011). Middle managers' strategic role in the corporate entrepreneurial process: Attention-based effects. *Journal of Management*, 37(6), 1586-1610.

- Rhee, L. & Leonardi, P.M. (2018). Which pathways to good ideas? An attention-based view of innovation in social networks. *Strategic Management Journal*, 39(4), 1188-1215.
- Samuelson, P. A. (1937). A note on measurement of utility. *Review of Economic Studies*, 4(2), 155-161.
- Shepherd, D.A., McMullen, J.S. & Ocasio, W. (2017). Is that an opportunity? An attention model of top managers' opportunity beliefs for strategic action. *Strategic Management Journal*, 38(3), 626-644.
- Shipp, A. J., Edwards, J. R., & Lambert, L. S. (2009). Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes*, 110(1), 1-22.
- Simon, H. A. (1997). *Administrative behavior. A study of decision-making processes in administrative organization* (4rd ed.). New York: Macmillan.
- Slawinski, N. & Bansal, P. (2015) Short on time: Intertemporal tensions in business sustainability. *Organization Science*, 26(2), 531-549.
- Souder, D., Reilly, G., Bromiley, P., & Mitchell, S. (2016). A behavioral understanding of investment horizon and firm performance. *Organization Science*, 27(5), 1202-1218.
- Souder, D., & Shaver, J. M. (2010). Constraints and incentives for making long horizon corporate investments. *Strategic Management Journal*, 31(12), 1316-1336.
- Souder, D., & Bromiley, P. (2012). Explaining temporal orientation: Evidence from the durability of firms' capital investments. *Strategic Management Journal*, 33(5), 550-569.
- Svensson, S. (2011). Flexible working conditions and decreasing levels of trust. *Employee Relations*, 34(2), 126-137.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17(S2), 27-43.
- Thanassoulis, J., & Somekh, B. (2016). Real economy effects of short-term equity ownership. *Journal of International Business Studies*, 47(2), 233-254.
- Tuggle, C. S., Sirmon, D. G., Reutzel, C. R., & Bierman, L. (2010). Commanding board of director attention: Investigating how organizational performance and CEO duality affect board members' attention to monitoring. *Strategic Management Journal*, 31(9), 946-968.
- van Dijk, M. A. (2011). Is size dead? A review of the size effect in equity returns. *Journal of Banking and Finance*, 35(12), 3263-3274.
- van Emmerik, M.L., De Vroome, E.M.M., Kraan, K.O. & van den Bossche, S.N.J. (2015). *Werkgevers enquête arbeid: Methodologie en beschrijvende resultaten*. Hoofddorp: TNO
- 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.
- Walsh, J.P. (1988). Selectivity and Selective Perception: An Investigation of Managers' Belief Structures and Information Processing. *The Academy of Management Journal*, 31, 873-896.
- Weber, M. (2009). *From Max Weber: Essays in sociology*. Routledge.
- Wiggins, R. R., & Ruefli, T. W. (2005). Schumpeter's ghost: Is hypercompetition making the best of times shorter? *Strategic Management Journal*, 26(10), 887-911.
- Wilson, A. J. & Joseph, J. (2015). Organizational attention and technological search in the multi-business firm: Motorola from 1974 to 1997. In *Cognition and Strategy Advances in Strategic Management: Vol. 32* (pp. 407–435). Bingley, U.K.: Emerald Group Publishing.
- Yaniv, E. & Brock, D.M. (2008). Replication strategies, knowledge and attention: A study of coffee chains. *International Journal of Service Industry Management*, 19(3), 379-399.

- Yu, J., Engleman, R. M., & van de Ven, A. H. (2005). The integration journey: An attention-based view of the merger and acquisition integration process. *Organization Studies*, 26(10), 1501-1528.
- Zhang, Y., & Gimeno, J. (2010). Earnings pressure and competitive behavior: Evidence from the US electricity industry. *Academy of Management Journal*, 53(4), 743-768.
- Zhang, Y., & Gimeno, J. (2016). Earnings pressure and long-term corporate governance: Can long-term-oriented investors and managers reduce the quarterly earnings obsession? *Organization Science*, 27(2), 354-372.
- Zhou, H., Dekker, R., & Kleinknecht, A. (2011). Flexible labor and innovation performance: Evidence from longitudinal firm-level data. *Industrial and Corporate Change*, 20(3), 941-968.
- Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3), 339-351.

Table 1: Details of the sample

	N	%
INDUSTRY		
Business services	599	18.6
Construction	304	9.4
Food	115	3.6
Logistics and communication	553	17.2
Manufacturing	598	18.6
Wholesale and retail	465	14.4
Other services	587	18.2
SCALE		
< 10 employees	1292	40.1
10–50 employees	990	30.7
> 50 employees	939	29.2
AGE		
< 10 years	529	16.4
10–25 years	1334	41.4
> 25 years	1358	42.2

Table 2: Descriptive statistics and correlations

	Mean	Std. dev.	1	2	3	4	5	6	7	8	9
1. Short-term pressures	2.700	1.043	1								
2. Decreased productivity	0.139	0.346	0.118**	1							
3. Foreign owned	0.119	0.324	0.100**	-0.042*	1						
4. CEO	0.406	0.491	-0.150**	-0.336**	-0.257**	1					
5. HRM manager	0.346	0.476	0.093**	0.133**	0.225**	-0.601**	1				
6. Subsidiary manager	0.137	0.344	0.089**	0.286**	0.060**	-0.330**	-0.290**	1			
7. Operational scale	68.231	203.267	0.114**	-0.049**	0.142**	-0.222**	0.296**	0.077**	1		
8. Hierarchy	2.240	0.969	0.135**	-0.068**	0.243**	-0.455**	0.434**	0.070**	0.351**	1	
9. Bureaucracy	20.490	17.424	-0.020	0.059**	-0.089**	0.253**	0.253**	-0.026	-0.125**	-0.221**	1
10. Workforce flexibility	0.266	0.278	0.016	-0.051**	-0.096**	0.106**	0.102**	0.029	-0.024	-0.016	0.096**

N = 3,221; ** p<0.05

Table 3: Ordinal regression results

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Decreased productivity	0.677*** (0.094)	0.713*** (0.095)	0.675*** (0.094)	0.687*** (0.094)	0.705*** (0.096)	0.727*** (0.096)
Foreign owned	0.405*** (0.105)	0.344*** (0.107)	0.408*** (0.105)	0.371*** (0.106)	0.392*** (0.107)	0.332*** (0.107)
Respondent = CEO	-0.346*** (0.111)	-0.326*** (0.113)	-0.360*** (0.111)	-0.290*** (0.112)	-0.364** (0.113)	-0.315*** (0.115)
Respondent = HRM manager	0.244** (0.112)	0.187 (0.115)	0.253** (0.112)	0.178 (0.114)	0.251** (0.114)	0.152 (0.117)
Respondent = Manager subsidiary	0.391*** (0.133)	0.418*** (0.135)	0.393*** (0.133)	0.362*** (0.133)	.0388*** (0.134)	0.386*** (0.135)
H1: Operational scale		0.001*** (0.000)				0.001*** (0.000)
H2: Management bureaucracy			0.002 (0.002)			0.004* (0.002)
H3: Hierarchy				0.252*** (0.086)		0.204** (0.090)
H4: Workforce flexibility					0.234* (0.125)	0.212* (0.125)
Industry dummies	YES	YES	YES	YES	YES	YES
Nagelkerke R ²	0.063	0.071	0.064	0.066	0.065	0.074

N = 3,221; *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Distribution of perceived pressure for short-term results

