

Moderating effect of environmental dynamism on leadership practices and employees' response to change in South Africa

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Abstract

Purpose: The environment has become increasingly dynamic, characterised by hyper turbulence and high-velocity. While research has confirmed the influence of leadership on the effectiveness of change, the author knows less about how increased environmental dynamism influences the relationship. This study aims to investigate how this relationship is impacted under highly uncertain and dynamic external conditions.

Design/methodology/approach: To investigate the moderating effect of environmental dynamism on leadership practices and employees' response to change, 1,536 employees' survey responses were analysed from various organisations in South Africa. Moderator regression models were used to examine relationships.

Findings: Environmental dynamism has a slight significant strengthening effect on the relationship between leadership practices and response to change, with regard to commitment to the change; efficacy, that is, the belief in whether the change will lead to the efficacy of the organisation; and valence or attractiveness of the change. However, no significant positive moderator effect on the impact of leadership practices on active support for change. Tenure as control variable also did not have a significant influence on the model.

Practical implications: Organisations must take note that under dynamic conditions: employees' belief about the efficacy of change is influenced by leadership practices, but not the active support for the change. Leadership must, thus, check whether employees' positive responses are indeed going over in action to implement change.

Originality/value: This study contributes an important moderator effect: the more dynamic the environment, the greater the impact leadership practices have on employee response to change.

Keywords: Organizational behaviour; Leadership; Change management; Organizational development; Environmental dynamism; Moderator effect; Change response; Quantitative study

Introduction

Disruptive technological advancements, the changing nature of the workforce, competitive pressures and globalisation increase the speed of change in the work environment (De Waal & Heijtel, 2016). The environment has become increasingly dynamic, characterised by hyper turbulence and high-velocity, which was described by Bennet and Lemoine (2014) as volatile, uncertain, complex and ambiguous (VUCA). Environmental dynamism refers to the rate of change and degree of instability in the environment (Hou, Hong, Zhu, & Zhou, 2019). While organisations in developed countries do experience some environmental dynamism, the scale and scope of such dynamism pale in comparison with those experienced in developing countries (Van Uden, Vermeulen, & Knobens, 2019). Further research is therefore warranted on environmental dynamism in emerging markets.

Organisations are open systems (Dhir, Ongsakul, & Batra, 2018) and therefore impacted by this dynamism in the environment. The classic Contingency Theory (Lawrence & Lorsch, 1967) emphasises in this regard, that organisational success is dependent on matching organisational characteristics to contingencies in the environment (Turulja & Bajgoric, 2019). Matching organisational characteristics to these contingencies, means that due to dynamism or high rate of change in the environment, the organisation is required to frequently initiate change processes within the organisation. That is, the Theory of Planned Change (Lewin, 1947) holds that environmental changes, cause unfreezing in organisations, which then undertake internal change initiatives to respond to external changes in the environment, which then have to be refreezed. Jansen, Vera and Crossan (2009) confirm that the impact of the environment on organisational outcomes to a large extent, depends on how leadership perceive, interpret and respond to environmental dynamism.

While research has confirmed the influence of leadership on the effectiveness of change (O'Reilly, Caldwell, Chatman, Lapiz & Self, 2010; Murphy, 2016), we know less about **how increased environmental dynamism influences the relationship** between leadership practices and employees' response to planned change. Hou et al. (2019) emphasise that studies are inconclusive, since their systematic literature analysis revealed rarely any evidence of the moderating effect of environmental dynamism in leadership studies, with Jansen et al. (2009) as an exception. There is therefore a need to investigate the links between these variables.

Whereas extant research regularly applies environmental dynamism as a moderator variable in the relationship between organisational characteristics and innovation (Chen, Sharma, Zhan, & Liu, 2019; Dhir et al., 2018; Scheepers & Storm, 2018; Hou et al., 2019), the current study extends this body of literature, by investigating this moderating effect in a different domain, i.e. the relationship between leadership and employees' response to change. Our study thereby offers an important compliment by establishing a potential boundary condition (Dubin, 1978) to the theoretical debate on organisational contingencies in response to environmental dynamism as moderating variable. As far as the researchers could establish, it seemed that there were no previous studies which focused on the moderating effect of environmental dynamism in this particular relationship between leadership and employees' response to change.

The current study is also an answer to a call from change management scholars, such as Ford (2009) who advises to take contextual factors such as environmental turbulence into account in change studies. For example, to what degree is the relationship between leadership and employee response to change strengthened or weakened by environmental dynamism? In particular, under highly uncertain and dynamic external conditions, how is this relationship impacted?

Nkomo (2015) warns that South Africa relies on knowledge developed in a Western context, while being confronted with fundamentally different environmental challenges. We therefore conducted primary research and ascertained how employees in South Africa perceive environmental dynamism. Aligned to the recent study of McKelvie, Wiklund and Brattström (2018), our research thus focuses on perceived environmental dynamism. Perceived environmental dynamism is related to the individual and subjective view of the degree of instability or turbulence in the environment. We propose that the higher the degree of dynamism perceived by employees, the more the relationship between leadership and employees' response to change is influenced. We expect that under such conditions of high degree of perceived dynamism in the environment, as could be perceived as present in the emerging markets, the impact that leadership has internally on employees' response to change, is strengthened by the dynamism. The reason is that the external changes require internal adjustments, as the Contingency Theory holds (Turulja & Bajgoric, 2019). The internal

planned change processes are therefore disrupted, which result in uncertainty due to the instability in the environment (Van Uden et al., 2019).

Scholars like Waldman, Ramirez, House and Puranam (2017) advise, environmental uncertainty creates conditions for employees to be open to the leadership of executives, since they are uncertain and require direction. On the other hand, would leaders' frequent changing of direction perhaps lead to a perception of inconsistency and therefore lessen the impact of leadership on employees' response to change? There is thus an urgent need to investigate these hypotheses. The high degree of environmental dynamism in the emerging markets creates an ideal setting for this research, as George et al. (2016, p. 389) declare, "Africa offers great potential as a context for management research".

This study thus set out to investigate environmental dynamism as an important boundary condition of the relationship between leadership practices and employee response to change, as this understanding could assist organisations to purposefully select and develop their leadership and provide appropriate support to their employees in times of increased dynamism. Leadership plays an important role in providing direction and adapting an organisation to its environment and is therefore the independent or predictor variable in our study (Chamorro-Premuzic et al., 2017; Urquhart & Allison, 2014). Bolman and Deal (2015) found, for example, that leaders' perspectives on their environment influence their ability to adapt their organisations to differentiate them from competitors. As early as the nineties scholars established this relationship between leadership practices, such as scanning the environment and evaluating markets, and successfully reconfiguring their dynamic capabilities in their organisations (Teece, Pisano & Shuen, 1997).

The nature of competition in the market place, requires frequent changes in product, price, strategy and service if organisations are to remain differentiated (Armenakis, Bernerth, Pitts & Walker, 2007). Continuous adaptation to environmental change thus contributes to organisational competitiveness (Hargadon, 2015). Successful change management is thus a necessity for organizations to survive and thrive (De Waal & Heijtel, 2016) and therefore the study endeavours to contribute to this important body of literature on the Theory of Planned Change.

Literature review

Dynamic environmental context

Environmental dynamism has been of interest to researchers for more than three decades. Dess and Beard (1984) define dynamic environments not only as those with high turnover, unpredictability and lack of pattern, but as environments in which change is hard to predict, which in turn heightens uncertainty for members of the organisation. Even earlier, Thompson (1967) made classic distinctions between environments that can be defined in terms of a simple-complex continuum or a stable-static (or shifting-dynamic) continuum. Duncan (1972) also contributed, noting there are varying levels of complexity in any environment and therefore, no standard or equal level of complexity and dynamism. Research relies thus on the perspective of individuals within an organisation to understand how complex or dynamic an environment is, he also explains that decision makers experience a significantly higher level of uncertainty in these dynamic environments, which they therefore perceive as complex environments. In more recent research, Good and Yeganeh (2012) highlight how complexity in leadership decisions has increased, due to large volumes of new information from internal and external environments that impact these decisions.

Since then there have been various extensions of the definition of environmental dynamism, including links to complexity, instability, turbulence, changes in technologies, variations in customer preferences and fluctuations in product demand or supply of materials (Akgul, Tatoglu & Gozlu, 2015; Jansen et al., 2009). Daft (2016) declares that environmental

dynamism is a variable that specifically measures how static or dynamic the environment is; for example, there could be changes within the industry, or disruptive innovative technologies. Turbulent environments are both complex and rapidly changing.

Various types of dynamism exist, for example technological dynamism and market dynamism (McKelvie et al., 2018). Rodrigo-Alarcón, García-Villaverde, Parra-Requena and Ruiz-Ortega (2017) emphasise that technological dynamism refers to the perception of fast changes in the technological development of the industry in which the company is immersed, with an increase in competitor's products (García-Villaverde, Rodrigo-Alarcón, Jarra-Requena, & Ruiz-Ortega, 2018). Market dynamism on the other hand, refers to the degree of change in the preferences for products and services, needs of the clients and the composition of customers (Rodrigo-Alarcón et al. 2017). The current study focuses on market dynamism, since it creates disruption and requires flexible responses from organisations, as the Contingency Theory explains. Market dynamism is highly disruptive to the business in various ways, since it has a knock-on effect of volatility in various aspects of the businesses, including the manufacturing design, cost implications, and employee profile required to meet the changing customer needs. Our study included environmental dynamism thus as a moderator in the current study to investigate the degree to which the relationship between leadership practices and response to change is positively moderated by environmental dynamism.

Leadership practices

Zhang, Wang and Pearce (2014) emphasise that under the condition of an increasingly uncertain economic environment as contingency, business leaders, especially executives need to encourage and actualize a quick response to unpredictable market forces. Chen et al. (2019) also encourage scholars to take a contingency perspective. The Upper Echelon Theory of Hambrick and Mason (1984) suggests that an executive's specific characteristics and leadership attributes impact organisations' strategic choices and outcomes. Executives should be able to select and implement change-oriented strategies and explore new opportunities to make their organisations adaptable to uncertain environments (Jansen et al., 2009; Vera & Crossan, 2004). Our study refers to executives' leadership role, because they direct the change processes in organisations and therefore adheres to the Upper Echelon's Theory.

Contingency Theory illustrates that because the environment has become increasingly dynamic, characterised by hyper turbulence and high-velocity (which was described by Bennet and Lemoine (2014) as volatile, uncertain, complex and ambiguous), organisations must adapt effectively in response (Faulkner, Loewald & Makrelow, 2013) and rely on their employees to support change processes (O'Reilly, Caldwell, Chatman, Lapiz, & Self, 2010). Daft (2011) indeed defines leadership as the influence of people to effect change toward a desirable future.

Leadership is required to align organisational strengths and weaknesses to emerging opportunities and threats (Lussier, 2013). Increased volatility and uncertainty in the external environment is one of the contributing factors to the emergence of transformational leadership. Transformational leadership and other positive psychology styles of leadership have come recently under scrutiny and serious criticism. *The Leadership Quarterly*, the highest level journal in leadership studies, featured several articles which severely criticise Authentic leadership, Ethical leadership and Transformational leadership in particular (See Alvesson & Einola, 2019; Antonakis, 2017). These articles frequently refer to Meindl (1995) notion of the romanticism in leadership studies, where leaders are perceived as hero's and as having ideal characteristics which are unattainable to other people in organisations (Ford & Harding, 2011; Spoelstra, Butler, & Delaney, 2016). These articles reflect the criticism towards personal attributes or styles of leaders and the lack of taking the context or situational factors into account (See Zaccaro, Green, Dubrow, & Kolze, 2018, on "Leader individual differences" in *The Leadership Quarterly* in this regard).

Our conceptualising of leadership in this study, is an answer to the call for leadership studies, which focus broader than individual personality characteristics and rather focus on observable actions of executive leadership and are focused on a particular context. Our study refers to O'Reilly et al. (2010) construct of leadership practices as it is more action orientated and specific to a context of a requirement for leadership of change.

Heifetz and Linsky (2011) describe leadership's role in adaptive change (meaning change that is discontinuous and complex, as opposed to technical change, which is seen as linear), as mobilising the workforce to address its own most pressing problems and deepest challenges. Leadership at the executive level in organisations requires strategic thinking to adapt an organisation for the long-term future through vision and imagination. Executive-level roles in particular require a global mindset (Chamorro-Premuzic et al., 2017). Numerous scholars emphasise the relationship between leadership at top management levels and change effectiveness (Cannella & Monroe, 1997; Cummings & Worley, 2015; Rosing, Frese, & Bausch, 2011; Ensley, Pearce, & Hmieleski, 2006). O'Reilly et al. (2010, p. 104) note there is a need to better understand how leadership practices effect change, which ultimately leads to increased organisational performance. The first hypothesis in this study focuses on this linear relationship between leadership practices and response to change.

First hypothesis: *Leadership practices have a positive influence on employees' response to change.*

The **circumstances under which leadership** is able to affect employee responses to change, however, are less clear and warrant further study.

Lately, leadership literature has indeed paid attention to the context within which leadership operates. Porter and McLaughlin (2006, p.559) observe that "leadership does not take place in a vacuum, it takes place in organisational contexts". Osborn, Hunt and Jauch (2002) urged leadership scholars to consider the organisational environment in leadership studies, as leadership is embedded in the context. This paper thus focuses on the context within which leaders effect change, that is, it takes into account the context of volatility or unpredictability within the environment surrounding leadership in an organisation.

Leadership of change in organisations has "increased as the external environment moves at a faster pace with greater complexity" (Balogun & Hailey, 2008, p. 90). Current literature emphasises that leading change effectively in organisations, requires leadership to focus on **specific actions**, including: Leaders have to plan and act accordingly to "ensure their organisations can adapt successfully to their environment" (Urquhart & Allison, 2014, p. 87); Leadership sets clear direction by creating a vision for the future which drives movement and the learning of new ways to operate or fulfil a job role (Rautenbach, Sutherland & Scheepers, 2015); Leadership needs to strengthen awareness that the status quo isn't working by communicating a vision for the positive effects of change; Leadership is responsible for the pull toward change and noticing the opposing pull of resistance (Murphy, 2016).

This contextualisation is important given the dynamism of the environment. Leaders should frame the way they view the environment differently and even use multiple frames or lenses to view it (Bolman & Deal, 2015). For example, in the modern knowledge economy, Uhl-Bien, Marion and McKelvey (2007) advise leadership to take note of complexity, which they called Complexity Leadership. Leadership practices are essential in this environment to enable stakeholders to communicate and collaborate about a common need and identify an adaptive response to match the environmental complexity. In this regard, Snowden and Boone (2007) emphasise the difference between complex environments, which describe the multiple element or agents, with their interrelationships, and complicated environments, where the different elements or agents do not influence one another.

Ensley, Pearce and Hmieleski (2006) argue that in dynamic environments, transformational leadership is often more successful in driving change. The reason is that

employees are more aware of the requirements for change and thus offer leadership more latitude for discretion and leverage in their decisions. Employees require leadership to take action to lower their anxiety levels. Other scholars found that, "In situations where new rules are being created and the situational determinants are unpredictable, a transformational leadership approach is warranted" (Hannah, Avolio, Luthans & Harms, 2008, p. 677). In particular, transformational leadership is a style of leadership characterised by offering inspiration and individualised attention to followers (Bass, 1985; Burns, 1999; Avolio, 2002).

Interestingly, Jansen et al. (2009) found that transformational leadership actually supports the refinement of existing products in stable environments. More research is thus required to contribute to this seemingly counterintuitive debate in the literature. This study hypothesised according to the Ensleya et al. (2006) argument that, due to increased dynamism, the environment would impact leadership to have a stronger relationship with response to change.

Other forms of leadership have also been associated with change. For example, the pragmatic leader realises the workplace is dynamic and uses logic to manage changing situations and changing goals (Dansereau, Seitz, Chiu, Shaughnessy, & Yammarino, 2013). Pragmatic leadership is an outcome-based leadership approach first documented in about 1870 and often attributed to the philosophers William James, John Dewey, and Charles Sanders Peirce. They believed that, in addition to morals and habits, context and the environment influenced leadership behaviour; for example, "Deliberation is contextual to the situation and cannot rely much on static rules or principles as decision procedures" (Liszka, 2012, p. 566).

The current study refers to the scholarly research of O'Reilly et al. (2010), which also takes a pragmatic approach to leadership by focusing on leadership behaviours that enable strategic change in organisations. O'Reilly et al. (2010) scale included some items of transformational leadership, and therefore this discussion on leadership practices above referred to this style. Similar to the study of O'Reilly et al. (2010), the current study focuses on the actions of leaders and we asked subordinates to rate behaviours that were observable. The style of leadership was however, not the focus of the current research, but rather the leaders' practices or actions. For example, Lussier (2013) advises transformational leaders to offer inspirational motivation through a compelling vision. Communicating a compelling vision would thus be an observable behaviour, or leadership practice, or something practical that a leader is doing, and was thus included as an item in this study.

Day et al. (2017) show that dynamic environments put strain on employees as they cannot perform their day-to-day job activities in the manner they are used to and possibly feel a loss of control. Hemant, Kakkar and Sivanathan's (2017) study reveals that employees prefer more dominant leadership in times of uncertain socioeconomic environments. Employees may be more open to direction from leadership in times of higher dynamism and thus respond with more commitment, valence and belief in the efficacy of the change. Rylatt (2013) also shows that change recipients have higher commitment when the manager that initiates change has the ability to exert power and influence through formal or informal authority. This shows that employees take comfort from stronger leadership. Armenakis et al. (2007) warn that applying change in a manner that displays no consideration of context, deliberation and planning only leads to less buy-in. However, traditionally, research has focused more on understanding leadership characteristics rather than on the impact of leadership based on context. However, it is becoming increasingly important to consider the environmental context when leading and making decisions.

Employee response to change

To effect change in an organisation, Armenakis et al (2007) recommend that readiness for the change must be created and the adoption of change facilitated. This level of commitment essentially needs to be driven by organisational leadership. Leading change effectively is essential as resistance to change can have ripple effects in creating conflicts within the organisation, for example, when an innovation championed by one function inflicts some costs upon another (Fosfuri & Rønde, 2009). Armenakis et al (2007) note that buy-in among change recipients is influenced by their beliefs around the concepts of whether there are discrepancies between the change and what the organisation stands for, the appropriateness of the change, whether the change will lead to efficacy, the principal support for the change, and valence or level of motivation for the change. Employees' response to change can thus be measured in terms of their commitment, their support, valence and belief in the efficacy of the change. These sub-scales, defined and discussed below, were used in this study.

Herscovitch and Meyer (2002) distinguish three distinct aspects of **commitment** to organisations: affective commitment (desire to remain), continuance commitment (avoidance of perceived cost of leaving) and normative commitment (obligation to remain). Affective commitment refers to the employee's emotional attachment to, identification with and involvement in the organisation. Employees with strong affective commitment continue working for the organisation because they want to do so. Continuance commitment refers to an awareness of the costs associated with leaving the organisation. Employees whose primary link to the organisation is based on continuance commitment remain because they need to do so. Finally, normative commitment reflects a feeling of obligation to continue employment. Employees with high levels of normative commitment feel that they ought to remain with the organisation (Limpanitgul, Boonchoo, & Photiyarach, 2014, p. 101). Organisational commitment is closely linked to the success of change, as lack of commitment can result in ineffective change (Naotunna & Arachchige, 2016). For these reasons, leaders of change have to take the findings on organisational commitment, described above into account.

Leaders must reinforce change by allocating resources, dealing effectively with resistance and convincing employees that the new initiative is important and in their interest to support (O'Reilly et al, 2010, p. 105). Therefore, an environment conducive for change requires, "the psychological climate dimensions of trust, participation and support as preconditions" (Bouckenooghe, Devos & Van Den Broeck, 2009, p. 562).

Change recipients formulate precursors (such as cognitions, emotions and intentions) which become part of their decision processes and result in resistance or **supportive** behaviours (Armenakis et al., 2007). One of the most significant beliefs identified in determining the reaction of change recipients is **valence**, which refers to the attractiveness (from the change recipient's perspective) associated with the perceived outcome of the change. "Extrinsic valence refers to the rewards or benefits realised from adopting the new behaviours" (Armenakis et al., 2007, p. 488), whereas intrinsic valence is self-benefit or personal gains, typically, but not exclusively, through tangible rewards. Both extrinsic and intrinsic valence affect the attitude and behaviour of the individual experiencing change or asked to participate in the implementation of change. When employees are made aware of change, they form beliefs around the change based on how it will affect them, comparing the change to their personal job goals, their perception of the organisation's capabilities and their own values. These beliefs have positive and negative valences for the individual, "some perceived change characteristics are associated with positive outcomes, some with negative outcomes..." (Lines, 2005, p. 11). **Efficacy** is defined as perceived capability to implement the change initiative (Armenakis et al., 2007) and the employees' belief that the outcome of the change process will improve the organisation as planned and expected (Jimmieson, 2000). Our second hypothesis based on this discussion on response to change is:

Environmental dynamism strengthens the relationship between leadership practices and response to change.

Figure 1 illustrates the conceptual framework of this study, with its two hypotheses.

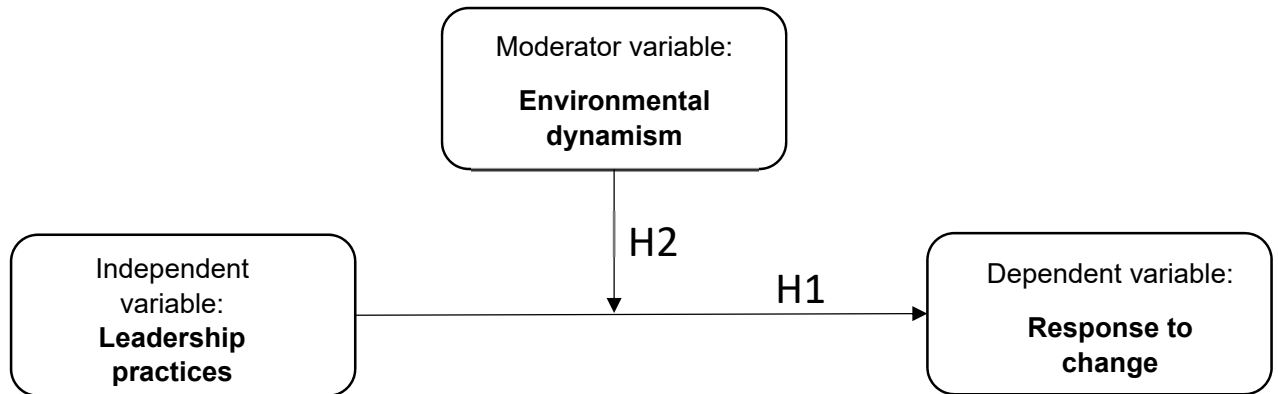


Figure 1: Conceptual model of the study, illustrating the relationships investigated in the study

Method

Research design

A positivism philosophy, the use of highly-structured methods to facilitate the replication of studies (Saunders & Lewis, 2012), was applied in the current research. As the study set out to understand leadership practices, environmental dynamism and response to change, with known constructs and scales, it was sensible to conduct a quantitative data analysis. This is a cross-sectional study, where data was collected through a structured survey on employee perceptions in their organisations at a single point in time in October 2016.

Sample

The population for the study consists of employees of various organisations in South Africa. A sample from this population is appropriate as the aim of the research was to consider relationships between the variables in organisations of multiple sizes and across multiple industries, and therefore, multiple contexts. Individual employees offered their perspectives on their leaders, and on their response to change; the level of analysis is thus individual employee perceptions. A non-probability method, judgement or purposive sampling, was used to collect the data from the population (Saunders and Lewis, 2012). Ethical clearance was obtained from the appropriate bodies at a university in South Africa, where Masters students, as part of an assignment, collected the data from the organisations that employed them. The students sent the link to a web-based survey to respondents in their organisations. Since the students were from different companies in South Africa in various industries, data was collected from their colleagues in organisations in various industries. The students' colleagues were part of the sample, not the students themselves. The researchers did not consider questionnaires in which questions were omitted or where there were outliers. Industry-specific effects were avoided by including organisations operating in a wide range of industries. The industries represented by the companies which participated included, 36% from financial services and insurance industries; 20% were mining and industrial equipment industries; 13%

were from state-owned enterprises in South Africa, and the remaining industries varied from non-government and non-profit organisations; fast moving consumer good industries; professional services and petrochemical industries.

Method of data gathering and scales

The data was collected using a survey format with a five-point Likert scale featuring five anchors from Strongly Agree to Strongly Disagree with the statement: Strongly Agree, Agree, Neither, Disagree and Strongly Disagree. Since the Likert scale offered theoretically equal intervals between responses, it was appropriate for this study (Creswell, 2012). The survey response data collected was from a sizable population of over 1500 responses. The first part of the survey contained biographical questions and the subsequent questions were dedicated to the scales, as described below.

Environmental dynamism

The scale by Jansen et al. (2006) was used to measure dynamism in the environment. Jansen et al. (2006) included five items from the original scale by Volberda and Van Bruggen (1997), who developed an instrument to measure environmental turbulence, with 22 reliable items. This scale measures six dimensions of environmental turbulence, of which seven items measure environmental dynamism. The Jansen et al. (2006) scale of five items had an alpha of .87 in their study. Examples of items: Environmental changes in our local market are intense; Our clients regularly ask for new products and services. In the current study, only four items of the five were retained in the analysis, since one of the items was formulated in the negative and was dropped when it had a low factor loading in the exploratory factor analysis. The other items all loaded onto a single factor.

Leadership practices

Respondents were asked to indicate, in a survey we designed and distributed, the extent to which a set of statements applied when describing the actions of their leaders. In this sense, the study focuses on observable behaviour, or leadership practices of doing things.

The O'Reilly et al. (2010) original scale, on leadership practices in the *Leadership Quarterly* reported high internal consistency, with a Cronbach Alpha reliability coefficient of .93 of their six items. The original scale had seven Likert scale points, whereas in this study, respondents rated leaders on a five-point Likert scale from "Strongly Agree" to "Strongly Disagree" on items reflecting leadership practices, to align with the rest of the questionnaire. These items included assessments of the degree to which "leadership articulated a strategy; provided measurable objectives; rewarded progress in the change effort; dealt with resistance and motivated people to change."

Since this scale only had six items, the researchers decided to include items in the current study's questionnaire on leadership practices from the Bouckenoghe et al (2009) study, which focused appropriately on actions in leading change, for example, "leadership provides a compelling change vision; leadership acts in ways that build trust and leadership listens to employees' concerns regarding the implementation of change". The results of an exploratory factor analysis of these items revealed that the 24 items loaded on a single factor and was used as a single variable in this study.

Response to change

The 16 items that explored response to change were mostly derived from the scale by Shea, Jacobs, Esserman, Bruce and Weiner (2014). Their items to assess commitment to the change include, "I am committed to implement the change; I want to implement the change". Valence refers to the attractiveness, from the change recipient's point of view, of the perceived outcome of the change. Example items include, "I believe the change will make things better;

I think it is necessary to make this change". Efficacy includes confidence in the change as follows: "I am confident that we can handle the challenges that might arise in implementing the change; I am confident that the organisation can support people as they adjust to the change". Because the researchers note that the commitment for change scale, as measured by the 16 items of Shea et al. (2014), does not cover an action-orientated support for change, where employees actively support change, the researchers explored other scales for support for change.

The questionnaire of O'Reilly et al (2010), which was utilised in this study, to measure leadership practices, also had a section on support for change. O'Reilly et al. (2010) developed a five-item scale for measurement of support for change, with high reliability and which loaded on a single factor, which was used in the assessment of support for change. Examples of items include, "It is in my personal interest to help implement the change; I am personally convinced that this change is the right one for our organisation." Because the scale of O'Reilly et al. (2010) described an action-orientated support for change, this study includes these items as part of employee response to change.

Statistical Procedure

Leadership practices was the predictor or independent variable, environmental dynamism was the moderator variable, and change response, with sub-scales, served as the criterion or dependent variable. Moderator regression models were utilised to examine relationships. A variance inflation factor (VIF) was calculated, to test for collinearity and ensure that the prediction of the outcome was independent (Enders, 2008). The data was analysed by first conducting an analysis of variance test to examine the overall fit of the model for each hypothesis (Lewis-Beck, Bryman & Futing Liao, 2004). The researchers used the *R*-square measures to test the predictive power of the regression.

Cronbach Alpha was used as a measure of reliability and internal consistency of scores. A coefficient of .8 or higher is regarded as good and a coefficient between .6 and .7 is deemed acceptable or satisfactory. Exploratory factor analysis with principle component analysis was conducted and indicated that the items weighted under the factors or scales, where they were supposed to be. The Kaiser-Meyer Olkin measure of sampling adequacy was .961 and the Barlett's test of sphericity indicated the Chi-Square as 20557,978 with degrees of freedom of 276, and significant at the smaller than 0.01 level (0.000). This indicated that the use of factor analysis was appropriate, and the items were factorable. Factor analysis established that the data from the rating scales measured what it was supposed to measure by calculating the factor loadings for each item that made up the rating scale (Thompson, 2004). The benchmark values for determining validity are based on the average variance extracted (AVE) where $AVE > .5$ indicates excellent construct validity (Pett et al., 2003; Hair et al, 2010; Hair, Hult, Ringle, & Sarstedt, 2014).

An item analysis was conducted, where the total correlation of each construct was measured and the effect of deleting each variable was assessed. Conclusions were then drawn based on the results of the quantitative analysis, that is, the proving or disproving of the hypotheses.

Results

Demographics

The demographic information was analysed to verify that the sample structure was similar to the population structure, eliminating obvious biases. The respondents were mostly aged below 40 years; 411 were between the ages of 20 and 30, 603 between 30 and 40, 365 between 40 and 50 and 153 over 50, resembling the typical workforce age in South Africa. Male respondents constituted 49% of the sample. With regards to race, 40% of the respondents

were Black employees, 35% were White, 10% were Coloured and 11% Indian. Most respondents were on the staff, supervisor and middle management level (66%). Interestingly, 53% of respondents had been working at the company for longer than five years. Other studies have found that tenure has a negative influence on employee satisfaction levels. The current study therefore included tenure as a control variable, as Antonakis, Bendahan, Jacquart and Lalive (2010) advise the use of control variables to improve validity of claims made about data.

Statistical results

Table 1 below shows the constructs validity and reliability of the items in the questionnaire. We used the indication of Yi, Uddin, Das, Mahmood and Sohel (2019) to assess whether the AVE of each construct is above the minimum acceptable threshold limit of .5. There was an issue with the Leadership Practices construct and we eliminated four items. For example, item 5: Our executives cultivate a performance culture that supports the change implementation, where the AVE was .555; Item 7: Our executives provide measurable objectives for implementing the change vision, with an AVE of .550; Item 12: Our executives ensure roles and responsibilities in the structure are clear, with an AVE of .478 and Item 14: Our executives monitor deviations from the change plan and act on it (AVE = .059).

The data had satisfactory Skewness and Kurtosis values, between -2.58 to +2.58 (Hair et al., 2010). Table 2 displays that the Average Variance Extracted (AVE) of the constructs in the study, i.e. Environmental Dynamism (ED AVE = 70.422); Response to change (RC AVE = 67.00) and Leadership Practices (LP AVE = 50.884). With regards to the subconstructs of response to change, they had acceptable levels of construct validity, with AVE's ranging from 71.504 to 74.422.

Leadership practices therefore had limited convergent validity concerns, since it was slightly higher than the threshold. The concern is to be expected, since our conceptualisation of leadership practices was based on O'Reilly et al. (2010) work, which included actions that leadership needs to take during change processes. In addition to O-Reilly et al. (2010) six item scale, we added items of Bouckennooghe et al (2009), which focused appropriately on actions in leading change and therefore could expect convergent validity issues, due to using both scales in our study. However, since our exploratory factor analysis showed that all the items loaded on a single factor, we were confident that we could use our Leadership Practices scale as independent variable in our study. (We explained this issue and recommendations for further research in the discussion section).

We were aware that we purposefully focused on actions, rather than leadership styles or inherent characteristics of individual leaders. As a result, we could theoretically expect lower convergent validity, because the personal characteristics, based for example on personality profiles, would have been more consistent and held together by traits or deep seeded characteristics of a person. Actions are broader and can be conducted by various leaders and therefore the slightly lower than accepted convergent validity was not a concern. The rest of the values were acceptable, such as the discriminant validity and we therefore deemed it appropriate to continue with hypothesis testing.

(Insert table 1 here)

Hypothesis 1: *Leadership practices have a positive influence on employees' response to change.*

The results of analysis in table 2 shows the linear statistical Pearson correlation coefficient between leadership practices and employee response to change. These regression results indicate a significant positive relationship between leadership practices and change response, at the significant level of $p < .05$. Survey respondents who responded positively to change in their organisations perceived the leadership practices positively, supporting Hypothesis 1.

(Insert table 2 here)

The regression results, listed in table 3, indicates that when positive perceptions on leadership practices increased, change response increased by .363 (or 36%) at the $p < .01$ significant level.

(Insert table 3 and 4 here)

Multi-collinearity issues were verified because their existence posited vulnerable regression weights with larger standard errors and therefore we followed Mahmood, Uddin and Luo's (2019) advice to use a Variance Inflation Factor to reflect whether multi-collinearity issues are posing serious concerns (Mahmood, Uddin, & Luo, 2019). We tested for multicollinearity to ensure that the study does not have the problem of the explanatory variables being correlated with each other (independent variable – leadership practices and moderator variable – environmental dynamism). The results confirmed that all the VIFs were acceptable and therefore there was no multicollinearity problem (Vogt, 2005). The coefficient of determination for leadership practices of adjusted R-squared values showed good model fit, with R-squared and adjusted = .132, indicating that leadership practices explain 13 percent of change response. The ANOVA F-Statistic was 233.268 at the $p < .01$ significant level, indicating the predictor variable (leadership practices) had a significant influence on the dependent variable (response to change).

Hypothesis 2: Environmental dynamism strengthening the relationship between leadership practices and response to change

With regards to Hypothesis two, the results indicate a slight positive moderator effect of environmental dynamism on the impact of leadership practices on change response, confirming Hypothesis two. This highlights that the more dynamic the environment, the greater the impact leadership practices have on employee response to change. Figure 2 below illustrates the findings of the moderator effect.

(Insert figure 2 here)

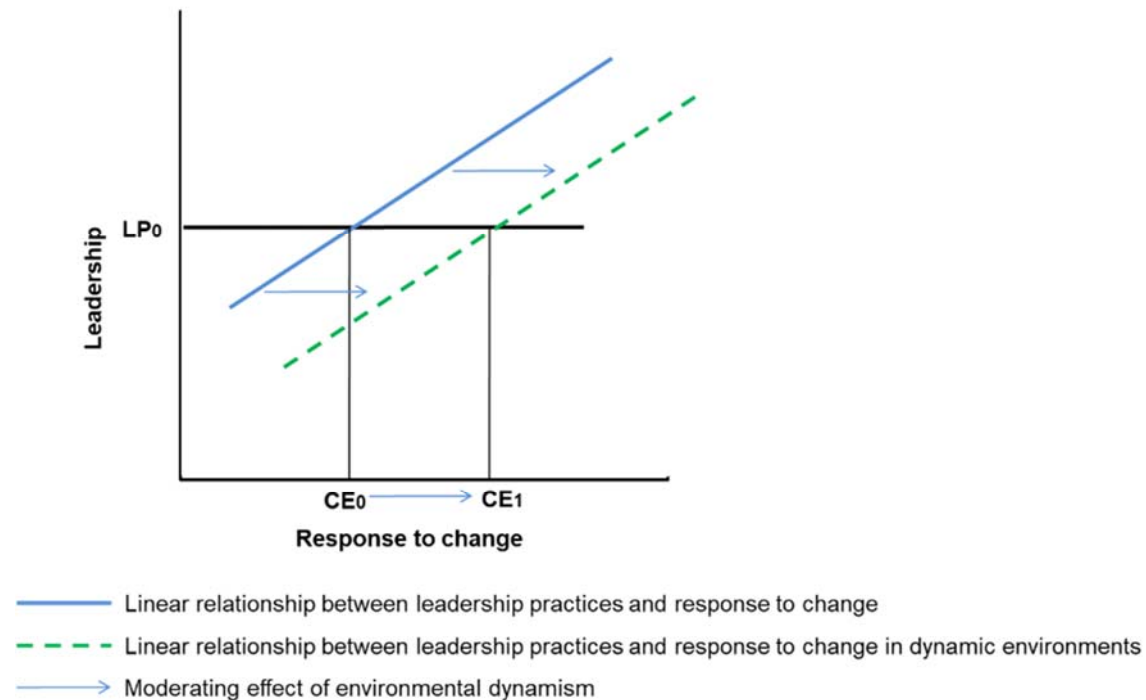


Figure 2: Moderating effect of Environmental Dynamism (ED) on the impact of Leadership Practices' (LP) on Response to Change (RC).

Figure 2 illustrates the positive moderating effect of environmental dynamism (ED) on leadership practices (LP). As ED increases it can be seen that the levels of positive response to change accelerate slightly from 4.12 to 4.34; but at low levels of ED, positive response to change only increases very slightly, from 2.86 to 3.00. The moderator effect of ED was significant but slight, with $\beta = .035$, indicating a strengthening effect of ED on the impact that LP has on response to change.

The moderated regression results illustrated in Table 4, indicated that the model fit results are acceptable because the VIF statistics are between one and ten; the R-Squared and Adjusted R-squared values, .798 and .797, show good model fit, and the ANOVA F-statistics (861.170) are all significant at the $p < .01$ level, indicating that the predictor variable had a significant relationship with the independent variable. Tenure as control variable did not have a significant influence on the model.

(Insert table 5 here)

The model fit results, demonstrated in Table 5 were acceptable, because the VIF statistics were between one and ten. The adjusted R-squared values showed good model fit, and the ANOVA F-statistic was significant, confirming hypothesis 2.

Table 6 shows that environmental dynamism was found to have a significant positive moderator effect on the impact of leadership practices on commitment to change ($\beta = .031$, $p\text{-value} < 0,01$); efficacy, or belief in whether the change will lead to efficacy of the organisation ($\beta = .045$, $p\text{-value} > 0,05$); and valence, or attractiveness of the change ($\beta = .037$, $p\text{-value} < 0,01$). However, environmental dynamism was found to have no significant positive moderator effect on the impact of leadership practices on support for change ($\beta = .021$, $p\text{-value} > 0,05$).

(Insert table 6 here)

The results highlight that the more dynamic the environment, the greater the impact leadership practices have on response to change, in terms of commitment to the change, belief in the efficacy of the change, and valence or motivational strength of the change. The condition of dynamic environment did not have a significant moderation effect on the impact of leadership practices on one particular type of response to change, namely support for change. The questions on the support for change showed an action orientation, whereas the commitment and belief in efficacy and valence had less of an action orientation. It therefore seems that under conditions of dynamic environments, belief, commitment and valence are impacted, but not the actual actionable support for the change.

Discussion

The findings on the linear relationship between leadership and response to change support the literature, like Murphy's (2016), which claims that leadership influences response to change. Perceptions of leadership practices are thus important in influencing response to change, similar to Daft's study (2011), which found that leadership involves influencing employees to effect change toward a future that is desirable. As discussed in the literature review, leadership plays an important role to effect readiness for change in an organisation and facilitate the adoption of change (Armenakis et al, 2007). However, leaders might apply what has worked before, regardless of the change in context or environment, using what other progressive managers have used and simply applying it without assessing their own environment (Armenakis et al, 2007). This study therefore included a moderator, namely environmental dynamism, in the conceptual model to investigate the boundary condition of the relationship between leadership practices and response to change.

The results of this study show that when environmental dynamism increases, employees may feel less in control, more uncertain and, therefore, their response to change is even more influenced by the leadership practices of senior management. These results are therefore in line with the discussion under the literature review, where Hemant et al (2017) explained employees' need for leadership in times of strain.

This study indicates that a dynamic environment strengthens the impact leadership practices have on response to change. The researchers therefore agree with Osborn et al. (2002) that leadership should not be seen as a property of an individual but as a role embedded in its context, because the context in which leadership operates is diverse. Environmental dynamism should be taken into account when determining whether leadership outcomes will be achieved and whether the appropriate leader is being placed. Dynamic environments call for leadership actions or practices that offer a compelling change vision, track progress towards change implementation and purposefully encourage buy-in towards change. A dynamic environment creates the opportunity for leadership practices to have greater impact on response to change and leadership should capitalise on this opportunity. The items of leadership practices which we retained in the analysis, because they had an acceptable AVE, above .5, are items that future studies could use in their research on the influence of leadership practices on various dependent variables, such as employee engagement. Table 1 contains these items which were retained in the Pearson correlations and multiple regression analyses. This study therefore contributed to the body of knowledge on how to influence successful implementation of change processes.

Figure 3 is an illustration of the positive, or strengthening, moderator effect of environmental dynamism on the influence of leadership practices on response to change for this sample. At the leadership practices level LP0 the level of response to change is RC0. Dynamic environments have the effect of shifting the line to the right, from RC0 to RC1, at the same level of leadership practices LP0.

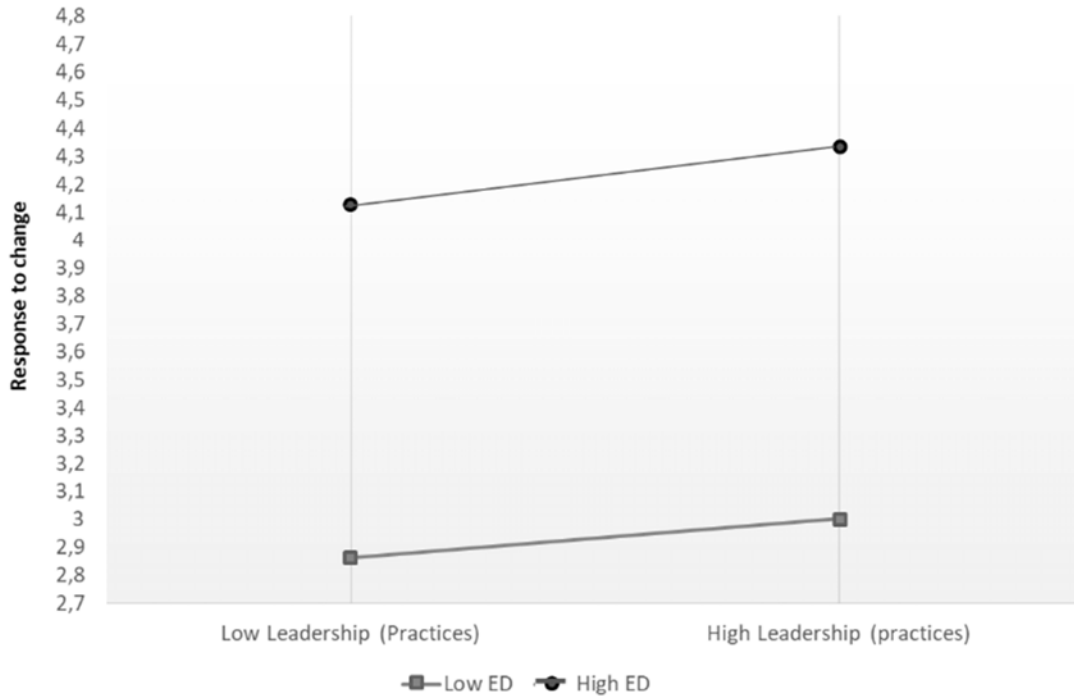


Figure 3: Graph of strengthening, moderator effect of environmental dynamism on the influence of leadership practices on response to change

With the exception of support, the remainder of the sub-constructs were significantly influenced by the moderator; that is, environmental dynamism had a positive (strengthening) moderating effect on the impact of leadership practices on valence, commitment and efficacy. The results imply that respondents perceive that leaders gain commitment, valence and efficacy with regards to change from lower level managers and other employees in dynamic environments.

There are several reasons why environmental dynamism positively affects the impact of leadership practices on commitment to change, change valence and change efficacy, but not on support for change. The questions on support for change showed an action orientation, as discussed above (O'Reilly et al, 2010), whereas commitment, belief in efficacy and valence had less of an action orientation. It therefore seems that, under conditions of dynamic environments, the belief aspect, as captured in the scale by Shea et al (2014), as well as commitment and valence, are impacted, but not actual support for the change. Naotunna and Arachchige (2016) emphasise that commitment is a mindset, an emotional connection or a psychological state where a connection is felt. Senior management may be less connected or more isolated from the individuals needed to support the change and therefore not able to gain their support to go over to action.

The latest literature on followership, (see recent Bastardo & Van Vugt, 2019, in *The Leadership Quarterly*, for detailed analysis and Carsten, Uhl-Bien, & Huang, 2017), relates to this finding. For example, Carsten et al. (2017) differentiates between passive and proactive role orientation of followers. Our finding of employees being committed to change and even believing that the change would be to the benefit of the organisation, however that they would not necessarily that they would actively support the change, might show that these employees do not perceive their role as needing to actively support the change. Carsten et al. (2017) defines this behavior as passive role orientation of followers, which in turn influences the leadership process. This finding requires further research, since we did not discuss followership in detail in the literature review for this study, given the scope of our study on leadership practices and limited space in the article to attend to followership and leader-follower exchanges in particular.

Implications for organisations

The implications for organisation of the surprising finding mentioned above that gaining commitment, would not necessarily mean that employees would actively support the change, are that it suggests that more effort, for example through effective communication, is necessary to gain active support. Organisation development and Human Resources practitioners should gain knowledge of the dangers of followership passive role orientation, as mentioned above, and therefore could focus learning and development of leadership in the organisation on gaining true support for change processes.

Referring to the Contingency Theory mentioned in the introduction and literature review, our results on the moderation effect show the more disruption in the environment, the more leadership practices matter with regards to response to change. Leaders could benefit from taking note of these results. As the well-known adage attributed to Winston Churchill goes, "Never waste a good crisis". Leadership could use the opportunity presented by environmental dynamism to make more impact and could, for example, give more direction and focus more on the response of their employees to instil commitment. However, leadership must also realise that, even though they are committed, believe in the efficacy of the change and are motivated, employees might not necessarily support the change with their actions. Leadership must therefore put in extra effort to move employees from commitment to actual action, by, for example, offering them training on followership and how to change their way of working. Their tendency to at least be committed is a good start from which to work. Organisations must equip their leaders to lead within dynamic environments.

Leadership must ensure that employees are supported by the organisation, as Cullen et al. (2014) find that the increase in perception of organisational support (POS) influences workplace attitudes and behaviours, including those toward change. Leadership practices might therefore lead to more positive perceptions about organisational support, which then lead to support for change. To gain employee support, it is important to communicate and act in a manner that employees can relate to and find meaning in (O' Reilly et al., 2010). Developmental feedback, job rotation, training, rewards and other forms of engagement also help improve the perception of organisational support (Cullen et al., 2014). Orientation workshops and communication about change mobilise and energise the workforce to meet challenges and embrace change (Bouckenoghe et al, 2010). Organisations must also ensure that they adhere to the need of employees to receive clear instructions, understand the change, what is expected from them and plan for the change (Brzeziński & Bąk, 2015).

Limitations of current study and recommendations for future studies

We discussed the limitation of slightly above the threshold convergence validity (AVE concern) with the leadership practices scale, even though with the EFA, the questions loaded onto one factor. This is a limitation in our study and requires further research to establish criterium and predictive validity. The notion of O'Reilly et al. (2010) of leadership actions or practices is an interesting feature and holds promise in leadership studies. We used O' Reilly et al. (2010) in conjunction with Bouckennooghe et al. (2009) to focus specifically on leadership of change. This new scale could be further developed and compared to the two original scales to ascertain which option offers the highest convergence validity.

The current study made use of non-probability sampling, judgement or purposive sampling. This is a serious limitation in our study, due to the actual information on the total population not being available and the data could be skewed without the researchers knowledge. We are therefore restricted and not able to generalise our findings to the total population of employees in South Africa, since the sample might not be representative of the total sample or other emerging markets. We therefore recommend future studies to get hold of the information about a total population and improve on our research design, by conducting probability sampling. Another limitation was that the researchers distributed the survey, without adequately collecting data on how many questionnaires were sent out, the study could not tract issues of non-response bias and it is therefore an important limitation of the current study. Future research would need to control this aspect by collecting data on how many respondents did not complete the survey.

The current research studies only one moderator variable in the conceptual framework. Future studies could include specifically the Perceived Organisational Support (POS) scale in the model, for example, where POS is a mediator, as the enabling perception of organisational support might assist employees to reciprocate by offering their support for the change. A moderated mediating model with other variables, such as communication with and participation of employees as mediators, could also be investigated in future studies.

Future research could also investigate comparisons between industries and across nationalities. The quantitative part of the current study has the limitation of a validity threat of common-method variance, as the independent and dependent variables are gathered from the same rating source (Antonakis et al, 2010). Future studies should therefore be longitudinal, collecting data at different times and creating different data points.

Conclusion

The study confirmed that leadership practices do indeed influence employee response to change, and that environmental dynamism has a moderating effect on this relationship. Organisations can benefit from this study by realising that, in times of high environmental dynamism, employees need senior leadership to purposefully conduct leadership practices, such as sharing a compelling vision, to positively impact their response to change, as they might believe in, and be confident about, the change, but not necessarily support it with their actions.

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