

Adna, Beta Embriyono; Sukoco, Badri Munir

## Article

# Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital

Cogent Business & Management

## Provided in Cooperation with:

Taylor & Francis Group

*Suggested Citation:* Adna, Beta Embriyono; Sukoco, Badri Munir (2020) : Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 7, Iss. 1, pp. 1-23,  
<https://doi.org/10.1080/23311975.2020.1843310>

This Version is available at:

<https://hdl.handle.net/10419/245002>

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

### Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>

# Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital

Beta Embriyono Adna & Badri Munir Sukoco |

To cite this article: Beta Embriyono Adna & Badri Munir Sukoco | (2020) Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital, Cogent Business & Management, 7:1, 1843310, DOI: [10.1080/23311975.2020.1843310](https://doi.org/10.1080/23311975.2020.1843310)

To link to this article: <https://doi.org/10.1080/23311975.2020.1843310>



© 2020 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.



Published online: 04 Nov 2020.



Submit your article to this journal [↗](#)



Article views: 2115



View related articles [↗](#)



View Crossmark data [↗](#)



Received: 30 July 2020  
Accepted: 11 October 2020

\*Corresponding author: Badri Munir Sukoco, Department of Management, Airlangga University, Airlangga Rd. 4-6, Surabaya 60286, Indonesia  
E-mail: [badri@feb.unair.ac.id](mailto:badri@feb.unair.ac.id)

Reviewing editor:  
Len Tiu Wright, Faculty of Business and Law, De Montfort University, UK

Additional information is available at the end of the article

## MANAGEMENT | RESEARCH ARTICLE

# Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital

Beta Embriyono Adna<sup>1</sup> and Badri Munir Sukoco<sup>1\*</sup>

**Abstract:** The aim of this study is to analyze the role of organizational capacity for change as a mediator between managerial cognitive capabilities with organizational performance. Further, we investigate the moderating role of social capital on the influence of organizational capacity for change on organizational performance. We surveyed middle managers and their immediate followers (supervisor level) in the Directorate General of State Asset (DGSA), Ministry of Finance, Republic of Indonesia. Overall, 313 middle managers and their followers participated in this study. The results demonstrate that organizational capacity for change mediate the influence of managerial cognitive capabilities on organizational performance. In addition, there is no significant moderating effect of social capital on the influence of organizational capacity for change on organizational performance. Theoretical and managerial implications are further presented in this study.

**Subjects:** Strategic Management; Human Resource Management; Organizational Change; Public & Nonprofit Management



Beta Embriyono Adna

### ABOUT THE AUTHOR

Badri Munir Sukoco is a Professor at the Department of Management and the Director of Postgraduate School, Universitas Airlangga. His major research interests include inter-organizational learning, organizational capability for change, and dynamic capabilities. He has published numerous papers, such as *Computers in Human Behavior*, *International Journal of Human Resource Management*, *R&D Management*, *Creative Industries Journal*, among others. The paper has been prepared in co-authorship with his doctoral student, Beta Embriyono Adna, who is a professional in an Indonesian public organization.

### PUBLIC INTEREST STATEMENT

The successful implementation of top management policies lies in the middle manager hands, particularly in organizational change; and most of the failures occur because the organization does not fully involve the middle manager in their policymaking or change process. This study analyzes the role of organizational capacity for change as a mediator between managerial cognitive capabilities with organizational performance in an Indonesian public organization. Further, we investigate the moderating role of social capital on the influence of organizational capacity for change on organizational performance. The results indicated that a change organization needs middle managers with managerial cognitive capabilities to take on the role in the context of public organizations in Indonesia. The originality of this paper is that it demonstrates managerial cognitive capabilities is a necessary foundation to equip the organization to have the capability for change, especially in a public organization; in which previous studies dominantly emphasize on the role of top management teams.

**Keywords:** Managerial cognitive capabilities; organizational capacity for change; organizational performance; social capital; public organization; Indonesia

## 1. Introduction

The fundamental question of strategic management research is why some companies outperform others. Answering to this question research focuses on cognition in strategic management (Kumbure et al., 2020). Cognition may help to explain why some top managers have more effective capabilities than others for anticipating, interpreting, and responding to the demands of an evolving environment (Helfat & Peteraf, 2015). Moreover, managerial cognitive capability has been proposed as a key factor that influences how firms make strategic changes and adapt to dynamic environments (Cao et al., 2020). Increasing number of scholars tend to posit cognitive capability as a significant determinant of entrepreneurs' effective decision-making and better organization performance, particularly in dynamic environments (Bajwa et al., 2017). Ireland et al. (2003) argued that effective decision-making in the wake of dynamic conditions requires an entrepreneurial mindset; characterized by the ability to quickly make sense of environmental changes and act accordingly, even under uncertain situations. While dealing with uncertainties where decisions have to be made, entrepreneurs rely heavily on their cognitive skills to successfully endure the entrepreneurial process (Bajwa et al., 2017). Thus, MCC important to be discussed for firms to deal with a changing environment.

To date, the cognitive underpinnings of dynamic managerial capabilities (DMC) remain largely unexplored (Eggers & Kaplan, 2013; Helfat & Peteraf, 2015). Existing research on managerial cognitive focuses primarily on the relationship between strategic beliefs and competition outcomes (Tripsas & Gavetti, 2000) and most scholars explored the cognitive dynamics that occur in organizations (Vecchiato, 2016). Research in strategic management has most commonly analyzed cognition, including heterogeneity of cognition among managers, in terms of information structures and mental maps (Gary & Wood, 2011). Helfat and Peteraf (2015), in literature, then analyze the ways in which managerial cognitive capabilities (MCC) underpin dynamic managerial capabilities for microfoundations. Empirically, prior studies are absent examine managerial cognitive capability underpinnings of the microfoundations in tripartite form namely sensing, seizing, and reconfiguring.

Research shows that the concept of MCC highlights the fact that capabilities involve the capacity to perform not only physical but also mental activities and types of cognitive capabilities that are likely to underpin dynamic managerial capabilities for sensing, seizing, and reconfiguring, and explain their potential impact on strategic change in organizations (Helfat & Peteraf, 2015). This area is important because heterogeneity of these cognitive capabilities may produce heterogeneity of dynamic managerial capabilities, which may contribute to differential performance of organizations under conditions of change (Helfat & Peteraf, 2015).

In various literature, MCC does not directly affect performance. The foregoing studies document that MCC as a critical underpinning of DMC (Helfat & Peteraf, 2015) does not directly affect performance (Helfat & Martin, 2015). Organizational Capacity for Change (OCC) as a higher-order dynamic capability mediate MCC as a lower-order dynamic capability to performance (Fainshmidt et al., 2016). In order to achieve high organizational performance, changes at the organizational level are initiated by changes at this individual level. Whereas, generic dynamic capabilities such as OCC can be perceived as sources of long-term organizational dynamism (Andreeva & Ritala, 2016). OCC is a meta capability that allows organizations to continue competing in unpredicted volatility and business environments (Judge et al., 2009). It consists of the process, context, and learning that each affects the capacity of the organization to make changes (Zhao & Goodman, 2018). OCC is important as an area of research because OCC drives faster and more thorough change in the organization (W. Q. Judge & Elenkov, 2005), is a dynamic organizational capability to create changing steps in an increasingly changing environment (Judge et al., 2009) and is continuously intensified and adapted by creating new capabilities (Heckmann et al.,

2016). Studies before mention that the importance of considering an individual's level of analysis in an organization's ability to adapt to the environment improves organizational performance (W. Judge & Douglas, 2009; W. Q. Judge & Elenkov, 2005; Zollo & Winter, 2002). Previous study lack in exploring higher-order dynamic capability as a mediator and further research is needed (Helfat & Martin, 2015).

The relationship between OCC with MCC shows that OCC is the generic trait of dynamic capabilities that bridges strategic management theory with organizational change theory demonstrating that organizations have the ability to achieve and maintain competitive advantage in a constantly changing environment (Andreeva & Ritala, 2016). It is an interesting area for deeper study because most of the research on dynamic capabilities focuses on changing strategies rather than organizational changes (Helfat & Martin, 2015). Therefore, an investigation of the relationship between MCC that focuses on individual managerial impacts on changing strategies with OCC that focuses on organizational changes is unique.

Furthermore, OCC will be easier to implement with social capital. Social capital has a cognitive dimension (Nahapiet & Ghoshal, 1998) which reflects that employees have the same perspective in terms of organizational objectives (Pastoriza & Ariño, 2013) and understand and develop a series of common objectives in the organization (Langreo-Linuesa et al., 2018). The cognitive dimension is a function of an organizational attribute that facilitates mutual understanding and pursuit of collective purpose. The similarities of organizational objectives with individual employee objectives and the same interpretation between employees will make it easier for organizations to make changes and will affect the strong relationship between employees which will impact the collectively built change process (Zhao & Goodman, 2018). In this case, prior studies are absent for examining how social capital moderates the OCC in order to elevate organizational performance. In addition, both MCC and OCC have not been researched within a public organization.

This study offers a number of contributions. First, we extend the dynamic managerial capability (DMC) theory by examining MCC relationship to organizational performance. Fainshmidt et al. (2016) find that higher-order dynamic capabilities are strongly related to performance, then lower-order needs to be mediated by higher-order to performance. Previous study lack in examining how MCC of middle managers have important role in sensing, seizing and reconfiguring where previous study dominantly investigate DMC at the top management level (Ambrosini & Altintas, 2019). This is unique since it focuses on examining how the middle manager's MCC are needed in the organization change process, particularly in public organizations where the study of dynamic capabilities and change capability is underexplored.

Second, this study also extend the concept of MCC, Helfat and Peteraf (2015) find that cognitive capability underpin dynamic managerial capability for sensing, seizing, and reconfiguring, and explain their potential impact on strategic change of organizations. The differences between executives in their cognition were related to differences in strategic change and firm performance (Helfat & Martin, 2015) and how cognitive may help to explain why some managers have more effective capabilities than others for anticipating, interpreting, and responding to the demands of an evolving environment (Helfat & Peteraf, 2015). Relatively little of cognitive research has focused directly in sensing, seizing, and reconfiguring as Teece (2007) acknowledges that the cognitive of top executives contributes to the microfoundations. Third, This study expanded on organizational capacity for change (e.g., learning, process, and context), building on a context where previous studies only discussed this dimension conceptually, as seen in Klarner et al. (2007). Moreover, this research was conducted on a public organization while mostly, dynamic capabilities theory is widely researched in the private sectors. This study demonstrates the role of OCC as a mediator of MCC in improving organizational performance.

## 2. Literature review

### 2.1. Managerial cognitive capabilities

*“Managerial cognitive capability is the capacity of an individual manager to perform one or more of the mental activities that comprise cognition”* (Helfat & Peteraf, 2015). The cognitive aspects are underpinning dynamic managerial capabilities (Helfat & Peteraf, 2015) which is related to the microfoundation of dynamic capabilities (Teece, 2007). Dynamic capabilities encompass creating change as well as reacting to it (Eisenhardt & Martin, 2000); its sensing component includes alertness and a discovery process (Gaglio & Katz, 2001; Kirzner, 1997). These sorts of sensing activities are likely to draw on at least two cognitive capabilities—perception and attention (Helfat & Peteraf, 2015).

The differences sensing between managers can affect strategic change contribute to OCC. It will differences in implementation of change process, daily routine that become characters of the organization, and learning. Sensing relates to adaptiveness (Cools & Van Den Broeck, 2007) in order to implement new strategies, recognizing emerging patterns in the environment (Helfat & Peteraf, 2015) to become an organizational character, and relevant information in the task and learning performance (Cools & Van Den Broeck, 2007; Hayes & Allinson, 1994).

Cognitive capabilities provide a foundation for dynamic managerial capabilities with respect to seizing opportunities and responding to emerging threats. This can entail making large and sometimes irreversible investments in tangible and intangible assets. To do so, cognitive capabilities for problem solving and reasoning are likely to underpin the business model design as well as the capacity for making sound strategic investments (Helfat & Peteraf, 2015).

Seizing relates to problem-solving (Helfat & Peteraf, 2015) in order to have greater potential to design more effective business models. Problem-solving will support the implementation of organizational strategy changes. Heterogeneity in cognitive capabilities for problem-solving may lead to heterogeneity in long-lived business models, which in turn may lead to persistent performance differentials between organizations. Long-lived business models here is done in a daily routine that becomes the character of the organization, also learning in the application of formal rules of logic or other rational approaches to solving problems (Helfat & Peteraf, 2015).

The third leg of the dynamic capability triad involves sustaining that growth and profitability, by enhancing, combining, and reconfiguring the firm’s organizational assets—its resources and capabilities. These dynamic capabilities are likely to depend on managers’ cognitive capabilities for language and communication, and on social cognitive capabilities (Helfat & Peteraf, 2015).

To implement strategy changes, managers need liquid communication. Reconfiguration requires communication and relies on the manager’s ability to persuade others to take on new initiatives. Due to heterogeneity in language and social cognitive capabilities, managers are likely to differ in their capacity to facilitate strategic change through communication, inducing cooperation, and reducing resistance to change (Helfat & Peteraf, 2015). Research on cognitive is conducted by Caughron et al. (2013) and Partlow et al. (2015) with its findings that managers with cognition capabilities can compile accurate analysis that impacts predictions and performance. Cognitive capability can structure business concepts including planning business strategies (Kor & Mesko, 2013) whose result is improved organizational performance.

### 2.2. Narcissism and hubris

The role of personality traits in entrepreneurial decision-making and cognition has been discussed by various researchers and the debate is continuing; however, the role of personality traits with regard to cognitive capability of entrepreneurs has not drawn much attention (Bajwa et al., 2017). Moreover, managers should understand that traits influence their cognitive behaviours, in turn influencing firm performance (Isaga, 2018).

Several attributes exist in both narcissists and leaders, such as self-confidence, extraversion, charisma, attractiveness, energy, skilled oration, grandiose belief systems and strong visions, and it is thus likely for narcissists to emerge as leaders and secure top positions in organizations (Asad & Sadler-Smith, 2020). Campbell et al. (2011) describe a CEO with grandiose narcissism as “someone who is (over) confident, extraverted, high in self-esteem, dominant, attention-seeking, interpersonally skilled and charming, but also unwilling to take criticism, aggressive, high in psychological entitlement, lacking in true empathy, interpersonally exploitative and grandiose or even haughty” (p. 270).

Hubristic leaders over-estimate significantly their own abilities and believe their performance to be superior to that of others; as a consequence, they make over-confident and over-ambitious judgements and decisions (Sadler-Smith et al., 2016). In strategic management, overly confident managers who believe that they have more control over important external factors than their counterparts at rival firms are likely to undertake higher-risk strategic actions (Asad & Sadler-Smith, 2020). Entrepreneurs’ hubristic overconfidence and rampant ambition often lead them to be wrong but rarely in doubt about their venture decisions (Hayward et al., 2006).

### **2.3. Organizational capacity for change**

OCC can be defined as an organization’s ability to develop and implement appropriate organizational changes to constantly adapt to its environment (Klarner et al., 2008). OCC consists of three dimensions; they are organizational context, change processes, and learning (Soparnot, 2011; Zhao & Goodman, 2018) and have a positive influence on organizational performance (Ramus, 2012). The organizational context dimension describes characteristics an organization should possess in its daily routine to achieve successful change, such as structural flexibility and cultural cohesion, the change process dimension includes organizational concepts that are important to display during the change, such as transformational leadership and incremental deployment, and the learning dimension presents long-term organizational capacities to maintain innovative ability, such as improvement through experience and renewal through experimentation (Zhao & Goodman, 2018).

Researches showed that there is a very strong positive relationship between OCC and company performance (Judge et al., 2009; W. Q. Judge & Elenkov, 2005). The relationship between OCC and organizational performance (OP) is strengthened in a very high level of uncertainty (Judge et al., 2009). This is in line with previous research showing that OCC has a positive relationship with the level of organizational performance (Batjargal, 2001; Judge & Douglas, 1998; Judge et al., 1996; Klassen & Whybark, 1999; Ramus, 2001). Moreover, OCC represents the fundamental essence of higher-order generic dynamic capability (Andreeva & Ritala, 2016), then OCC as higher-order mediate the relationship between lower-order and performance (Fainshmidt et al., 2016).

Organizations can only develop capabilities to initiate and implement change by undergoing change, by gaining experience from change, and by constantly learning from the experiences (Heckmann et al., 2016). Process of OCC increasing performance by implementation the notion of continuous of change comprises episodic change and multiple change in parallel or sequentially over time. Organizational routines help to achieve a balance between change and stability (Feldman & Rafaeli, 2002) that support to organizational performance. Routines for handling change develop and became established, especially when such a routine is perceived as being successful and is associated with a positive change outcome (Heckmann et al., 2016). The learning of OCC refers to the organizational ability to continuously investigate its practices to improve and renew them (Klarner et al., 2008).

### **2.4. Organizational performance**

To survive competitive challenges and compete successfully, organizations need to monitor processes through key performance indicators (KPIs) and each circumstance requires companies to closely monitor performance indicators so that it is possible to assess whether processes and activities are being performed (da Silva & Borsato, 2017). Thus, the organization creates KPIs to measure performance.

Today, performance measurement is a common practice across all sectors (Bititci et al., 2018). Indeed, these theories have developed from general systems theory (Ashby, 1956; Bertalanffy, 1968; Weiner, 1948). This is evident in much of the thinking that underpins this field that describes performance measurement and management as the process of measuring what matters, reporting these measures, reviewing performance and taking action, effectively describing a closed-loop control system (Bititci, 2015). Neely et al.'s (1995) definition of performance measurement (i.e. a metric used to quantify the efficiency and/or effectiveness of action) and Melnyk et al.'s (2014) definition of performance management (i.e. the process for developing the metric set, setting goals, collecting, analysing, reporting, interpreting and assessing performance differentials) reinforce this point. In short, performance measurement and management consist of the key elements of a control system, i.e. measure, compare, analyse and act (Bititci et al., 2018).

Okwir et al. (2018) argue for the complexities of performance measurement systems with the aim of understanding better how complexities emerge while implementing and using performance measurement systems in organizations. Performance measurement systems conceptualized as a complex system composed of six sources of complexity consist of role, task, procedural, methodological, analytical and technological (Okwir et al., 2018). There is a task complexity that involves organizations establishing the knowledge, skills and resources needed for an entity to demonstrate satisfactory performance (Okwir et al., 2018; Wood, 1986). Furthermore, a major implication of understanding performance measurement complexity is to recast how organizations should systematically respond to the plurality of best practices by examining the unique context in which a performance measurement system is operating, so that organizations should build the capabilities to choose the appropriate organizational controls, depending on the context and should adapt to the changes associated with PMSs (Okwir et al., 2018). Thus, the following hypotheses are proposed:

H<sub>1</sub>: Middle managers' cognitive capabilities (MCC) positively influence (a) organizational capacity for change (OCC) and (b) organizational performance (OP).

H<sub>2</sub>: Organizational capacity for change (OCC) positively influences organizational performance (OP).

H<sub>3</sub>: The positive influence of middle managers' cognitive capabilities (MMC) on organizational performance (OP) is mediated by organizational capacity for change (OCC).

## **2.5. Social capital and cognitive dimension**

The cognitive dimension of internal social capital concerns the extent to which employees share a common perspective about the firm's goals (Moran, 2005). This dimension is a function of organizational attributes that facilitates a common understanding of collective goals and the subordination of parochial interests with regard to these goals (Leana & Pil, 2006; Tsai & Ghoshal, 1998). The cognitive aspect of social capital pertains to the extent to which people share a common perspective or understanding and can develop a common set of goals and a shared vision for the work unit (Leana & Pil, 2006). This dimension is linked to associability, or "the willingness and ability to define collective goals that are then enacted collectively" (Leana & Buren, 1999), and is a function of the organizational attributes that facilitate common understanding and pursuit of collective goals, rather than individual interests (Leana & Pil, 2006). When the organizational members has high cognitive social capital, the influence of capacity for change on organizational performance will be strengthened due to collective goals that enacted collectively than individual interests (Leana & Buren, 1999; Leana & Pil, 2006). In other words, the capacity for change to improve organizational performance enact greater organizational performance due to collective efforts that drive cognitively to realize the positive change for the organization. Therefore,

H<sub>4</sub>: The positive influence of organizational capacity for change (OCC) on performance (OP) is strengthened when there is high rather than low social capital.

### 3. Research method

#### 3.1. Sampling plan and data collection

Our unit analysis involved middle and lower managers and was obtained from the human resources department of the Directorate General of State Asset, Ministry of Finance, Republic of Indonesia (DGSA MOF). All vertical units consist of 17 regional offices and 71 operational offices and a simple random sampling survey method was used; 100% was represented. Such ministries are facing bureaucratic reforms that require their work unit members, particularly the middle managers, to have dynamic capabilities, and OCC in order to boost the high level of organizational performance related to social capital issues. Middle managers have strategic positions as leaders of regional units, implement decisions taken by top managers, solve problems in the field and provide input as a basis for decision-making for top managers. In addition, the middle manager officially appointed by its institution as “Agent of change” of bureaucratic reform program of the Indonesia government regulations of Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia.

Due to our aim to investigate both middle-level and their direct subordinates, we used purposive sampling by recruiting each middle manager with their lower managers (i.e. two to four subordinates). This study followed the suggestions proposed by Podsakoff et al. (2003) to reduce the potential bias of common method variance (CMV). First, in order to reduce their hesitation and distrust, allowing them to answer the questions in the questionnaires sincerely, our study surveyed anonymously. Thus, the survey participants were assured anonymity and it was confidential as stated in the cover letter (e.g., Baruch & Holtom, 2008). Second, in order to minimise the threat of CMV (i.e. a single and common data source) (Podsakoff et al., 2012), our study gathered the measures of the constructs from different sources (i.e. OCC and organizational performance were measured by middle-level manager, while the others were measured by their subordinates).

There were 75 middle-level managers participated in the survey (response rate 93.75%), for each middle-level manager has a direct subordinates (2 to 4 lower-level managers) responded to the survey (Table 1). There were 238 lower-level managers responded (response rate 95.20%). Respondents' profiles were categorized by gender, age, unit echelon III, title, zone, work length, length of echelon experience. For the middle managers, 29% were aged 41 to 45 years, 29% were aged 46 to 50, and the remainder were above 50 years. For middle managers, their length of Echelon experience was mostly less than 10 years, for as much as 75%, and length of current position was less than 2 years for 69% and 2 to 4 years for 29%. Most respondents (57%) were at an operational office and these employees directly served the stakeholders and ran a head office policy.

#### 3.2. Measures

This study adapted measurement items for dynamic managerial capability from Teece (2007) and Helfat and Peteraf (2015), in which sensing capabilities consist of five items, seizing capabilities consist of four items, and reconfiguring capabilities consist of three items. In the case of OCC, we operationalized based on items developed by Zhao and Goodman (2018). Learning capacity has four items, while process capacity has four items, and context capacity consists of eight items. Social capital was operationalized based on Pastoriza and Ariño (2013) and Langreo-Linuesa et al. (2018), and it consists of six items. Finally, organizational performance adapted from Silva and Borsato (2017) that organization is focused on creating key performance indicators in order to measure the performance. Following Okwir et al. (2018), the key performance indicators of organizational performance using task performance and contextual performance in accordance with the condition of public organization that is conducting bureaucracy reform. Organizational performance has been established on the road map of the bureaucracy reform which is based on the legal regulations that bind all work units and employees. Task performance consists of four items, while cultural performance consists of three items. This study further reduced the effect of self-generated validity based on Podsakoff et al.'s (2003) procedures. This involved

counterbalancing the question order, i.e., randomly sequenced survey questions. All of the items were rated on a five-point Likert scale from 1—strongly disagree to 5—strongly agree. Middle-level managers answered OCC and OP questionnaires, while MCC and SC questionnaires were answered by lower-level managers.

## 4. Results

### 4.1. Measurement model

We used confirmatory factor analysis (CFA) and found that factor loading of each item was greater than 0.500. Further results indicated Cronbach's Alpha values are above 0.700 (Table 2). The results showed that the model fit the data well, and the goodness-of-fit statistics were as follows:  $\chi^2$  (df) = 1565.339 (743),  $p = 0.034$ ; CFI (RMSEA) = 0.765 (0.093).

To test the discriminant validity, we employed three steps. First, a Harman's one-factor test was conducted that loaded all the variables into a principal component factor analysis. The results revealed that no single factor dominated (nine factors were generated with 83.330% of the total variance, and factor 1 had only 22.886% of the variance). Second, the variance-extracted percentages for any two factors were compared with the square of the correlation estimate between these two factors (Fornell & Larcker, 1981). Table 3 also reports the inter-factor correlation and its squared value. Each of the variance-extracted estimates was greater than the corresponding inter-factor squared correlation estimates (i.e., had values larger than the values above the diagonal). Finally, the  $\chi^2$ -difference test was performed for each pair of factors (a total of 55 tests for the overall data), and all cases resulted a significant difference, which further indicated that the pairs were not collinear (Anderson & Gerbing, 1988). Therefore, the discriminant validity among research dimensions of research variables was further confirmed. The correlation matrix also indicated that the results provided validation for the proposed hypotheses.

### 4.2. Hypothesis testing

To test the hypotheses, this study uses structural equation modeling with maximum likelihood model. Due to the complexity of the model, second-order factors are used. Given the measurement validity of the overall research variables, this technique could reduce model complexity and be used for structural model analysis and hypotheses testing (e.g., Anderson & Gerbing, 1988).

The first model is developed to test the proposed model, in which MCC positively influence OCC and OP, parallelly OCC also positively influence OP. The model  $\chi^2$  (df) = 29,699 (17),  $p = 0.029$ ; GFI (RMR) = 0.923 (0.020), which suggests that the model fits the data. Hypothesis 1a predicts that MCC positively influence OCC. As shown in Figure 1, the results illustrate that MCC, which consists of sensing, seizing, and reconfiguring, positively and significantly influence OCC ( $\beta = 0.634$ ,  $p = 0.001$ ). Therefore,  $H_{1a}$  is supported. Hypothesis 1b posits that MCC positively influence OP. The results indicate that MCC do not significantly influence OP ( $\beta = -0.101$ ,  $p = 0.205$ ), thus  $H_{1b}$  is not confirmed. Hypothesis 2 predicts that OCC positively influences OP, and the results indicate that OCC significantly influences OP in a positive direction ( $\beta = 0.707$ ,  $p = 0.001$ ). Thus,  $H_2$  is confirmed. Hypothesis 3 posits that OCC mediates the influence of MCC on OP, and the results confirmed this (indirect effect  $\beta = 0.448$ ).

One important criterion of a model's success is its performance compared with that of rival models (Bagozzi & Yin, 1988). The proposed model is based on the concept that hypothesizes a specific nomological network of constructs. For example, the model allows to test the mediating effect of OCC on the relationship between MCC and OP. A non-parsimonious rival model would hypothesize that MCC and OCC directly influence OP, and there is no relationship between MCC and OCC. The overall fit for the rival model is worse than the proposed model ( $\chi^2$  (df) = 104.564 (18),  $p = 0.000$ ; GFI (RMR) = 0.809 (0.308).

**Table 1. Respondents' profile**

Category	Criteria	Middle Manager		Lower Manager	
		Frequency	%	Frequency	%
Gender	Male	64	85%	194	82%
	Female	11	15%	44	18%
	Total	75	100%	238	100%
Age	Less than 30 years	-	-	1	0%
	30–40 years	-	-	55	23%
	41–45 years	22	29%	156	66%
	46–50 years	22	29%	14	6%
	Above 50 years	31	42%	12	5%
	Total	75	100%	238	100%
Unit echelon III	Division	32	43%	79	33%
	Operational office	43	57%	159	67%
	Total	75	100%	238	100%
Title	Bachelor degree	20	27%	121	51%
	Master degree	54	72%	116	49%
	Post graduate degree	1	1%	1	0%
	Total	75	100%	238	100%
Zone	I	15	20%	56	24%
	II	21	28%	56	24%
	III	18	24%	66	27%
	IV	21	28%	60	25%
	Total	75	100%	238	100%
Work length	Less than 5 years	-	-	2	1%
	5–10 years	2	2%	17	7%
	11–15 years	11	15%	34	14%
	16–20 years	18	24%	94	39%
	More than 20 years	44	59%	91	38%
	Total	75	100%	238	100%
Length of echelon experience	Less than 10 years	56	75%	160	61%
	10–15 years	13	17%	65	27%
	16–20 years	6	8%	11	5%
	More than 20 years	-	-	2	1%
	Total	75	100%	238	100%
Length of current position	Less than 2 years	52	69%	113	47%
	2–4 years	21	29%	107	45%
	5–6 tahun	2	2%	16	7%
	More than 6 years	-	-	2	1%
	Total	75	100%	238	100%

**Table 2. Questionnaire items, validity and reliability results**

Code	Items	Factor Loadings	Cronbach's Alpha
Managerial Cognitive Capabilities— <i>Sensing (Sens)</i>			
Sens1	As a leader, you ... Observe trending topic areas in magazines/ newspapers	0.732	0.892
Sens2	... Observe changes in the value and lifestyle of people	0.833	
Sens3	... Find new opportunities in the task environment	0.924	
Sens4	... Seek new practices	0.916	
Sens5	... Conceptualize new ways of working	0.758	
Managerial Cognitive Capabilities— <i>Seizing (Seiz)</i>			
Seiz1	... Respond/react to changes in the work environment	0.903	0.892
Seiz2	... Actively develop new ways of working	0.893	
Seiz3	... Continue to build complementary knowledge	0.930	
Seiz4	... Actively affect the direction in which you are working	0.797	
Managerial Cognitive Capabilities— <i>Reconfiguring (Recf)</i>			
Recf1	... Use knowledge gained with the organization of DGSA	0.935	0.949
Recf2	... Use existing resources in the new area	0.978	
Recf3	... Use existing knowledge in new areas	0.950	
Organizational Capacity for Change— <i>Learning capacity (LeCap)</i>			
LeCap1	Change leaders know the interdependency between work units in change	0.880	0.919
LeCap2	Change leaders know the importance of institutionalizing change	0.899	
LeCap3	Change leaders know the need to readjust incentives with desired changes	0.891	
LeCap4	Change leaders know to assess causes and not symptoms of problems	0.927	

(Continued)

Code	Items	Factor Loadings	Cronbach's Alpha
Organizational Capacity for Change— <i>Process capacity (ProCap)</i>			
ProCap1	The information flow is effective from the Director General to Echelon II, III, and IV officials in all work units	0.870	0.923
ProCap2	Information flow is effective; the information provided is always real-time	0.927	
ProCap3	Information flow is effective; information is provided across work units	0.938	
ProCap4	The information flow is effective; information is provided from stakeholders to work units	0.869	
Organizational Capacity for Change— <i>Context capacity (ConCap)</i>			
ConCap1	DGSA employees are open to considering changes to RBTK	0.838	0.928
ConCap2	DGSA employees have the opportunity to voice their concerns about change	0.911	
ConCap3	DGSA employees know how changes will help DGSA's performance as a whole	0.923	
ConCap4	DGSA employees see the DGSA head office as trustworthy	0.828	
ConCap5	DGSA has an organizational culture in providing value to innovation and change	0.804	
ConCap6	DGSA has an organizational culture in providing resources to experiment with new ideas	0.777	
ConCap7	DGSA employees are open to considering changes to RBTK	0.717	
ConCap8	DGSA has an organizational culture that allows people to take risks and sometimes fail	0.787	

(Continued)

**Table 2. (Continued)**

Code	Items	Factor Loadings	Cronbach's Alpha
Cognitive Social Capital (CogSC)			
CogSC1	My direct supervisor shares the same wishes and visions for the DGSA organization	0.883	0.904
CogSC2	My direct supervisor and I enthusiastically pursue goals and missions together	0.881	
CogSC3	There are common objectives among employees in DGSA organizations	0.836	
CogSC4	My direct supervisor is committed to organizational objectives	0.843	
CogSC5	My direct supervisor sees himself as a partner in mapping the organizational direction	0.761	
CogSC6	My direct supervisor fully agrees with the vision of the DGSA organization	0.796	
Organizational Performance— <i>Task performance (TP)</i>			
TP1	The ratio of asset utilization to total assets increases	0.815	0.857
TP2	Percentage realization of value of economic benefits of State asset management has increased	0.908	
TP3	The level of fulfillment of the work unit to Zona Integritas Wilayah Bebas Korupsi has increased	0.780	
TP4	The percentage of information systems implementation that support business processes increases	0.857	
Organizational Performance— <i>Contextual performance (CP)</i>			
CP1	The State Asset Service Quality Management index (ISO 9001:2015) has increased	0.798	0.774
CP2	Percentage of officials who have fulfilled the job competency standard has increased	0.856	
CP3	Percentage of implementation of RBTK initiatives has increased	0.839	

Note:  $\chi^2(df) = 1565.339 (743)$ ,  $p = 0.034$ ; CFI (RMSEA) = 0.765 (0.093).

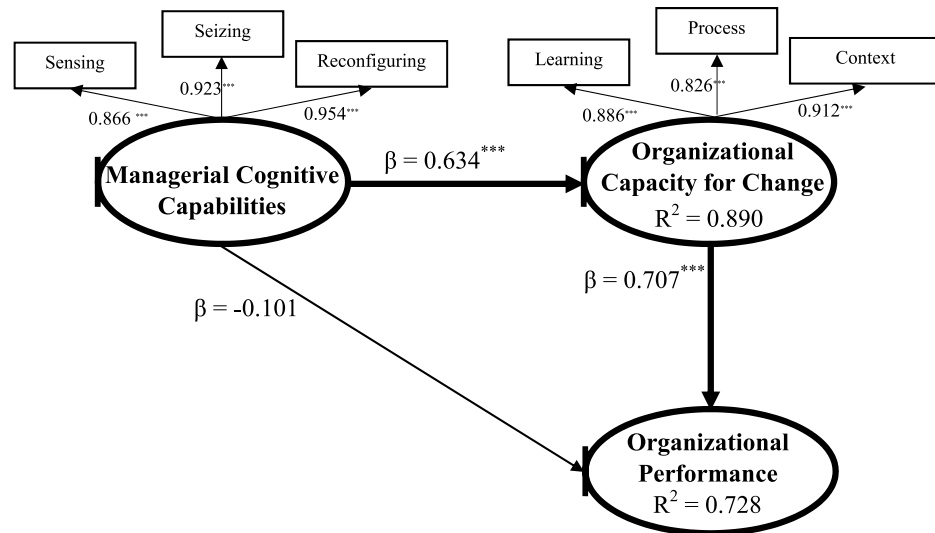
**Table 3. Descriptive and correlation analysis**

Research Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9
MCC Sensing	3.744	0.855	<b>0.699</b>	0.664	0.671	0.176	0.284	0.251	0.248	0.236	0.184
MCC Seizing	4.047	0.833	0.815	<b>0.777</b>	0.771	0.280	0.242	0.361	0.349	0.162	0.185
MCC Recon figuring	3.849	1.067	0.819	0.878	<b>0.911</b>	0.587	0.440	0.563	0.350	0.224	0.190
OCC Learning	4.003	0.848	0.420	0.529	0.766	<b>0.809</b>	0.584	0.669	0.298	0.293	0.181
OCC Process	4.070	0.786	0.533	0.492	0.663	0.764	<b>0.813</b>	0.508	0.260	0.213	0.237
OCC Context	3.790	0.890	0.501	0.601	0.750	0.818	0.713	<b>0.682</b>	0.426	0.235	0.222
Cognitive SC	4.111	0.742	0.498	0.591	0.592	0.546	0.510	0.653	<b>0.696</b>	0.269	0.261
OP Task	4.137	0.821	0.486	0.403	0.473	0.541	0.462	0.485	0.519	<b>0.707</b>	0.331
OP Contextual	4.111	0.649	0.429	0.430	0.436	0.425	0.487	0.471	0.511	0.575	<b>0.691</b>

Notes: Correlation values > 0.300 are significant at  $p < 0.01$ ; Diagonal and bold values are AVE (average variance-extracted) scores; Values below diagonal are bi-correlational values; Values above diagonal are squared correlation values.

**Figure 1. Research model and analysis results.**

Note: + refers to  $p < 0.10$ , \* refers to  $p < 0.05$ , \*\* refers to  $p < 0.01$ , \*\*\* refers to  $p < 0.001$ ,  $\chi^2(df) = 29,699 (17), p = 0.029$ ; GFI (RMR) = 0.923 (0.020).



To test the moderating effect, we developed both an unconstrained (baseline) and constrained model. The constrained model used the mean values to represent high and low social capital. The difference in  $\chi^2$  values between the two models tests for the equality of the path for the two groups (Jöreskog & Sörbom, 2007). Moreover, we tested the critical ratio differences between paths by examining the  $t$ -values. The baseline model has  $\chi^2(df) = 15.186 (4)$ , while the constrained model has  $\chi^2(df) = 49.592 (8)$ . Hypothesis 4 predicts that SC moderates the influence of OCC on OP. Even  $\chi^2$  values are significantly different with different level of paths  $\gamma_{(HSC)} = 1.867$  ( $p = 0.074$ ) vs.  $\gamma_{(LSC)} = 0.387$  ( $p = 0.010$ ), however the critical ratio difference between the two path is not exist ( $t = 1.31, p = 0.18$ ), therefore,  $H_4$  is not confirmed (Table 4).

## 5. Discussion

The aim of this study is to analyze the role of organizational capacity for change as a mediator between managerial cognitive capabilities with organizational performance. This paper is the first empirical study to offer evidence that managerial cognitive capabilities play an important role in forming organizational capacity for change which, in turn, improves organizational performance, especially in the public context of an organization. This study expanded on organizational capacity for change (e.g., learning, process, and context), building on a context where previous studies only discussed this dimension conceptually, as seen in Klarner et al. (2007). Moreover, this research was conducted on a public organization while mostly, dynamic capabilities theory is widely researched in the private sectors. This study demonstrates the role of organizational capacity for change as a mediator of managerial cognitive capabilities in improving organizational performance.

**Table 4. Moderating effect of social capital**

Paths	High social capital	Low social capital
Baseline (unconstrained model: $\chi^2(df) = 15.186 (4)$ )		
Constrained model: $\chi^2(df) = 49.592 (8)$		
OCC → OP	$\gamma_{(HSC)} = 1.867^+$	$\gamma_{(LSC)} = 0.387^{**}$
	$t = 1.31, p = 0.18$	

This research also contributes to dynamic capability theory since no previous research has been conducted empirically discussing organizational capacity for change and managerial cognitive capabilities. Middle managers who have managerial cognitive capabilities will implement a preferred strategy in order to make changes in the organization (Helfat & Peteraf, 2015; Kuipers et al., 2014). In addition, middle managers who are able to utilize their cognitive capabilities will find it easier to find information, implement strategies, solve problems, undertake strategic asset alignment, and use social capital for better organizational performance (Teece, 2007; Helfat & Peteraf, 2015).

### **5.1. Managerial cognitive capabilities positively influence organizational capacity for change**

The relationship between personality and transformational leadership exists; intuitive favoring of transformational leadership and the leaders with sensing preference are associated with transformational leadership (Hautala, 2006). Middle managers with transformational leadership will give confidence to all employees which is important in making changes in an organization (Zhao & Goodman, 2018). In addition, by sensing, managers can pay attention to environmental changes in order to be able to assess the fit of operative routines with the external environment (Mahringer & Renzl, 2018) and find new opportunities in the task environment (Rashidirad et al., 2018), so that the organization will develop and implement appropriate organizational changes to constantly adapt to its environment (Klarner et al., 2008) and create transparency to build open and seamless communication (Zhao & Goodman, 2018).

By sensing, the middle manager knows the changing environment in order to be able to implement a change of strategy (Teece, 2007; Helfat & Peteraf, 2015), and seek new practices (Teece, 2007) so as to create capacities for individual learning where the organization has a commitment to make changes (Soparnot, 2011; Zhao & Goodman, 2018). Moreover, attention to sensing encourages middle managers to learn (Watad, 2018) by renewing through experimentation where organizations try to adopt new practices (Klarner et al., 2008).

Strategic change implementation is the responsibility of the middle manager (Wooldridge et al., 2008), so avoiding resistance to change (Oreg, 2003) in the implementation of strategic change would involve creation of transparency in which communication is open to convey all complaints of employees (Zhao & Goodman, 2018). This is proven by the flow of effective information on DGSA that supports the openness of communication and information. Seizing a new strategy should be accepted and implemented by all employees and the middle manager must have trust where he/she, as the agent of change, has a close relationship with the employees (Zhao & Goodman, 2018). In addition, the implementation of good strategic change should enable practices to be implemented based on consensus that solves the collective problems that arise during the change (Soparnot, 2011).

Seizing also as a problem solving because the old strategy cannot guarantee the sustainability of the organization at the time of environmental change (Helfat & Peteraf, 2015). With problem solving, the middle manager, as change leader, seeks to assess causes and not symptoms of problems so that DGSA employees know how changes will help DGSA's performance as a whole. This is in line with the research of Hensmans (2015) which concludes that the strength of organizational change is determined not only by the power of the change leader but also by the dominant willingness of all employees through openness to organizational changes.

The middle manager's ability to communicate and his/her social cognitive capabilities (Helfat & Peteraf, 2015) also determine the process of change within the organization. In organizational capacity for change, there is an ability collectively to build a change process where the middle manager must be able to negotiate and discuss with employees to provide problem-solving collectively (Zhao & Goodman, 2018). This is a characteristic in organizational capacity for change where the cognitive dimension of social capital forms a common understanding of collective goals

and the subordinate parochial interest with regard to these goals (Pastoriza & Ariño, 2013), shares a common perspective, develops a common set of goals, and a shared vision (Langreo-Linuesa et al., 2018), shared representation, interpretations, systems of meaning among parties, including shared language and codes (Nahapiet & Ghoshal, 1998) and has an impact on building the value of change in the organization as a representation of change (Soparnot, 2011).

Through reconfiguring, the middle manager develops knowledge and optimizes existing resources (Jantunen et al., 2018) to achieve renewal through experimentation (Zhao & Goodman, 2018) which is supported by the organizational character whereby DGSA has an organizational culture of providing resources to experiment with new ideas (Soparnot, 2011).

The value of dynamic capabilities for competitive advantage lies in their ability to alter the resource base as they create, integrate, recombine and release resources (Eisenhardt & Martin, 2000). Reconfiguring can refer to the ability to recombine and to reconfigure organizational assets as the enterprise grows, and as markets and technologies change. Reconfiguration is needed to maintain evolutionary fitness and, if necessary, to try and escape from path dependencies (Teece, 2007). Based on this, reconfiguration is needed to encourage improvisation as value for innovation and change (Alford & Duan, 2018).

### **5.2. Managerial cognitive capabilities do not significantly influence organizational performance**

According to the respondents' data middle managers are still relatively new in tenure which, in this case, means they have not had enough experience in the new office. Helfat and Peteraf (2015) mentioned that the age of the CEO, tenure, and level of education influenced the extent to which the level of decision-making is a part of strategic change. Further Basel and Brühl (2013) explain that cognition plays a role in adjusting between data and past explanations with alternative options and predictions in the future. Past experience will form the knowledge gain that makes up a very important perception in decision-making (Helfat & Peteraf, 2015). In other words, the middle manager who has not had enough experience will be limited in sensing the changing environment (Teece, 2007). Consequently, managerial cognition has no significant effect on organizational performance.

### **5.3. Organizational capacity for change significantly influences organizational performance**

The flow of information runs effectively, i.e. the information provided always has a real-time significant effect on organizational performance. Aydiner et al. (2019) mention that well-presented information will have an effect on organizational performance. With real-time information, the organization will be able to make decisions precisely and quickly (Clarke & Lambert, 2000). In addition, the indicator of the context dimension shows that DGSA has an organizational culture of delivering value to innovation and change. Innovations that have been created in DGSA provide acceleration to the service for stakeholders, ensuring the existence of transparency, and efficiency of time and cost. Innovation shortens the service process, increasing productivity and resulting in improved service performance. As Uzkuur et al. (2013) found in their research, an organization nurtures innovation by instituting mechanisms and structures that encourage new ideas and ways of thinking to improve the company's performance.

The elements in the process cause the process of organizational capacity for change to have a significant effect on organizational performance. First, transformational leadership contributes to the effectiveness of the implementation of organizational capacity for change in public organizations (Van der Voet, 2014). In the organizational change precedence is transformational leadership as the main key is very effective when organizational change occurs (Herold et al., 2008).

Secondly, the middle manager's commitment to making changes is decisive in improving organizational performance (Zehir et al., 2012). Middle managers who have a high commitment to the organization will demonstrate positive behavior, give the best to the organization, be willing

to sacrifice, and have a high level of loyalty to the organization (Hettiarachchi & Jayaeathua, 2014). Zhao and Goodman (2018) mention that organizational capacity for change requires the perceived legitimacy for change where the manager has a strong commitment to making changes. So, the commitment, as an element of the process of organizational capacity for change, positively affects organizational performance.

Third, the creation of transparency is open communication so that the organization has the capacity to make changes (Klarner et al., 2008). Communication has a strong effect on performance, both in terms of quality and in frequency (Marlow et al., 2018). The better the quality of a middle manager's communication with employees, the more effective employees will be in achieving organizational objectives (González-Romá & Hernández, 2014). Then, the frequency of communication is determined by how much communication is done by the middle manager with employees and Interemployees both meet directly and through the media (Marks et al., 2000). Within the communication, there is negotiation content that leads to agreement between parties and also managerial content to direct the supervisor's authority (Wildman et al., 2012). Thus, communication that is done openly at the organizational level, as an element of the process of organizational capacity for change, has a significant effect on organizational performance.

Fourth, collectively built change process is the ability to negotiate and discuss with employees to find problems in the strategic change process (Zhao & Goodman, 2018). Negotiations are required in the achievement of the agreement (Zohar, 2015). Negotiating ability is important for managers because it develops critical thinking skills, effective communication, and discussion (McClendon, 2009). In organizational capacity for change, negotiations are required to equalize perception, agreement, and problem-solving. The impact is that barriers in the process of organizational change can be resolved (Fulmer & Dan Barry, 2004). Thus, negotiations as an element of the process of organizational capacity for change positively affect organizational performance.

#### **5.4. The mediating effect of organizational capacity for change**

Based on this research, managerial cognitive capabilities affect organizational performance through organizational capacity for change. The role of organizational capacity for change as a mediator is that it facilitates the speed of strategic change through open communication (Shen et al., 2017), supporting the organization of creativity (Tang et al., 2017), and encouraging innovations that impact on organizational performance (Stojcic et al., 2018).

Organizational capacity for change mediates sensing on managerial cognitive capabilities to improve organizational performance. Middle managers perform data validation and acquire information that supports proper decision-making (Cools & Van Den Broeck, 2007). This results in increased trust among employees of middle managers who have competence and are confident in the leadership role (Schaubroeck et al., 2011).

Organizational capacity for change mediates seizing on managerial cognitive capabilities, where the ability to perform planning is decisive. The expansion phase is where seizing opportunities and transformation capabilities come to the fore as the business model is implemented, refined, and scaled, and the platform governance (openness and/or control) must be decided upon (Teece, 2017). In addition, the implementation of good strategy also involves the role of employees who need the flexibility in social-related (Giampaoli et al., 2017). This social approach will ease the problem-solving. Cognitive capabilities for problem solving and reasoning are likely to underpin business model design as well as the capacity for making sound strategic investments (Helfat & Peteraf, 2015). Problem-solving related to seizing opportunities, followed by a social approach in its application is the element in the process of organizational capacity for change. The element is collectively built change process for the implementation of strategy conducted through negotiations and discussions collectively with employees to solve collective problems (Zhao & Goodman, 2018).

Practices based on consensus represent an element of context in organizational capacity for change (Soparnot, 2011). In a change of strategy, the middle manager implements strategy with collective problem-solving in order to minimize resistance to change (Helfat & Peteraf, 2015; Oreg, 2003). Fluent language and communication skills of the middle manager can help reduce the resistance to change in the strategy change process (Helfat & Peteraf, 2015).

#### **5.5. Organizational capacity for change to organizational performance is positively moderated by social cognitive**

The results of this study do not show that the same wishes and visions (Langreo-Linuesa et al., 2018; Pastoriza & Ariño, 2013) among employees can strengthen organizational capacity for change in enhancing organizational performance. With social cognitive of the middle manager, the implementation of strategy changes will take account of the viewpoint of others, foster cooperation, and increase trust among employees in the organization (Helfat & Peteraf, 2015).

The value of change is an element in the organizational capacity for change that builds the organization as a representation of the joint change (Zhao & Goodman, 2018). This is in line with common objectives among employees (Pastoriza & Ariño, 2013), and the cognitive dimension of social capital, i.e. sharing value, sharing of purpose, systems of meaning among parties, and having the same perception (Nahapiet & Ghoshal, 1998). Thus, social cognitive positively moderates organizational capacity for change to organizational performance.

#### **5.6. Managerial implications**

The results showed that the dynamic capabilities of middle managers through sensing, seizing opportunities and reconfiguring could increase organizational capacity for change. A change organization needs middle managers with managerial cognitive capabilities to take on the role in the context of public organizations in Indonesia. Middle managers should develop and complement their ability to sense an environmental change, problem-solving, and social ability to socialize and communicate to unite the vision and mission of the members of the organization (Rouleau & Balogun, 2011) and minimize resistance to change (Helfat & Peteraf, 2015; Oreg, 2003). This can increase trust in the middle manager (Schaubroeck et al., 2011). With increasing trust, the process of changing strategies can be implemented properly, whereby the employees' commitment increases so that they willingly participate in the change (Herold et al., 2008).

For further research, the study could describe managers' capability thoroughly by using dynamic managerial capabilities consisting of managerial cognition, managerial social capital, and managerial human capital (Helfat & Martin, 2015) to underpin research. Managerial cognition capability will enable the manager to have high analytical skills in order to better face competitive situations. It allows a manager to optimize, coordinate and manage collaboration to produce anticipatory actions in order to respond to environmental changes (Helfat & Martin, 2015). Managerial social capital leads to close bonds between individuals within an organization which means that trust and hope flourish (Nahapiet & Ghoshal, 1998). Human capital capabilities are prominent factors for managers in terms of whether they succeed in the workplace (Helfat & Martin, 2015). A manager who has human capital capabilities can combine a variety of information and knowledge possessed so as to produce a transformation of value-added resources and new knowledge (Bontis & Fitz-Enz, 2002).

### **6. Conclusions**

This research analyzes the relationship between managerial cognitive capabilities and organizational performance with organizational capacity for change as a mediator, and the relationship between organizational capacity for change with organizational performance with social cognitive mediators. The measurement scale meets validity standards and reliability analysis. The SmartPLS line model analysis confirms that the relationship between managerial cognitive capabilities and organizational performance is mediated by organizational capacity for change. Thus, current research and practices related to managerial cognitive capabilities demonstrate that

organizational capacity for change should be considered as an important feature in dynamic capabilities for strategic change. The study further proposed that a middle manager who has skills in managerial cognitive capabilities would greatly encourage organizational capacity for change which would impact on organizational performance. In addition, social cognitive positively strengthens the achievement of strategic changes that affect organizational performance.

## 7. Limitations

Cross-sectional data and the specific context have been noted. In the future, research can be carried out in different cultural and national contexts in order to increase the evidence of mediators for organizational capacity for change. The role of managerial cognitive capabilities in the managerial process and its development in organizational capacity for change may not be well captured by the survey methods that we used. We believe that if the current research framework is replicated in an exploration accompanied by longitudinal quantitative studies, then this will provide more comprehensive results. The use of qualitative methods will also increase the depth of the explanation of the formation process of organizational capacity for change and its effect on performance.

## Funding

This work was supported by the Universitas Airlangga [Hibah Riset Mandat 2019].

## Author details

Beta Embriyono Adna<sup>1</sup>

Badri Munir Sukoco<sup>1</sup>

E-mail: [badri@feb.unair.ac.id](mailto:badri@feb.unair.ac.id)

<sup>1</sup> Department of Management, Universitas Airlangga, Airlangga Rd. 4-6, Surabaya 60286, Indonesia.

## Citation information

Cite this article as: Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital, Beta Embriyono Adna & Badri Munir Sukoco, *Cogent Business & Management* (2020), 7: 1843310.

## References

- Alford, P., & Duan, Y. (2018). Understanding collaborative innovation from a dynamic capabilities perspective. *International Journal of Contemporary Hospitality Management*, 30(6), 2396–2416. <https://doi.org/10.1108/IJCHM-08-2016-0426>
- Ambrosini, V., & Altintas, G. (2019). Dynamic managerial capabilities. In *Oxford research encyclopedias: Business and management* (1st ed.). Oxford University Press. <https://oxfordre.com/business/view/10.1093/acrefore/9780190224851.001.0001/acrefore-9780190224851-e-20>
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423. doi:10.1037/0033-2909.103.3.411
- Andreeva, T., & Ritala, P. (2016). What are the sources of capability dynamism? Reconceptualizing dynamic capabilities from the perspective of organizational change. *Baltic Journal of Management*, 11(3), 238–259. <https://doi.org/10.1108/BJM-02-2015-0049>
- Asad, S., & Sadler-Smith, E. (2020). Differentiating leader hubris and narcissism on the basis of power. *Leadership*, 16(1), 39–61. <https://doi.org/10.1177/1742715019885763>
- Ashby, W. R. (1956). *An introduction to cybernetics*. Chapman & Hall.
- Aydiner, A. S., Tatoglu, E., Bayraktar, E., & Zaim, S. (2019). Information system capabilities and firm performance: Opening the black box through decision-making performance and business-process performance. *International Journal of Information Management*, 47, 168–182. <https://doi.org/10.1016/j.ijinfomgt.2018.12.015>
- Bagozzi, R. and Yi, Y. (1988) On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Sciences*, 16, 74–94. doi:10.1007/BF02723327
- Bajwa, S. U., Shahzad, K., & Aslam, H. (2017). Exploring Big Five personality traits and gender as predictors of entrepreneurs' cognitive adaptability. *Journal of Modelling in Management*, 12(1), 143–161. <https://doi.org/10.1108/JM2-04-2014-0026>
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139–1160. <https://doi.org/10.1177/0018726708094863>
- Basel, J. S., & Brühl, R. (2013). Rationality and dual process models of reasoning in managerial cognition and decision making. *European Management Journal*, 31(6), 745–754. <https://doi.org/10.1016/j.emj.2013.07.004>
- Batjargal, B. (2001). Entrepreneurial versatility, resources and firm performance in Russia: a panel study. *International Journal of Entrepreneurship and Innovation Management*, 5(3/4). doi:10.1504/IJEIM.2005.006530
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. Braziller.
- Bititci, U. S. (2015). *Managing business performance: The science and the art*. John Wiley.
- Bititci, U. S., Bourne, M., Farris Cross, J. A., Nudurupati, S. S., & Sang, K. (2018). Editorial: Towards a theoretical foundation for performance measurement and management. *International Journal of Management Reviews*, 20(3), 653–660. <https://doi.org/10.1111/ijmr.12185>
- Bontis, N., & Fitz-Enz, J. (2002). Intellectual capital ROI: A causal map of human capital antecedents and consequents. *Journal of Intellectual Capital*, 3(3), 223–247. <https://doi.org/10.1108/14691930210435589>
- Campbell, W. K., Hoffman, B. J., Campbell, S. M., & Marchisio, G. (2011). Narcissism in organizational contexts. *Human Resource Management Review*, 21(4), 268–284. <https://doi.org/http://dx.doi.org/10.1016/j.hrmr.2010.10.007>
- Cao, X., Ouyang, T., Balozian, P., & Zhang, S. (2020). The role of managerial cognitive capability in developing a sustainable innovation ecosystem a case study of Xiaomi. *Sustainability*, 12(17), 7176. <https://doi.org/10.3390/su12177176>

- Caughron, J. J., Antes, A. L., Stenmark, C. K., Thiel, C. E., Wang, X., & Mumford, M. D. (2013). Competition and sensemaking in ethical situations. *Journal of Applied Social Psychology*, 43(7), 1491–1507. doi:10.1111/jasp.2013.43.issue-7
- Clarke, Z., & Lambert, S. (2000). Management information and decision support for libraries in Europe: A concerted action. *Performance Measurement and Metrics*, 1(2), 77–98. <https://doi.org/10.1108/EUM0000000007222>
- Cools, E., & Van Den Broeck, H. (2007). Development and validation of the cognitive style indicator. *Journal of Psychology: Interdisciplinary and Applied*, 141(4), 359–387. <https://doi.org/10.3200/JRLP.141.4.359-388>
- da Silva, F. A., & Borsato, M. (2017). Organizational performance and indicators: Trends and opportunities. *Procedia Manufacturing*, 11, 1925–1932. <https://doi.org/10.1016/j.promfg.2017.07.336>
- Eggers, J. P., & Kaplan, S. (2013). Cognition & capabilities: A multi-level perspective. *The Academy of Management Annals*, 7(1), 295–340. <https://doi.org/10.1080/19416520.2013.769318>
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10/11), 1105–1122. [https://doi.org/10.1002/1097-0266\(200011\)21\(10/11\)1105::AID-SMJ1122>3.0.CO;2-1](https://doi.org/10.1002/1097-0266(200011)21(10/11)1105::AID-SMJ1122>3.0.CO;2-1)
- Fainshmidt, S., Pezeshkan, A., Lance Frazier, M., Nair, A., & Markowski, E. (2016). Dynamic capabilities and organizational performance: A meta-analytic evaluation and extension. *Journal of Management Studies*, 53(8), 1348–1380. <https://doi.org/10.1111/joms.12213>
- Feldman, M. S., & Rafaeli, A. (2002). Organizational routines as sources of connections and understandings. *Journal of Management Studies*, 39(3), 309–331. <https://doi.org/10.1111/1467-6486.00294>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- Fulmer, S., & Dan Barry, B. (2004). The smart negotiator: Cognitive ability and emotional intelligence in negotiation. *International Journal of Conflict Management*, 15(3), 245–272. <https://doi.org/10.1108/eb022914>
- Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95–111. <https://doi.org/10.1023/A:1011132102464>
- Gary, M. S., & Wood, R. E. (2011). Mental models, decision rules, and performance heterogeneity. *Strategic Management Journal*, 32(6), 569–594. <https://doi.org/10.1002/smj.899>
- Giampaoli, D., Ciambotti, M., & Bontis, N. (2017). Knowledge management, problem solving and performance in top Italian firms. *Journal of Knowledge Management*, 21(2), 355–375. <https://doi.org/10.1108/JKM-03-2016-0113>
- González-Romá, V., & Hernández, A. (2014). Climate uniformity: Its influence on team communication quality, task conflict, and team performance. *Journal of Applied Psychology*, 99(6), 1042–1058. <https://doi.org/10.1037/a0037868>
- Hautala, T. M. (2006). The relationship between personality and transformational leadership. *Journal of Management Development*, 25(8), 777–794. <https://doi.org/10.1108/02621710610684259>
- Hayes, J., & Allinson, C. W. (1994). Cognitive style and its relevance for management practice. *British Journal of Management*, 5(1), 53–71. <https://doi.org/10.1111/j.1467-8551.1994.tb00068.x>
- Hayward, L., Shepherd, D. A., & Griffin, D. (2006). A hubris theory of entrepreneurship. *Management Science*, 52(2), 160–172. <https://doi.org/10.1287/mnsc.1050.0483>
- Heckmann, N., Steger, T., & Dowling, M. (2016). Organizational capacity for change, change experience, and change project performance. *Journal of Business Research*, 69(2), 777–784. <https://doi.org/10.1016/j.jbusres.2015.07.012>
- Helfat, C. E., & Martin, J. A. (2015). Dynamic managerial capabilities: review and assessment of managerial impact on strategic change. *Journal of Management*, 41(5), 1281–1312. <https://doi.org/10.1177/0149206314561301>
- Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850. <https://doi.org/10.1002/smj.2247>
- Hensmans, M. (2015). The Trojan horse mechanism and reciprocal sense-giving to urgent strategic change. *Journal of Organizational Change Management*, 28(6), 1038–1075. <https://doi.org/10.1108/JOCM-06-2015-0084>
- Herold, D. M., Fedor, D. B., Caldwell, S., & Liu, Y. (2008). The effects of transformational and change leadership on employees' commitment to a change: A multilevel study. *Journal of Applied Psychology*, 93(2), 346–357. <https://doi.org/10.1037/0021-9010.93.2.346>
- Hettiarachchi, H. A. H., & Jayaethua, S. M. D. Y. (2014). The effect of employer work related attitudes on employee job performance: A study of tertiary and vocational education sector in Sri Lanka. *Journal of Business and Management*, 16(4), 74–83. <https://doi.org/10.9790/487X-16447483>
- Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management*, 29(6), 963–989. [https://doi.org/10.1016/S0149-2063\(03\)00086-2](https://doi.org/10.1016/S0149-2063(03)00086-2)
- Isaga, N. (2018). The relationship of personality to cognitive characteristics and SME performance in Tanzania. *Journal of Small Business and Enterprise Development*, 25(4), 667–686. <https://doi.org/10.1108/JSBED-02-2017-0067>
- Jantunen, A., Tarkkainen, A., Chari, S., & Oghazi, P. (2018). Dynamic capabilities, operational changes, and performance outcomes in the media industry. *Journal of Business Research*, 89, 251–257. <https://doi.org/10.1016/j.jbusres.2018.01.037>
- Jöreskog, K. J. & Sörbom, D. (2007). LISREL Version 8.8 (Computer program). Chicago, IL: Scientific Software
- Judge, W., & Douglas, T. (2009). Organizational change capacity: The systematic development of a scale. *Journal of Organizational Change Management*, 22(6), 635–649. <https://doi.org/10.1108/09534810910997041>
- Judge, W. Q., & Elenkov, D. (2005). Organizational capacity for change and environmental performance: An empirical assessment of Bulgarian firms. *Journal of Business Research*, 58(7), 893–901. <https://doi.org/10.1016/j.jbusres.2004.01.009>
- Judge, W. Q., Naoumova, I., & Douglas, T. (2009). Organizational capacity for change and firm performance in a transition economy. *The International Journal of Human Resource Management*, 20(8), 1737–1752. <https://doi.org/10.1080/09585190903087107>
- Kirzner, I. M. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of Economic Literature*, 35(1), 60–85.
- Klärner, P., Probst, G. & Soparnot, R. (2007). From Change to the Management of Organizational Change

- Capacity : A Conceptual Approach. Retrieved from <https://archive-ouverte.unige.ch/unige:5739>
- Klarner, P., Probst, G., & Soparnot, R. (2008). Organizational change capacity in public services: the case of the world health organization. *Journal of Change Management*, 8(1), 57–72. <https://doi.org/10.1080/14697010801937523>
- Klassen, R.D. and Whybark, D.C. (1999) The Impact of Environmental Technologies on Manufacturing Performance. *Academy of Management Journal*, 42. doi:10.2307/256982
- Kor, Y. and Mesko, A. (2013). Dynamic managerial capabilities: Configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic Management Journal*, 23, 233–244. doi:10.1002/smj.2013.34.issue-2
- Kuipers, B. S., Higgs, M., Kickert, W., Tummers, L., Grandia, J., & Van der Voet, J. (2014). The management of change in public organizations: A literature review. *Public Administration*, 92(1), 1–20. <https://doi.org/10.1111/padm.12040>
- Kumbure, M. M., Tarkiainen, A., Luukka, P., Stoklasa, J., & Jantunen, A. (2020). Relation between managerial cognition and industrial performance An assessment with strategic cognitive maps using fuzzy-set qualitative comparative analysis. *Journal of Business Research*, 114, 160–172. <https://doi.org/10.1016/j.jbusres.2020.04.001>
- Langreo-Linuesa, J., Ruiz-Palomino, P., & Elche-Hortelano, D. (2018). Integrating servant leadership into managerial strategy to build group social capital: The mediating role of group citizenship behavior. *Journal of Business Ethics*, 152(4), 899–916. <https://doi.org/10.1007/s10551-018-3823-4>
- Leana, C. R., & Buren, V. (1999). Organizational social capital and employment practices. *Academy of Management Review*, 24(3), 538–555. <https://doi.org/10.5465/amr.1999.2202136>
- Leana, C. R., & Pil, F. K. (2006). Social capital and organizational performance: Evidence from urban public schools. *Organization Science*, 17(3), 353–366. <https://doi.org/10.1287/orsc.1060.0191>
- Mahringer, C. A., & Renzl, B. (2018). Entrepreneurial initiatives as a microfoundation of dynamic capabilities. *Journal of Accounting & Organizational Change*, 14(1), 61–79. <https://doi.org/10.1108/JAOC-11-2016-0066>
- Marks, M. A., Zaccaro, S. J., & Mathieu, J. E. (2000). Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. *Journal of Applied Psychology*, 85(6), 971–986. <https://doi.org/10.1037/0021-9010.85.6.971>
- Marlow, S. L., Lacerenza, C. N., Paoletti, J., Burke, C. S., & Salas, E. (2018). Does team communication represent a one-size-fits-all approach?: A meta-analysis of team communication and performance. *Organizational Behavior and Human Decision Processes*, 144, 145–170. <https://doi.org/10.1016/j.obhdp.2017.08.001>
- McClendon, B. (2009). *Make it happen: Negotiating effectively using timeless values*. Western Carolina University.
- Melnyk, S. A., Bititci, U., Platts, K., Tobias, J., & Andersen, B. (2014). Is performance measurement and management fit for the future? *Management Accounting Research*, 25(2), 173–186. <https://doi.org/10.1016/j.mar.2013.07.007>
- Moran, P. (2005). Structural vs. Relational embeddedness: social capital and managerial performance. *Strategic Management Journal*, 26(12), 1129–1151. <https://doi.org/10.1002/smj.486>
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266. <https://doi.org/10.5465/AMR.1998.533225>
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80–116. <https://doi.org/10.1108/01443570510633639>
- Okwir, S., Nudurupati, S. S., Ginieis, M., & Angelis, J. (2018). Performance measurement and management systems: A perspective from complexity theory. *International Journal of Management Reviews*, 20(3), 731–754. <https://doi.org/10.1111/ijmr.12184>
- Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, 88(4), 680–693. <https://doi.org/10.1037/0021-9010.88.4.680>
- Partlow, P. J., Medeiros, K. E., & Mumford, M. D. (2015). Leader cognition in vision formation: Simplicity and negativity. *The Leadership Quarterly*, 26, 448–469. doi:10.1016/j.leaqua.2015.02.009
- Pastoriza, D., & Ariño, M. A. (2013). Does the ethical leadership of supervisors generate internal social capital? *Journal of Business Ethics*, 118(1), 1–12. <https://doi.org/10.1007/s10551-012-1536-7>
- 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), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendation on how to control it. *Annual Review of Psychology*, 63(1), 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Ramus, C. A. (2001). Organizational Support for Employees: Encouraging Creative Ideas for Environmental Sustainability. *California Management Review*, 43(1), 85–105. doi:10.2307/41166090
- Ramus, C. A. (2012). Organizational support for employees: Encouraging creative ideas for environmental sustainability. *California Management Review*, 43(3), 85–105. <https://doi.org/10.2307/41166090>
- Rashidirad, M., Salimian, H., & Soltani, E. (2018). A contingency view to novelty. *European Business Review*, 30(3), 218–245. <https://doi.org/10.1108/EBR-12-2016-0160>
- Rouleau, L., & Balogun, J. (2011). Middle managers, strategic sensemaking, and discursive competence. *Journal of Management Studies*, 48(5), 953–983. <https://doi.org/10.1111/j.1467-6486.2010.00941.x>
- Sadler-Smith, E. (2016). 'What happens when you intuit?': Understanding human resource practitioners' subjective experience of intuition through a novel linguistic method. *Human Relations*, 69(5), 1069–1093. doi:10.1177/0018726715602047
- Schaubroeck, J., Lam, S. S. K., & Peng, A. C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4), 863–871. <https://doi.org/10.1037/a0022625>
- Shen, H., Gao, Y., & Yang, X. (2017). Matching organizational climate and control mechanisms for fast strategic change in transitional economics. *Journal of Organizational Change Management*, 30(2), 124–141.

- <https://doi.org/https://doi:10.1108/jocm-04-2016-0064>
- Soparnot, R. (2011). The concept of organizational change capacity. *Journal of Organizational Change Management*, 24(5), 640–661. <https://doi.org/10.1108/09534811111158903>
- Stojic, N., Hashi, I., & Orlic, E. (2018). Creativity, innovation effectiveness and productive efficiency in the UK. *European Journal of Innovation Management*, 21(4), 564–580. <https://doi.org/https://doi:10.1108/ejim-11-2017-0166>
- Tang, G., Yu, B., Cooke, F. L., & Chen, Y. (2017). High-performance work system and employee creativity. *Personnel Review*, 46(7), 1318–1334. <https://doi.org/https://doi:10.1108/pr-09-2016-0235>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (Sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J. (2017). *Dynamic capabilities and (Digital) platform lifecycles*. Entrepreneurship, Innovation, and Platforms.
- Tripsas, M. & Gavetti G. (2000). Capabilities, Cognition, and Inertia: Evidence from Digital Imaging. *Strategic Management Journal*, 21(10–11), 1147–1161.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41(4), 464–476. <https://doi.org/10.2307/257085>
- Uzkurt, C., Kumar, R., Semih Kimzan, H., & Eminoğlu, G. (2013). Role of innovation in the relationship between

- organizational culture and firm performance. *European Journal of Innovation Management*, 16(1), 92–117. <https://doi.org/10.1108/14601061311292878>
- Van der Voet, J. (2014). The effectiveness and specificity of change management in a public organization: Transformational leadership and a bureaucratic organizational structure. *European Management Journal*, 32(3), 373–382. <https://doi.org/10.1016/j.emj.2013.10.001>
- Vecchiato, R. (2016). Disruptive innovation, managerial cognition, and technology competition outcomes. *Technological Forecasting and Social Change*, 116, 116–128. <https://doi.org/10.1016/j.techfore.2016.10.068>
- Watad, M. (2018). Organizational learning and change: Can they coexist? *Business Process Management Journal*, 25(5), 1070–1084. <https://doi.org/10.1108/BPMJ-12-2016-0240>
- Weiner, N. (1948). *Cybernetics*. Wiley.
- Wildman, J. L., Thayer, A. L., Rosen, M. A., Salas, E., Mathieu, J. E., & Rayne, S. R. (2012). Task types and team-level attributes: Synthesis of team classification literature. *Human Resource Development Review*, 11(1), 97–129. <https://doi.org/10.1177/1534484311417561>
- Wood, R. E. (1986). Task complexity: Definition of the construct. *Organizational Behavior and Human Decision Processes*, 37(1), 60–82. [https://doi.org/10.1016/0749-5978\(86\)90044-0](https://doi.org/10.1016/0749-5978(86)90044-0)
- Wooldridge, B., Schmid, T., & Dan Floyd, S. W. (2008). The middle management perspective on strategy process: Contributions, synthesis, and future research. *Journal of Management*, 34(6), 1190–1221. <https://doi.org/10.1177/0149206308324326>
- Zehir, C., Sehitoglu, Y., & Erdogan, E. (2012). The effect of leadership and supervisory commitment to organizational performance. *Social and Behavioral Sciences*, 58, 207–216. <https://doi.org/10.1016/j.sbspro.2012.09.994>
- Zhao, X., & Goodman, R. M. (2018). Western organizational change capacity theory and its application to public health organizations in China: A multiple case analysis. *International Journal of Health Planning and Management*, 34(1), 509–535. <https://doi.org/10.1002/hpm.2665>
- Zohar, I. (2015). “The art of negotiation” leadership skills required for negotiation in time of crisis. *Social and Behavioral Sciences*, 209, 540–548. <https://doi.org/10.1016/j.sbspro.2015.11.285>
- Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3), 223–353. <https://doi.org/10.1287/orsc.13.3.339.2780>



© 2020 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

You are free to:

Share — copy and redistribute the material in any medium or format.

Adapt — remix, transform, and build upon the material for any purpose, even commercially.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

No additional restrictions

You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.



**Cogent Business & Management (ISSN: 2331-1975) is published by Cogent OA, part of Taylor & Francis Group.**

**Publishing with Cogent OA ensures:**

- Immediate, universal access to your article on publication
- High visibility and discoverability via the Cogent OA website as well as Taylor & Francis Online
- Download and citation statistics for your article
- Rapid online publication
- Input from, and dialog with, expert editors and editorial boards
- Retention of full copyright of your article
- Guaranteed legacy preservation of your article
- Discounts and waivers for authors in developing regions

**Submit your manuscript to a Cogent OA journal at [www.CogentOA.com](http://www.CogentOA.com)**

