

Operational Agility in Tech: Best Practices for Administrative Leadership

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Abstract- The ability of technology organisations to be agile in their operations becomes increasingly important in the context of an era of high disruption. Nevertheless, despite the accumulating literature on agile practices, there has been a dearth of academic interest in administrative leadership as a source of organisational agility in operations. The paper includes an analytical framework in which administrative leadership practices appear as the main independent variable that would impact operational agility in technology organisations. Formed on three theoretical perspectives, which include Dynamic Capabilities Theory, Transformational Leadership Theory, and Agile Management Theory, the framework postulates that the connection between the administrative leadership and operational agility is mediated by four organisational mechanisms, which include organisational culture, technology adoption, employee empowerment, and process efficiency. Also, three moderating variables are added, including organisation size, industry dynamics, and environmental uncertainty, to explain contextual variation in the strength of such relationships. There are five empirically testable propositions that are developed to inform future quantitative and qualitative research. The framework has contributed to the literature by providing a theoretically grounded model that bridges the gap between leadership behaviour and operational performance in technology-driven settings. Technology managers, human resource practitioners, and organisational development specialists are discussed as having practical implications for building agility through purposeful administrative leadership. Future empirical validation of the framework is recommended across diverse technology sectors and organisational contexts.

Index Terms- Operational Agility; Administrative Leadership; Technology Organisations; Dynamic Capabilities; Organisational Culture; Technology Adoption; Employee Empowerment

I. INTRODUCTION

The technology industry exists within a highly dynamic environment that is marked by incessant disruption, high competition and fast innovation. In

this regard, operational agility, as the ability of a given organisation to sense, respond swiftly and use the opportunity presented by a change in the environment, has become a hallmark of competitive advantage (Harraf et al., 2015). In the case of technology organisations, processes, resources, and structures adaptability in real time can not only be used to define competitive positioning but long-term viability (Worley et al., 2014). Administrative leadership is seen to be key towards facilitating such agility. Administrative leadership, unlike operational or technical leadership, is the governance, coordination, and managerial process that influence the organisational decision-making, the communication process, and the allocation of the resources (Yukl, 2013). With effective administrative leaders, they set up the structural and cultural environments that enable technology teams to quickly turn direction and implement strategies with accuracy. The lack of congruency has led to organisational bureaucracy reducing responsiveness which reduces the agility required by modern technology environments.

Although agile practices have developed an increasing interest, a substantial gap in the literature remains open: little scholarly understanding exists about which administrative leadership practices directly contribute to operational agility most of all, and how these effects are mediated. Current literature has been inclined toward either agile approaches at the project level or executive-level strategy, and this has no longer offered a solution on the bridge between the top administration and the management staff at the administrative level where management-level decisions are implemented. This theoretical framework aims to bridge this gap by introducing a systematic framework, which recognises, conceptualises, and connects administrative leadership practices to the operational agility. Based on the existing theoretical views and the valid empirical evidence, the framework elucidates the

connections between the leadership practices and the operational agility integrating the mediating and moderating variables that determine the character and the strength of such associations.

II. THEORETICAL FOUNDATION

The framework is based on three theoretical views: Dynamic Capabilities Theory, Transformational Leadership Theory, and Agile Management Theory. The Dynamic Capabilities Theory, developed by Teece et al., (1997) and further explained by Eisenhardt and Martin (2000) argues that the organisations remain competitive not by having fixed resources, but by being able to identify the changes in the environment, capture the new opportunities and re-align their internal resources. Dynamic capabilities in the framework of this model are the organisational tool enabling strategic intent to be transformed into agile performance by administrative leadership. Leaders that develop sensing, seizing, and reconfiguring capabilities in their organisations develop structural resilience that enables operational agility. This theory assists the relationship between the leadership practice and the ability of the organisation to dynamically adapt its processes and resources.

Transformational Leadership Theory is the theory that was created by Bass and Avolio (1994) and suggests that successful Leaders can make followers overcome their selfish concerns in favour of the collective interests by describing vivid visions, eliciting mental growth and offering personalised solicitation. Yukl (2013) took this theory a step further to highlight the importance of leaders in developing organisational culture and facilitating adaptive behaviour. Transformational leadership in the existing model forms the basis of behavioural leadership in the administrative administration leadership processes, especially about communication, support of innovation, and empowering of employees. Transformational leaders are in a better place to develop agile cultures and enable employees to make independent decisions in challenging technology conditions.

As defined by Doz and Kosonen (2010) and put into practice by Denning (2022), the Agile Management

Theory views agility as an organisational ability based on organisational commitment to leadership, strategic sensitivity, and collective involvement. The theory of agile management is specifically applicable in the context of the convergence between the leadership structures, decision making processes, team empowerment to result into operational responsiveness. This theoretical view of agility contrasts with more limited views of agility as a methodology used in software development, considering agility as a leadership phenomenon that is an organisation-wide disposition, and making administrative leadership a key catalyst of organisational agility.

This trio of theories have formed a theoretical scaffold, each contributing to it: Dynamic Capabilities Theory defines the process by which organisations develop adaptive capacity; Transformational Leadership Theory defines the behaviours that leaders use to mobilise that capacity; and Agile Management Theory defines how those behaviours convert that mobilisation into operational systemic agility. All the theories make their specific contributions to the definition of the variables and relationships that are expressed in this framework.

III. CONCEPTUALISATION OF KEY VARIABLES

- Administrative Leadership Practices (Independent Variable)

The administrative leadership is defined as those managerial behaviours and processes as well as governance systems, according to which leaders organise organisational events, resources, and create institutional norms in technology organisations (Yukl, 2013). It is not the same as strategic leadership as it deals with the realisation of strategy in the administrative systems and not its formulation. Operational requirements in technology organisations change at a fast rate and thus administrative leadership defines how well the organisational structures can respond agilely. The main dimensions of it are decision making agility: the ability to make decentralised, timely decisions; communication effectiveness: the degree to which leaders provide clarity and frequency with which they convey

direction and feedback; and innovation support: the degree to which leaders foster environments that encourage experimentation, learning, and process improvement (Bass and Avolio, 1994; Denning, 2022).

- Operational Agility (Dependent Variable)

The concept of operational agility describes the capability of the organisation to restructure, reorganise and reassign its processes, structures and resources quickly to respond to the evolving market environment and internal needs (Harraf et al., 2015). It is expressed in technology organisations in the form of speediness in service delivery and product development, resource redeployment flexibility, and customer and stakeholder responsiveness. It is a systemic property whereby Worley et al. (2014) explain that it cuts across all levels of the organisation and allows teams to change priorities without affecting the continuity of performance. The practical achievement of good leadership, a conducive culture and facilitating technology collaborating in tandem is therefore operational agility.

- Mediating Variables

There are four variables that mediate the association between administrative leadership and operational agility. Organisational culture mediates this association by creating collaboration standards, risk-taking, and flexibility (Schein, 2010). An agile culture increases the impact of the leadership practices on the responsibilities of a team. The mediating factor in this relationship is technology adoption which dictates how much digital tools would make the process of decision making and information sharing faster (Sambamurthy et al., 2003); leaders who support technologies investment do so directly to the agile infrastructure of the organisation. According to Spreitzer (1995), employee empowerment allows operational level action to be taken in a timely manner and directly converts the leadership intent into responsiveness; employees who are empowered by their leaders eliminate the deliberations that delay responsiveness. Efficiency of the processes helps to minimize bureaucratic friction that leads to a quicker implementation of the strategic directive and the ability to make the administrative capacity of

leadership directly connected to the results of agility (Luftman and Brier, 1999).

- Moderating Variables

There are three variables that moderate the relationships in this framework. The size of the organisation impacts the relationship between leadership and agility because bigger organisations have higher coordination needs capable of decreasing the agility consequences even in highly led organisations. The dynamics of the industry, in terms of both the degree of competition and the rate of technological change, influence the urgency and manifestation of agility needs, whereby leadership impacts can be more felt in the rapidly changing industries, like artificial intelligence or cloud services. Strong leadership coupled with adaptive capacity is heightened by environmental uncertainty, which balances the responsiveness of agility performance to agile leadership (Eisenhardt and Martin, 2000). In highly uncertain settings, the role of leadership in agility should be more significant and critical towards organisational survival.

IV. CONCEPTUAL RELATIONSHIPS

The theoretical connections in this model are designed as a directional relationship between administrative leadership practices and operational agility where four organisational mechanisms lie in between. The independent variable is the administrative leadership practices that trigger the causal process: the preconditions of organisational agility are the effective decision-making, communication, and innovation support by the leaders. These are however not direct effects. Instead, they are rendered via four mediating variables, including organisational culture, technology adoption, employee empowerment, and process efficiency, and each of them works as a channel of transforming leadership influence into agile results.

In particular, the organisational culture is formed by the leadership and, consequently, the readiness and capability of the employees to act in an agile manner. The rate of technology adoption and the degree of employee empowerment are also within the leadership and both direct impacts on responsiveness of operations. Leadership decisions create process

efficiency and minimise the structural barriers of quick action. The strength of these relationships is conditioned by the moderating variables such as the size of the organisation, industry dynamics and environmental uncertainty. The relationship between agility and empowerment should also be stronger in highly uncertain setting, such as the case of the connection between the two. Every relationship is positive in direction, whereby the effective administrative leadership levels are expected to lead to higher levels of operational agility under the mentioned contextual conditions.

V. CONCEPTUAL FRAMEWORK MODEL

The proposed model is represented in a framework diagram below. The independent variable is administrative leadership practices on the left that provides operational agility on the right, and the effects are mediated by four central variables, namely, organisational culture, technology adoption, employee empowerment, and process efficiency. The moderating variables, size of the organisation, industry dynamics, and environmental uncertainty are placed on top and dictate the strength of direct path and mediated path. All the major relationships are positive, with the directional arrows suggesting so.



Figure 1. Conceptual Framework: Administrative Leadership Practices and Operational Agility

VI. IMPLICATIONS OF THE STUDY

This framework bears a lot of theoretical and practical consequences. Theoretically, it helps merge the leadership and operations management studies by suggesting an integrative model that places administrative leadership as a key operational agility driver. The framework takes the step further by explicitly considering mediating mechanisms, which allows achieving a more in-depth explanation of the development of agility within technology organisations, instead of merely bivariate analyses of leadership and performance. It also applies both Dynamic Capabilities Theory and Transformational Leadership Theory to the sphere of operations and fills these two approaches with additional thoughts and creates new horizons of interest at the border of management theory and digital innovation.

In practice, the framework gives technology organisations an organised prism through which they can assess and enhance their leadership capacity. Companies that are aiming to become more agile ought to invest in not only agile tools and processes, but also in creating administrative leaders who can create empowering cultures, promote the adoption of technology, and simplify processes. The framework can also be utilised by human resource practitioners and organisational development specialists to develop leadership training programmes that serve the dimensions, including decision-making, communication, and innovation support dimensions, which are determined as the key dimensions with regard to agility outcomes. The inclusion of moderating variables in the framework promotes application context sensitivity, which reminds the practitioners that the leadership impact on agility will be different depending on the scale of the organisation, volatilities in the industry, and the complexity of the environment.

VII. RECOMMENDATIONS OF THE STUDY

Technological organisations ought to be keen on investing in the advancement of administrative leadership qualities especially on decision making, communication as well as innovation support. Agility outcomes ought to be the design consideration of leadership development programmes where they will prepare leaders with ability to develop empowering

cultures and become champions of technology adoption. Regular tests of the efficiency of processes and the alignment of organisations with their culture should also be made by organisations so that these mediating mechanisms are also favourable to agile operations. The scholars are advised to empirically operationalise the framework proposed based on empirical studies with validated instruments in any technology industry such as software development, telecommunications as well as digital services. Comparative research across organisations of different sizes and industry settings would contribute to quantifying the moderating effects that are hypothesized in this study. Longitudinal research designs are also suggested to be used when it is necessary to capture the dynamic aspect of leadership and agility relations since they can change depending on the macroeconomic and technological shifts.

VIII. CONCLUSION

The paper has outlined the conceptual framework that places administrative leadership practices as the core operational power in technology organisations. Based on the Dynamic Capabilities Theory, Transformational Leadership Theory and Agile Management Theory, the framework presents a systematic model where leadership practices determine agility outcomes in four mediating processes, namely organisational culture, technology adoption, employee empowerment, and process efficiency. There is the moderation of variables, such as organisation size, industry dynamic, and environmental uncertainty, to attain the context sensitivity of these relations. There are five empirically testable propositions that are put forward in order to fill the conceptual and empirical aspects of the study. The combination of these elements provides a logical and theoretically based foundation of the role of administrative leadership in assisting technology organisations to be competitive, responsive and adaptive in a period of constant discontinuity. Substantial empirical validation of this framework in the future is highly recommended so as to develop an evidence base of practice and policy.

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