SENSE AND SENSIBILITY:

testing the effects of attention structures and organizational attention on financial performance

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Abstract

According to attention-based theories, to explain organizational attention is to explain
organizational behavior. In our study we test the model of situated attention and firm behavior by
examining the effects of attention structures and allocation of attention on organizational
outcomes. We hypothesize a positive relationship between attention structures and the allocation
of organizational attention that, in turn, has an effect on financial performance. Using a unique
dataset composed of indicators of social responsibility published by 338 Brazilian organizations
between 2001 and 2007, we find support for our hypotheses. Our findings suggest that
organizational attention to social issues fully mediates the relationship between attention
structures and financial performance.

Keywords: attention-based view, diversity, stakeholder management
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Introduction

The attention-based view of the firm (ABV) has been applied to studies about decision-making and explains a diversity of organizational outcomes. According to the Web of Knowledge database, per October 2009 there were 178 articles citing Ocasio (1997) and the Google Scholar search engine recorded more than 400 studies. Whereas these numbers signal the relevance of ABV, a closer look into this collection of both conceptual and empirical studies also indicates the versatility and fecundity of ABV to the understanding of organizational behavior. ABV has been successfully used to explain decision-making processes (Barnett 2008 and Kaplan 2008a), organizational change (Cho and Hambrick 2006, Eggers and Kaplan 2009), organizational risk (Miller 2009), management innovation (Yadav, Prabhu and Chandy 2007), and internationalization strategies (Levy 2005 and Bouquet, Morrison and Birkinshaw 2009) to cite a few.

Despite the numerous studies adopting ABV to explain organizational outcomes, there are few studies that actually focus on the effects of organizational attention on financial performance (Levy 2005 and Bouquet, Morrison and Birkinshaw 2009). This might be explained by the difficulties in measuring organizational attention. The most common measure adopted is based on content analysis of organizational documents and word count (Levy 2005, Cho and Hambrick 2006 and Yadav, Prabhu and Chandy 2007 and Kaplan 2008b). Regardless of the validity of
these measures, organizational documents are subject to impression management and are sensitive to strategic self-presentation. Thus, scholars tried alternative measures either based on survey instruments (Bouquet and Birkinshaw 2008 and Bouquet, Morrison and Birkinshaw 2009) or time count (Yu Engleman Van de Ven 2005). While survey-based measures present some limitations due to their perceptual and self-presentation nature, time is also a limited measure because it captures one, and only one, aspect of attention (Kahneman 1973 and Ocasio 1997). Furthermore, the role of attention structures in the model of situated attention as proposed by Ocasio (1997) is only modestly explored (Yu et al 2005, Jacobides 2007, Barnett 2008). To be more precise, to the best of our knowledge, there are no studies based on non-perceptual / self-presentational measures aiming to integrally test ABV. Finally, a significant part of the studies using ABV is U.S. based, constraining its findings to that specific context.

ABV is a structural perspective of how firms allocate and distribute attention. The model extends Simon’s work (1947) and suggests that decision-makers focus of attention is situated and dependent on concrete and contextual structures. From an ABV perspective, attention structures, which include organizational policies, resources, work roles, people and their relationships (Ocasio and Joseph 2005), are the primary determinant of the attentional process. Attention structures influence allocation of organizational attention by affecting the availability and salience of issues and answers that decision-makers focus their attention on. In our study, we test the process model of situated attention and organizational behavior elaborated by Ocasio (1997) by examining the effects of attention structures and allocation of attention on organizational outcomes.
We develop a test of the model of situated attention and firm behavior (Ocasio 1997) and hence provide several contributions. First, we contribute to ABV testing the explicit role of attention structures on allocation of attention. Second, we contribute to research about attention by adopting a non-perceptual / self-presentational measure of attention. Instead, we use actual resource allocation patterns to measure allocation of attention. Third, we also contribute to the ABV literature deliberately testing the effects of organizational attention on financial performance. Next, we broaden ABV research domain testing our theoretical model on organizational responses to social issues where the contingent aspect of organizational attention was not yet explored. Additionally, we extend the ABV substantiating the role of organizational attention as a mediator between structure and performance. Finally, our study provides a test of ABV outside the U.S. domain, which has been privileged by empirical studies about organizational attention.

The context of our research is social responsibility of Brazilian organizations. For all its contradictions, Brazil reveals as an interesting research context. On the one hand, its recent, yet strong, economic development has provided positive prospects to the country and among the other BRIC countries, Brazil is often considered in comparative advantage position. On the other hand, its social development is lagging far behind and the country still struggles with basic issues linked to poverty such as hunger, infant mortality, and low levels of education, to cite a few. Our unique dataset is composed of indicators of social responsibility published by 338 Brazilian organizations between 2001 and 2007, totaling 1195 firm-year observations.

This article is structured as follows: first, we discuss the model of situated attention and organizational behavior (Ocasio 1997) and its strengths to explain organizational responses. We
give a detailed description of the various aspects of ABV focusing on the contextual role of attention structures. Next, we propose our theoretical model based on attention structures, organizational attention and financial performance and develop a set of hypotheses regarding the linkage between the elements of our model. Then, we describe characteristics of our sample, define our measures and present a structural equation modeling as the preferred method to test our hypotheses. Finally, we discuss the results, outline the contributions and limitations of our study and suggest some managerial implications of our findings for the Brazilian context.

**ABV at vantage point**

We understand organizational attention as “the socially structured pattern of attention by decision-makers within an organization” (Ocasio 1997, p. 188) and believe that its cross-level approach together with the combined perspective of social cognition and structural processes on decision-making places an attention-based perspective in an advantaged position to explain the relationship between organizational structures, processes and outcomes (Cho and Hambrick 2006, Jacobides 2007, Barnett 2008).

According to the behavioral theory of the firm (Simon 1947, Cyert and March 1963, March and Olsen 1976), attention is a scarce, yet vital, organizational resource and therefore, the allocation and distribution of attention is the departing point to understand organizational behavior.

Building upon Simon’s seminal work (1947), the ABV’s (Ocasio 1997, p. 188) central argument “is that to explain firm behavior is to explain how firms distribute and regulate the attention of their decision-makers”. Essentially the ABV aims to explain organizational responses by analyzing how time and effort are structurally distributed within organizations.
The model of situated attention proposed by Ocasio (1997, p. 189) suggests that decision-makers’ focus of attention (principle of focus of attention) is situated and dependent on the context (principle of situated attention) and the organizational structure (principle of structural distribution of attention). As maintained by ABV, cognition and action are not predictable from individual characteristics, but are a consequence of the situations in which decision-makers find themselves, such that attention is linked to the immediate context in which cognition and action are situated.

Despite its complexity, the ABV constitutes a prolific model and has been successfully used to explain a diverse set of organizational outcomes. Previous empirical research has shown the contingent and critical aspect of attention for development of innovation (Yadav, Prabhu and Chandy 2007), internationalization strategies (Levy 2005; Bouquet, Morrison and Birkinshaw 2009), market entry (Williams and Mitchell 2004; Eggers and Kaplan 2009) and forecasting ability (Durand 2003). Albeit its versatility, ABV has not been applied to issues that are germane to emerging economies. Take for instance the BRIC countries; regarded as promising economies, these countries still face socio-development problems that could hinder their potential growth. Poverty alleviation, education, universal access to opportunities, anti-discriminatory policies, are salient issues of the environment of decision of organizations embedded in these countries. We argue that ABV is distinctively useful to explain organizational responses in these contexts where both economic and social issues compete for organizational attention.
An ABV perspective of organizational social responses

The attention-based view (Ocasio 1997) is particularly suitable to explain organizational social responses for various reasons. First, it proposes a cross-level process model of organizational attention providing a more comprehensive understanding of how individuals, organizations and environment interrelate to explain organizational behavior. Second, ABV constitutes a framework that combines both cognitive and structural process involved in decision-making. Last, and most importantly, the ABV theoretical model accounts for contextual factors that affect organizational attention by channeling decision-makers focuses of attention that ultimately determines organizational responses.

From an ABV standpoint, environmental responses are not seen as behavioral responses to objective stimuli but as organizational constructions shaped by the individuals and the organization (Ocasio 1995). The set of mechanisms described by Ocasio (1997) to explain organizational responses places ABV at vantage point to explain organizational responses to social issues because it provides a mechanism-based theory (Davis and Marquis 2005) aiming not to predict but to explain social initiatives by business (Margolis and Walsh 2003).

The combination of cognitive and structural processes affecting decision-making emphasizes the vantage point of an ABV explanation for organizational social responses. Recent empirical studies show that both individual cognitions and organizational structures affect how firms respond to environmental issues (Sharma 2000 and Bansal 2003). Conspicuous to the findings of these studies are the intertwined effects of social cognitions and organizational context in explaining how organizations respond to issues that matter both to its internal and external stakeholders.
Finally, ABV suggests that small differences or, contingencies, might have significant effects on the attention focus of decision-makers and on organizational attention that ultimately will have an impact on organizational outcomes. As an empirical example, Kacperczyk (2009) suggests that changes in the structures of attention have different effects in different stakeholder groups and that firm performance is only positively associated with increased attention to primary stakeholders. Hence, an attention perspective can help to understand not only responses to social issues but also the relationship between organizational social action and financial performance. Accordingly, the association between social and financial performance is not predetermined; it is the result of various specific contingencies of organizations’ attention structures.

The contextual role of attention structures

In extending Simon’s (1947) theory of organizational attention, Ocasio (1997) adds two fundamental constructs for the explanation of the model of situated attention and organizational behavior, specifically communication and procedural channels and attention structures. These two constructs are fundamental to ABV because they open the ‘black box’ by detailing the structural mechanisms of distribution of organizational attention. Procedural and communication channels (Ocasio 1997) are concrete activities, interactions and communications that affect availability and salience of issues and answers. They comprise formal and informal channels of information processing such as board meetings, personnel evaluations, quarterly and annual reports, phone calls and e-mail exchanges (Yu et al 2005).

Attention structures, in turn, are not concrete but contextual aspects that also affect salience of issues and answers. As emphasized by Barnett (2008, p. 611) “one expects structures to be more,
not less, concrete than channels”. To avoid the “awkwardness” of the terminology adopted by Ocasio (1997), we follow Barnett (2008) and understand communication and procedural channels and attention structures as concrete and contextual structures that drive the flow of the organizational attention. In our research we are particularly interested in how attention structures affect “the valuation and rank ordering of the repertoire of issues and answers results from cultural, social, and economic structures that govern attention in organization.” (Ocasio 1997, p. 198)

Attention structures are social, economic, and cultural structures that direct the attentional focus of organizational decision-makers. They are the primary determinant of the model of situated attention (Yu et al 2005 and Barnett 2008) and include organizational policies, human, physical and financial resources, work roles, people and their relationships (Ocasio and Joseph 2005, p. 47). As a contextual aspect of the ABV process model, attention structures comprises diverse elements that are likely to affect decision-making by giving precedence for issues that needs attention. Different from March and Olsen (1976) who limit attention structures to a set of authoritative rules, the ABV suggests they consist of three additional elements. According to Ocasio (1997) the four regulators of organizational attention are: rules of the game, players, structural positions and resources. Together, the elements of the attention structures influence the distribution of managerial attention by producing different flows of information (Williams and Mitchell 2004).

Attention structures are an important part of the model of situated attention and organizational behavior because they generate a set of values that order the relevance of issues and also because they provide decision-makers with a set of interests that shape sensemaking and enactment of the
environment (Ocasio 1997, p. 192). They act as a lens magnifying issues of priority that require attention. “Attention structures are the contextual factor within an organization that influence how its decision makers legitimize and prioritize activities and identify with possible issues vying for their attention.” (Barnett 2008, p. 610)

Although ABV can be seen as a process model of decision-making, it also comprises the role of other social actors in addition to decision-makers in influencing the process. In accordance with the ABV, decision-makers are specific social actors that actively participate at procedural and communication channels whereas players are individuals from inside and outside the organization who affect the regulation of organizational attention (Bansal 2003). While decision-makers have discretionary roles due to their positions, players exert control over decision-makers due to their individual and structural power (Ocasio, 1997). Therefore, whilst decision-makers have their attention regulated by its structural position and rules of game, players can influence organizational attention through beliefs, skills and values they bring to the firm (March and Olsen, 1976).

**Explaining the contingent effect of organizational attention on organizational outcomes**

In this section we develop hypotheses linking attention structures, organizational attention and financial performance. We chose to test our theoretical model on organizational responses to social issues where the contingent aspect of organizational attention was not explored yet. Hence, supported by the ABV, our hypotheses suggest that organizational attention to employee welfare and benefits is affected by the sensitiveness of attention structures towards this specific group of stakeholders and that organizational attention mediates the relationship between attention
structures and financial performance (as depicted by Figure 1. Note that light dotted lines indicate linkages not discussed in this article).

The environment of decision or the research context

The context of our research is corporate social responsibility in Brazil. The environment of decision of experienced by Brazilian organizations is remarkably interesting to test an ABV perspective of organizational attention to social issues. Among the BRIC countries, Brazil has been frequently mentioned as a leading nation with high economic potential. However, the country still suffers with basic social issues such as poverty, violence and inequality. The diversity and complexity of the Brazilian context (Griesse 2007) broaden the environment of decision of organizations and provide an interesting setting to test how attention structures affect the prioritization of issues and answers and focus of attention of decision-makers (Ocasio 1997).

Recent research findings (Bouquet and Deutsch 2008, Brammer and Millington 2008) resume earlier recommendations for a contingency approach to organizational social responses (Arlow and Gannon 1982) and the need to account for contextual factors that might affect organizational behavior. A contingency perspective of organization social action is pragmatic, yet complex, because it embraces various contextual factors to explain organizational responses to social demands and also its effects on financial performance (Brammer and Millington, 2008). Organizational attention is suggested among various contingent factors affecting social responses (Bouquet and Deutsch 2008 and Kacperczyk 2009).
Following recent research recommendations (Wang, Choi and Li 2008 and Brammer and Millington 2008), we center our study in one component of social responsibility, namely employee welfare and benefits. According to the results of a panel of experts presented by Waddock and Graves (1997, p. 306), employee relations is the most important attribute of social performance because “an enlightened employee relations policy may have a very low cost, but can result in substantial gains in morale and productivity, actually yielding a competitive advantage in comparison to less responsible firms.” Furthermore, employees are often deemed as a primary stakeholder (Clarkson 1995) giving additional explanation for its salience as group (Mitchell, Agle and Wood 1997) and also as object of study (Goodstein 1994, Blum Fields and Goodman 1994, Ingram and Simons 1995, Goodstein 1995, Turban and Greening 1997 and Milliken Martins and Morgan 1998). Therefore, in our work we center our analysis on organizational attention to employee welfare and benefits defined as the distinctive focus of organizational attention to a set of issues more directly related to the interests and benefits of the organization’s employees.

Sensitiveness of attention structures

Sources of variability in attention structures are not the focus of this paper. Here, it suffices to say that “typically the attention structure is partially imposed on the organization by its environment, partially adopted consciously within the organization, and partially learned from experience” (March and Olsen 1976, p. 42) and to suggest resource dependence, institutional theory and stakeholder management as powerful theories that help to explain variation in attention structures (Oliver 1991, Greening and Gray 1994 and Donaldson and Preston 1995). For our purposes, more relevant than explaining differences in attention structures is the understanding of how this
variability affects organization attention and also how attention structures, organizational attention and financial performance are related.

Prior work tested whether gender composition and family profile of the work force affects organizational responses to work-family programs (Goodstein 1994, Ingram and Simons 1995 and Osterman 1995). Konrad and Mangel (2000) tested whether the presence of professional employees affects organizational responses to work-life programs. Finally, gender composition and age distribution of the work force were tested for their effects on organizational responses to female participation in managerial positions (Blum Fields and Goodman 1994) and to involvement in eldercare (Goodstein 1995). It is important to note that these studies do not report consistent results. Aside from Goodstein (1995) and Milliken, Martins and Morgan (1998), who included issue interpretation as an explanation for organizational responses (not finding statistical support, though), these studies primarily aimed to identify resource dependence and/or institutional factors affecting organizational responses.

In line with the ABV, attention structures consist of four attention regulators. In our model, we account for the role of the rules of the game but focus mostly on players, or more specifically on organizational employees. We believe players represented by organizational employees are the least heterogeneous (allowing for cross-section comparison) attention regulator. Moreover, employees provide us with a privileged component of social responsibility (Waddock and Graves 1997) given its salience and status as primary stakeholder (Mitchell, Agle and Wood 1997 and Clarkson 1995). In addition to these advantages, we also believe employees are sensitive indicators of the effects of attention structures. As reported in a recent study, organizational structures establishing responsibility by including staff diversity, diversity committee and
affirmative action plans are the most effective practices of corporate affirmative action and diversity policies (Kalev, Dobbin and Kelly 2006, p. 590). This implies that employees are concurrently, salient stakeholders, fundamental component of social performance (Berman, Wicks, Kotha and Jones 1999) and also sensitive attention regulators. Therefore, we expect they have an effect on prioritization of issues and answers by giving precedence to things that are immediate and specific, while ignoring what is remote (March and Olsen 1976, Ocasio 1997, Yu et al 2005 and Barnett 2008).

As a matter of fact, centering our attention on employee welfare and benefits has an additional and pragmatic advantage. Previous research about organizational responses to work-family (Goodstein 1994, Ingram and Simons 1995, Osterman 1995, Milliken, Martins and Morgan 1998) and work-life programs (Konrad and Mangel 2000), female management representation (Blum, Fields and Goodman 1994) and eldercare involvement (Goodstein 1995) lend us some indirect empirical support for our development of hypotheses. According to this research, certain workforce characteristics influence attention structures and help to explain organizational responses.

These studies define and operationalize organizational responses as organizational outcomes and test the direct effects of external and internal environment on those outcomes. We contend that what they define as organizational response is in fact organizational attention towards work-family and work-life programs, female management and eldercare and that work force composition actually is an attention regulator. As such we expect that attention structures have an effect on organizational attention first, and only then on organizational moves and outcomes.
**H1: Sensitiveness of attention structures is positively associated with organizational attention to social issues.**

Except for the work of Konrad and Mangel (2000) none of the studies cited above, tested the effects of organizational responses on performance and even in this specific case, the authors were interested in the impact of work-family programs on firm productivity and not financial performance. Nevertheless, two event studies tested the effects of diversity (Wright, Ferris, Hiller and Kroll 1995) and work-family initiatives on share prices (Arthur 2003) and also their effects on perceived organizational performance (Herring 2009 and Perry-Smith and Blum 2000). These are supporting findings, although limited due the nature of their measures of performance.

Ironically, the missing link between attention structures and organizational attention can benefit from the research about social and financial performance despite its disputed findings (Orlitzky et al 2003, Margolis and Walsh 2003). We take on previous results, which suggests “attention to CSP arenas does not represent a competitive disadvantage and may in fact be a competitive advantage” (Waddock and Graves 1997, p. 314) to propose that organizational attention to employee welfare and benefits lead to improved financial performance.

Our argumentation has a twofold explanation. First, based on signaling theory, we suggest that when an organization dedicates attention to their employees’ welfare it is signaling to its stakeholders (investors, customers, governments, and not only employees) a set of values and norms. When doing so, organizations might gain reputation benefits, obtain community support, and attract customers and investors. All these benefits can be translated into positive financial performance (Wright, Ferris, Hiller and Kroll 1995, Konrad and Mangel 2000, Perry-Smith and
Second, based on efficiency arguments, we suggest that under efficiency strategy, where managerial aim is to make the best use and combination of the production factors and resources, employee welfare and benefits can be a low cost practice to obtain material and emotional commitment (Grant, Dutton and Rosso 2008), gain morale (Waddock and Graves 1997) and productivity (Wright, Ferris, Hiller and Kroll 1995 and Konrad and Mangel 2000). In other words, given their dependence on labor for production, attention to employees can be an efficient use of resources (Grant, Dutton and Rosso 2008).

**H2: Organizational attention to social issues is positively associated with financial performance.**

We suggested earlier in this paper that previous research about the effects of workforce on organizational outcomes reported inconsistent findings due to confounding constructual frame and operationalization. As our hypotheses suggest, attention structures have an effect on organizational attention, which in turn affect organizational outcomes. From an ABV perspective organizational performance is not predetermined but is the result of the various effects and specific contingencies of attention structures on the process of organizational attention (Ocasio 1997, Kacperczyk 2009 and Bouquet, Morrison and Birkinshaw 2009). Financial performance cannot be predicted solely by attention structures. It is, nevertheless, explained by how attention regulators channel decision-makers focus of attention. Therefore, we suggest that effects of attention structures on financial performance are dependent on how organizations allocate attention.

**H3: The relationship between attention structures and financial performance is mediated by organizational attention to social issues.**
At this point, it is worth mentioning that in our work we use workforce diversity to proxy sensitiveness of attention structures. In this case, the mediation effect of organizational attention goes against the workforce diversity literature, which suggests a direct effect of diversity on financial performance (Herring 2009). We contend that the benefits of diversity must be attributed to the selective attention by decision-makers resultant of the attentional processes at the organizational level.

Data and methods

Our data reveals information about Brazilian organizations. As previously mentioned, Brazil is an interesting research context especially for all its contradictions. On one hand, its recent yet strong economic development has entitled the country with positive economic prospects. On the other hand, its social development is lagging far behind and the country still struggles with basic social issues (Griesse 2007). In Brazil, inequality is not restricted to income indicators and there is plenty of room for social action. Our dataset comprises information reported by Brazilian organizations that voluntary published a social report called “Balanço Social” (or Social Balance). The Social Balance (SB) follows a specific set of social reporting guidelines campaigned by a Brazilian non-governmental organization called Ibase (Brazilian Institute of Social and Economic Analysis). This was the first initiative of social reporting that took place in Brazil and plays an important role in the development of measures of social performance of Brazilian organizations.

In 1996, Ibase started a campaign to promote the use of social reporting and voluntary disclosure of organizational information about expenses and contributions to social issues. As part of their
initiative, they released the Social Balance as a specific format for social reporting including some guidelines regarding its contents. The most salient characteristic of the SB is simplicity. First, in terms of format, it was designed to resemble an accounting balance sheet where the responsible for the report only have to fill in monetary values of a list of items that are taken as indicators of social responsibility. Second, in terms of content, the listed items are regarded as data easily collected from internal accounts, reports and documents of the organizations.

Since 1996, there was an increase in the number of companies adopting the SB model and reporting social responsibility efforts. In that year, only nine Brazilian organizations published the SB whereas 233 companies reported in 2003. It should be noted that for various reasons the number of reports decreased after this year. First, the peak of the number of companies adopting and publishing the SB was between 2003 and 2004. During those years the Brazilian Congress was discussing a project of law mandating companies to report and publish the Social Balance. However, the project was ruled out in 2004. Second, since the beginning of years 2000, other models and reporting guidelines started to be discussed among Brazilian organizations and their stakeholders. In addition to the model proposed by Ibase, Instituto Ethos and also the Global Reporting Initiative became important players in the arena related to social responsibility in general, and social reporting, in particular (Griesse 2007). As an illustration, the number of companies adopting GRI model increased from 5 in 2002 to 18 in 2006 whereas 192 and 126 organizations published the SB in 2002 and 2006 respectively. Finally, as a result of the learning process, many Brazilian organizations that published the SB for some years opted for more comprehensive models for social reporting and, instead of publishing the single sheet of the SB, they started publishing full social reports. It is noteworthy that some of the SB indicators are still reported within these broader reports.
Sample

Initially we collected all the information available at the Ibase database, which comprises 1447 reports published by 351 Brazilian organizations between 1996 and 2007. During this period the SB format changed three times and the current version is the same since 2002, yet not so different from the previous one released in 2001. The modifications included in the various formats of the SB report entail the inclusion of additional information and therefore, a dataset consisting of all the reports contains a large number of missing values in various indicators between 1996 and 2000. Thus, for our analysis we included the reports published from 2001 onwards (refer to Figure 2 for the sample characteristics). Our final sample consists of 1195 reports published by 338 organizations distributed in various industries but predominantly manufacturing and utilities (around 26% and 21% of the organizations respectively). From the total number of organizations, 5.33% are public institutions whereas 55.91% are private and 38.76% public listed firms. To ensure reliability of our data, we collected financial data of public listed companies published at the Worldscope reports and also at CVM (Comissão de Valores Mobiliários which is the Brazilian equivalent for the SEC in the US). Correlations between measures collected in both reports are 0.94 or higher.

Measures

Following the typology suggested by Marquis, Glynn and Davis (2007), we restricted our analysis on organizational social actions that focus on employee welfare and benefits in the form of organizational attention. As described below, our measures of attention structures and
organizational attention are relative to organizational size. In addition to working as a control for size, the relative measures also capture the level of organizational social action, the sensitiveness of attention structures and breadth of organizational attention. Although size was found as non-significant (Waddock and Graves 1997), it is regarded as an important contextual factor (Brammer and Millington 2008) in the relationship between social and financial performance.

In addition to theoretical justifications for our relative measures, we also have some methodological reasons do to so. Including proxies for size in our measures helps us to control for the effects of omitted variables (Edwards 2008) and also to deal with bias due to common method variance (Spector 2006). In order to deal with potential problems caused by common method variance we followed recommendations of Podsakoff, MacKenzie, Lee and Podsakoff (2003) and performed the Harman’s single-factor test and also the test with an unmeasured latent variable. We obtained results for these two tests that do not compromise our analysis. Nevertheless, Spector (2006) recommends to carefully considering possible sources of bias that could affect the measures and try to control for. Hence, by using measures relative to size for attention structures and organizational attention we are including an additional control that might capture bias due to social desirability (Podsakoff, MacKenzie, Lee and Podsakoff 2003).

Attention structures We measured attention structures using two indicators, namely number of non-white\textsuperscript{1} employees by payroll and number of disabled employees by payroll. We chose these two indicators because they are particularly good proxies for sensitiveness of attention structures

\textsuperscript{1} We use non-white terminology to account for mixture of different racial backgrounds present in Brazil. Racial diversity of Brazilian population is such an important issue that the national institute for statistics (IBGE) adopts the terminology “cor ou raça” meaning “color or race” (instead of race or color only). Accordingly, it comprises five broad self-reported categories branca, amarela, indígena, parda and preta, which roughly represent White, Asians, Indigenous, Brown and Black, respectively. In our work, non-white refers to Black employees.
in the Brazilian context. Brazil has the largest population of Afro-descendents after the African countries and it figures as the third country in disabled population. Since 1991, disabled population is protected by the “Lei das Cotas” (or “Quotas Law”), which requires Brazilian organizations to reserve a certain number of job positions to people with disabilities. More recently, Brazilian society and politicians are discussing the implementation of quotas for non-white population for higher education admission, contracts and jobs. It is beyond the aim of our study to discuss the pros and cons of affirmative action. Yet, we use the information about quotas to illustrate that the relative number of non-white and disabled employees to payroll are suitable proxies for the sensitiveness of the attention structures.

From an attention perspective, it is not merely the composition of the workforce that will affect organizational attention but its capacity to influence the schemes used by the decision-makers when valuating issues and answers (March and Olsen 1976 and Ocasio 1997). Therefore, the larger the participation of non-white and disabled employees in the organization’s payroll, the more sensitive are attention structures.

**Organizational attention** Following previous work that successfully used resource allocation-based measures for organizational attention (Durand 2003), we use organizational expenditures to proxy organizational attention to employee welfare and benefits. For our measure, we used five indicators of organizational expenditures, which are relative measures of the total amount of expenditures with food and meals for employees, with social security, pension and retirement plans, healthcare and education and training per employee. In Brazil, where government expenditure is either meager or inefficient, private investments in the workforce welfare, for instance, in the form of healthcare or education benefits are particularly relevant.
**Financial performance** We used the logarithmic values of operating revenues and earnings before income and taxes as indicators of financial performance. These are account-based measures of performance, which are suitable for our research because they capture internal efficiency and therefore, “reflect internal decision-making capabilities and managerial performance” (Orlitzky et al 2003, p. 408).

**Control variables**

**Procedural and communication channels** We included a dummy variable for organizations that published the Social Balance in the previous year for two main reasons. First, anecdotal evidence suggest the “what gets measured, gets done” truism is particularly conspicuous to organizational attention (Davenport and Beck 2001). Hence, we expect that organizations might increase (or decrease) organizational attention to employee welfare and benefits as a result of being aware of the actual level of expenditures. Second but still related to the previous, according to ABV organizational reports are one of the procedural and communication channels which affects distribution of organizational attention (Ocasio 1995, Ocasio and Joseph 2005 and Bouquet et al 2009) because “by explicit measurable criteria, organizations learn to attend to some criteria and ignore other” (Cyert and March 1963, p. 124). To control for potential autocorrelation due to the time dynamics present in our dataset, we also included dummy variables for year.

**Rules of the game** In addition to players, rules of the game are another component of attention structures emphasized by Ocasio (1997). Rules of the game are attention regulators that comprise values and incentives that “specify the system of social and economic rewards and recognition obtained by organizational decision-makers in their interactions and links theses rewards to specific issues and answers” (Ocasio 1997, p. 198). We included two dummy variables based on
the suggestion that organizational type and industry regulation encompasses certain rules that might affect differently organizational attention (Goodstein 1994, Osterman 1995, Arthur 2003 and Herring 2009). We included a dummy variable for public organizations and another dummy for organizations operating in regulated industries. Public organizations are most likely to have different organizational goals and operate under a different logic than business firms. Therefore, human resource policies and practices and perceptions and use of human capital might be different when compared to for-profit organizations (Herring 2009). Additionally, also included a dummy variable for organizations operating in energy and telecommunication sectors. In the end of the nineties, Brazilian economy went through a large privatization program. Since then, water, oil and gas, utilities and telecommunication companies operate under the eyes of regulatory bodies. Consequently, these are relatively more regulated industries.

Labor-intensity Finally, given our focus on employee welfare and benefits, we included the ratio between total labor costs and sales as a measure for labor intensity (Brammer and Millington 2008). Labor intensity proxies the dependence of the organization on human capital which might have an impact on organizational attention measured as expenditures on employees’ welfare (Fields, Goodman and Blum 2005). As suggested by Herring (2009) service organizations are more likely to exclude non-whites from their workforce.

Methods
We tested our hypotheses with Structural Equation Modeling (SEM) using AMOS 17.0 software. Due to missing values we tested our models both using the correlation table as input (N=341) and also using raw data (N=1195) with multiple imputation techniques available at SPSS 17.0 (Schafer and Graham 2002). The results from tests using raw data with multiple imputation and covariance matrix are not significantly different. According to Williams, Gavin and Hartman
(2004), for SEM listwise deletion is the preferred method to deal with missing data despite the information lose. Thus, we opted to report the results based on the analysis of the observations with complete information. We estimated the four structural models using maximum likelihood procedure. First, we tested the relationship between attention structures and organizational attention, then we tested this same model including the control variables and then we tested two other models for the partial and full mediation role of organizational attention in the relationship between attention structures and financial performance (Williams, Gavin and Hartman 2004). A partial mediation differs from a complete mediation by the presence of a direct relationship between attention structures and financial performance. Partial mediation is only confirmed if coefficients of the mediator and the coefficient of the direct path are significant (Baron and Kenny 1986).

Results

Table 1 reports means, standard deviations, and correlations between all variables included in the analysis. The first step was to assess the measurement model. For attention structures and financial performance we had less than three indicators. Thus, we assess their reliability using their correlation coefficients, which are 0.83 and 0.88 respectively. The composite reliability of our latent variable measuring allocation of attention is 0.862 and each of the five indicators had individual reliability above 0.5 (they vary between 0.66 and 0.89). We obtained good model fit (adjusted chi-square = 2.09, GFI = 0.99, CFI = 0.99 and RMSEA = 0.05) with 0.56 of variance extracted.

Insert Table 1 about here

Insert Table 1 about here
Next, we added the proposed paths to test the relationships as hypothesized. Table 2 summarizes the results of the models and the standardized beta coefficients for all the variables, including controls. Before testing our main models, we tested the basic model of the relationship between attention structures and allocation of attention without the control variables. According to recommended cut off values (Hu and Bentler 1999) and “popular rules of thumb” (Shook, Ketchen, Hult and Kacmar 2004, p. 400) our model presented good fit (adjusted chi-square = 2.68, sRMR = 0.03, GFI = 0.97, CFI = 0.98 and RMSEA = 0.07). After including the controls, the model of the relationship between attention structures and allocation of attention still presented good fit (adjusted chi-square = 3.08, sRMR = 0.06, GFI = 0.94, CFI = 0.92. and RMSEA = 0.08) with 0.294 of variance extracted and 0.779 of model reliability. Finally, we tested the full model, now also including financial performance. The model where allocation of attention fully mediates the relationship between attention structures and financial performance presented 0.36 of variance extracted and 0.86 of reliability with good model fit (adjusted chi-square = 4.03, sRMR = 0.07, GFI = 0.91, CFI = 0.89. and RMSEA = 0.09).

Hypotheses tests results

Relationship between attention structures and allocation of attention  The coefficient of attention structures significantly affects allocation of attention (.76, p < .05), supporting our Hypothesis 1. Related to the controls we found that being a public organization does not have a significant effect on attention structures and that operating in a regulated industry does not have a
significant effect on allocation of attention. It is important to note that we found some counterintuitive results for the effects of our control variable of labor intensity. Whereas labor intensity has a positive significant effect on attention structures (.13, p < .05), it has a negative effect on allocation of attention (-.31, p < .05). All the results for our control variables were consistent throughout all our models.

Relationship between allocation of attention and financial performance As suggested in our Hypothesis 2, we found a significant effect of allocation of attention to social issues.

Mediation role of allocation of attention We found that attention structures do not have a direct significant effect on financial performance (neither when we test the model with the indirect path between attention structures and allocation of attention nor when the path is excluded from the model). However we do find that attention structures have a significant indirect effect on financial performance through allocation of attention. As displayed in the last column of Table 2, attention structures have an effect on allocation of attention (.77, p < .05), which in turn, affect financial performance (.51, p < .05) These results not only confirm our hypothesis (H3) but also indicates that allocation of attention fully mediates the relationship between attention structures and financial performance.

Additional analysis

Munificence argument

A munificence explanation argues that positive financial performance is conducive to a less constrained resource allocation, which, in turn, allows organizations to divert attention from their core operations to focus on other aspects, including social investments (Brammer and Millington 2008; Wang Choi and Li 2008). As a result, one could suggest a different order of causality in the
model we proposed. Instead of testing the effects of organizational attention on financial performance, a munificence argument proposes that positive financial performance increases organizational attention to employee welfare and benefits.

To test the munificence argument as an alternative explanation for our results, we reversed the causal order between organizational attention and financial performance. In our additional analysis we estimated a model where attention structures directly affects financial performance, which has an effect on organizational attention. The results reveal a worse (and inadmissible) fit (adjusted chi-square = 5.22, GFI = 0.89, CFI = 0.85 and RMSEA = 0.11). From an ABV perspective, historical financial performance is, together with other issues and answers, part of the environment of decision of the organization. Therefore, how it will affect allocation of attention depends on the attentional processes at the organizational level. Although this result does not rule out the effects of financial performance on organizational attention, they provide extra support for an ABV perspective on organizational responses to social issues.

**Instrumental stakeholder management explanation**

Stakeholder management theory suggests that systematic attention to stakeholders is critical to organizational success. Accordingly, there is a positive relationship between social performance and financial performance because attention to the various stakeholder groups is instrumental for organization financial performance (Donaldson and Preston 1995, Jones 1995 and Berman, Wicks, Kotha and Jones 1999). Hence, one could suggest instrumental stakeholder management as an alternative explanation for our findings.
In order to test stakeholder management as an alternative explanation for our results we tested the effects of labor intensity, industry regulation and organization type as antecedents of attention structures. Under the instrumental stakeholder management theory, instead of attention regulators, these three aspects shape organizational structures and general policies to respond to stakeholder demands (Donaldson and Preston 1995, p. 67). In our supplementary statistical analysis we tested the effects of the variables for public organizations, labor intensity and regulated industry on attention structures only. Across the three models we either found worse fit (model testing the relationship between attention structures and allocation of attention; adjusted chi-square = 3.73, sRMR = 0.07, GFI = 0.92, CFI = 0.88 and RMSEA = 0.09) or not acceptable fit (mediation models; GFI = 0.89, CFI = 0.86 and RMSEA = 0.10).

Hence, we believe our results are a strong test of our proposed theoretical framework based on ABV. In addition to our results, Kacperczyk (2009) found further evidence supporting the mediation role of organizational attention. Her findings suggest that managerial attention is highly selective, even when managers are constrained by less strict governance mechanisms. In summary, organizations face various trade-offs related to the diverse and, sometimes conflicting, interests of their stakeholders. Whereas “stakeholder management requires, as its key attribute, simultaneous attention to the legitimate interests of all appropriate stakeholder” (Donaldson and Preston 1995, p 67), an ABV perspective explains the attentional process behind these trade-offs and how some interests are attended (or not). In a nutshell, the ABV explanation is an enlightening perspective because it is based on a process cross-level model that first explain how attention, a limited and scarce resource, is allocated among the various stakeholders and second, how it is related to financial performance.
Discussion

This study proposed an attention-based perspective of organizational social responses. First, we hypothesized that sensitive attention structures have a positive relationship with organizational attention to social issues, which in turn has an effect on financial performance. Second, we suggested that the relationship between sensitive attention structures and financial performance is mediated by organizational attention to social issues. Using a unique dataset composed by information from Brazilian organizations, we found support for our arguments.

Theoretical contributions The ABV as proposed by Ocasio (1997) extends earlier work on organizational attention (Simon 1947) because it provides a detailed description of how organization’s concrete and contextual structures drive the focus of attention of decision-makers and the flow of organizational attention (Barnett 2008). As a result, from an ABV perspective, organizational attention and firm behavior are dependent on structural characteristics of the organization. Moreover, this structural perspective of organizational behavior highlights the influence of players in organizational attention (Ocasio 1997). Our study contributes to the ABV by providing an explicit and systematic test of the effect of attention structures on organizational attention.

Despite the numerous studies adopting ABV to explain organizational outcomes, there are few studies that actually focus on the effects of organizational attention on financial performance (Levy 2005 and Bouquet, Morrison and Birkinshaw 2009). This might be explained by the difficulties in measuring organizational attention. Our research extends the ABV literature
overcoming these two limitations. In our study we adopt a resource allocation-based measure of organizational attention and test its effects on financial performance.

We chose to test our theoretical model on organizational responses to social issues where the contingent aspect of organizational attention was not explored yet. Hence, our study indirectly contributes to the field of business in society. Inspired by the research of Margolis and Walsh (2003) we adopted a pragmatic approach to explain the relationship between social and financial performance. More importantly, we departed from a new angle proposing an ABV perspective of organizational social action (Marquis, Glynn and Davis 2007). We suggested and tested the contingent aspect of organizational attention to social issues. Our results suggest that organizational attention fully mediates the relationship between attention structures and financial performance. Thus, by testing the role of organizational attention we added a new contingent factor related to social performance. These findings corroborate recent research recommendations to include and account for contingent aspects affecting social and financial performance (Brammer and Millington 2008).

We also contribute providing an alternative explanation for the relationship between social and financial performance different from the instrumental stakeholder management theory (Donaldson and Preston 1995, Jones 1995). Our findings suggest additional internal factors other than organizational structures that explain responses to stakeholder demands. As previously cited, Kacperczyk (2009) provides further evidence of the mediation role of organizational attention to explain stakeholder attention. From an ABV standpoint, organizational attention is a cross-level process influenced by individual, organizational and environmental factors. We believe the process-based model of situated attention proposed by Ocasio (1997) provides a more
comprehensive view of social responsibility. Despite being a structural approach, the ABV is broad enough to encompass the effects of individuals and managers (i.e., player and decision makers) on organizational attention. As such, it provides sound theoretical support to the argument that “a company’s social responsibilities are not met by some abstract organizational actor; they are met by individual human actors who constantly make decisions and choices, some big and some small, some minor and other of great consequence” (Wood 1991, p. 699).

Research limitations This study has several limitations. First, our sample is composed by organizations that voluntarily adopted social reporting and disclosure of social indicators. Thus, our results might be biased towards organizations that, in general, are more concerned about social issues. Future studies might consider testing the effects of attention structures sensitiveness in a research sample composed of organizations that do not adopt social reporting initiatives. Second, our dataset includes information from public listed firms but also private corporations and governmental organizations. On one hand, it is an interesting approach to test for the differences related to the rules of the game. On the other hand however, levels of transparency and accountability of both private companies and governmental institutions are far from being exemplar. Thus, information reported by these organizations present limited reliability. Third, the pooled cross-sectional nature of our research design does not allow definitive causality tests. Although our studies provide results supporting the causality proposed by the ABV, it is still possible that organizations that have better performance hires more employees regardless of their background and, also have more resources, including attention, to dedicate to stakeholders. Future research adopting longitudinal data and methods will certainly bring additional evidence for our arguments.
Managerial implications  Our research also has some managerial implications for the Brazilian context. Our findings suggest that workforce diversity is beneficial to organizations. Initially one might expect that organizations with a large number of non-white and/or disabled employees will need to pay additional attention to issues related to employee welfare because these groups of employees demand more for instance, education or healthcare (Herring 2009). However our results support an opposite contention. Considering the (negative) effects of labor intensity on attention structures and organizational attention, we believe organizations that are more dependent on labor opt for workforce diversity because these employees are more productive (Wright, Ferris, Hiller and Kroll 1995) and also more material and emotional committed (Grant, Dutton and Rosso 2008). As a result, these organizations have higher levels of job satisfaction combined with lower levels of absenteeism and turnover (Wright, Ferris, Hiller and Kroll 1995). Therefore, despite their dependence on labor, they do not have to pay extra attention to employee welfare and benefits.

For parsimonious reasons, we suggest the revealed positive effects of workforce diversity on financial performance as reported in our study might be specifically related to the Brazilian context. However, the magazine The Economist published an article describing an initiative by the International Airport of Mexico City of hiring disabled employees which is bringing benefits not only to the organization but also to other stakeholders such as employees, customers and government (The Economist 2009, p. 48). This experience together with our findings depicts well the argument for the benefits of social sensitive structures and organizational attention to social issues. We contend that these are benefits that can be translated into financial performance. Furthermore, they can advance positive externalities that go beyond the organizational realm.
More importantly, we contend that workforce diversity is an inclusive and broad corporate and social policy (Herring 2009).

References


Appendix – Table and figures

FIGURE 1
Theoretical model and hypothesized effects

FIGURE 2
Characteristics of the dataset

<table>
<thead>
<tr>
<th>Distribution of organizations:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Per organization type</td>
<td>Per industry</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td><strong>Industry</strong></td>
</tr>
<tr>
<td><strong>Total number</strong></td>
<td><strong>Total number</strong></td>
</tr>
<tr>
<td><strong>Relative number</strong></td>
<td><strong>Relative number</strong></td>
</tr>
<tr>
<td>Public listed firm 131</td>
<td>Manufacturing 87</td>
</tr>
<tr>
<td>Private company 189</td>
<td>Utilities 72</td>
</tr>
<tr>
<td>Public institution 18</td>
<td>Financial services 28</td>
</tr>
<tr>
<td>Total 338</td>
<td>Communication and logistics 45</td>
</tr>
<tr>
<td></td>
<td>Trade (retail and wholesale) 9</td>
</tr>
<tr>
<td></td>
<td>Services 16</td>
</tr>
<tr>
<td></td>
<td>Construction and sanitary services 24</td>
</tr>
<tr>
<td></td>
<td>Extracting 17</td>
</tr>
<tr>
<td></td>
<td>Agriculture, cattle, timber, and aquaculture 40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distribution of reports per year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year</strong></td>
</tr>
<tr>
<td><strong>Total number</strong></td>
</tr>
<tr>
<td><strong>Relative number</strong></td>
</tr>
<tr>
<td>2001 175</td>
</tr>
<tr>
<td>2002 192</td>
</tr>
<tr>
<td>2003 233</td>
</tr>
<tr>
<td>2004 225</td>
</tr>
<tr>
<td>2005 198</td>
</tr>
<tr>
<td>2006 126</td>
</tr>
<tr>
<td>2007 46</td>
</tr>
<tr>
<td>Total 1195</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1. Operation revenues</td>
</tr>
<tr>
<td>2. EBIT</td>
</tr>
<tr>
<td>3. SB previous year</td>
</tr>
<tr>
<td>4. Regulated industry</td>
</tr>
<tr>
<td>5. Labor intensity</td>
</tr>
<tr>
<td>6. Public organization</td>
</tr>
<tr>
<td>7. Payroll</td>
</tr>
<tr>
<td>8. N. employees</td>
</tr>
<tr>
<td>9. N. non-white employees</td>
</tr>
<tr>
<td>10. N. disabled employees</td>
</tr>
<tr>
<td>11. Food and meal expenses</td>
</tr>
<tr>
<td>12. Social security expenses</td>
</tr>
<tr>
<td>13. Pension &amp; retirement</td>
</tr>
<tr>
<td>14. Healthcare benefits</td>
</tr>
<tr>
<td>15. Education &amp; training expenses</td>
</tr>
</tbody>
</table>

* p < 0.01
** p < 0.05
### TABLE 2
Structural Model Results

<table>
<thead>
<tr>
<th></th>
<th><strong>Model 1</strong></th>
<th><strong>Model 2</strong></th>
<th>Allocation of attention as mediator between attention structures and financial performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attention structures</td>
<td>Allocation of attention</td>
<td>A - Partial mediation</td>
</tr>
<tr>
<td>Attention structures</td>
<td>Nonwhite</td>
<td>0.66</td>
<td>0.65</td>
</tr>
<tr>
<td>Attention structures</td>
<td>Disabled</td>
<td>0.65</td>
<td>0.66</td>
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<td>Attention structures</td>
<td>Allocation of attention</td>
<td>0.76</td>
<td>0.78</td>
</tr>
<tr>
<td>Allocation of attention</td>
<td>Food</td>
<td>0.72</td>
<td>0.73</td>
</tr>
<tr>
<td>Allocation of attention</td>
<td>Social Security</td>
<td>0.74</td>
<td>0.74</td>
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<tr>
<td>Allocation of attention</td>
<td>Pension</td>
<td>0.67</td>
<td>0.68</td>
</tr>
<tr>
<td>Allocation of attention</td>
<td>Healthcare</td>
<td>0.87</td>
<td>0.86</td>
</tr>
<tr>
<td>Allocation of attention</td>
<td>Education</td>
<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>Allocation of attention</td>
<td>Financial performance</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td>Financial performance</td>
<td>Operating revenues</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>Financial performance</td>
<td>EBIT</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Attention structures</td>
<td>Financial performance</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

### Controls

<table>
<thead>
<tr>
<th></th>
<th><strong>Model 1</strong></th>
<th><strong>Model 2</strong></th>
<th><strong>Model 2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public organization</td>
<td>Attention structures</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td>Public organization</td>
<td>Allocation of attention</td>
<td>0.17</td>
<td>0.16</td>
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<tr>
<td>Labor intensity</td>
<td>Attention structures</td>
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<td>0.13</td>
</tr>
<tr>
<td>Labor intensity</td>
<td>Allocation of attention</td>
<td>-0.30</td>
<td>-0.31</td>
</tr>
<tr>
<td>Regulated industry</td>
<td>Attention structures</td>
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<td>0.13</td>
</tr>
<tr>
<td>Regulated industry</td>
<td>Allocation of attention</td>
<td>-0.00</td>
<td>-0.03</td>
</tr>
<tr>
<td>SB previous year</td>
<td>Allocation of attention</td>
<td>0.12</td>
<td>0.13</td>
</tr>
</tbody>
</table>

- **Chi-square**: 123.276, 242.212, 242.215
- **df**: 40, 59, 60
- **adj. chi-square**: 3.082, 4.105, 4.037
- **RMR**: 0.013, 0.023, 0.023
- **SRMR**: 0.058, 0.070, 0.069
- **GFI**: 0.936, 0.906, 0.907
- **AGFI**: 0.895, 0.856, 0.858
- **CFI**: 0.920, 0.893, 0.894
- **RMSEA**: 0.078, 0.096, 0.094

- **Model reliability**: 0.779, 0.851, 0.861
- **Variance extracted**: 0.294, 0.340, 0.358

* denote coefficients that are not significant.