

An analysis of the contribution of leadership to organisational performance using complexity science

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Abstract

Purpose – The purpose of this paper is to explore the leadership tasks at the different hierarchical levels in the organisation in terms of the teleological approaches to complexity science.

Design/methodology/approach – It is based upon a theoretical discussion linked to conceptual and managerial frameworks in conjunction with a conceptual analysis.

Findings – The introduced conceptual and managerial frameworks provide a foundation to the understanding of organisational performance. They also strive to offer a foundation of understanding to management and leadership and how they complement each other.

Research limitations/implications – It is not easy to empirically substantiate complexity in conceptual and managerial frameworks. The authors use teleological approaches of complexity science in an unorthodox way that need validation in a broader context offering opportunities for further research.

Practical implications – We need to think differently about organisational performance and how we present and reflect on information that appears to be “linear” although it is not necessarily the case.

Originality/value – The paper contributes to an alternative assessment organisational performance. It endeavours to reflect on the complexity of organisations and taking into account a pluralistic approach that synthesises a variety of perspectives, including a bottom-up approach to problem solving.

Keywords Leadership, Performance, Management, Complexity, Organisation, Teleology

Paper type Conceptual paper

Introduction

The role of leadership in contributing to the achievement of organisational performance has come under scrutiny of late (Karp and Helgø, 2009; Richardson, 2008; Svensson *et al.*, 2008) as empirical support for the (direct) link between leadership and organisational performance is lacking (Svensson *et al.*, 2008). A number of studies (Karp and Helgø, 2009; Richardson, 2008; Svensson *et al.*, 2008) have proposed the application of complexity science in understanding the relationship between leadership and organisational performance. The core of complexity science includes five aspects, namely, action, fitness, strategies, predictability and emergence, and specifically the relationships between them (Wallis, 2009).

None of these studies, however, has attended to the integration of the different teleological approaches to complexity science (Stacey *et al.*, 2000) as put forward by Svensson *et al.* (2008) and the tasks and activities of leadership and management as proposed by Nienaber (2010). In essence, the teleological approaches refer to the nature of the future and specifically whether the future is given or under perpetual

construction which influences leadership's role on organisational performance (see Svensson *et al.*, 2008). Svensson *et al.* (2008) focus on three teleological approaches, namely formative, rationalist, and transformative. These three approaches, as well as the tasks and activities of leadership at the different hierarchical levels, are expanded on in the next section.

The objective of this paper is to explore the leadership tasks at the different hierarchical levels in the organisation in terms of the teleological approaches to complexity science in an effort to aid leadership decisions and actions to emerge as the future unfolds, with a view to optimising organisational performance by acting collectively and securing the organisation's survival in the long term.

This paper contributes to the ongoing debate on leadership in organisational performance, specifically by expanding on the work of Svensson *et al.* (2008) and Nienaber (2010) by exploring how the different layers of leadership can contribute to organisational performance in view of various states of uncertainty. It advocates a pluralistic approach that synthesises a variety of perspectives, including a bottom-up approach to problem solving, in which the knowledge and experience of employees are taken into consideration to ensure organisational performance.

The rest of the paper is organised as follows: a frame of reference is presented; the relevance of complexity sciences in organisational performance is discussed; conceptual and managerial frameworks are described; managerial and theoretical implications are discussed; a conceptual analysis is performed; and concluding thoughts and suggestions for further research are provided.

Frame of reference

The leadership cadre of organisations is ultimately charged with the responsibility of organisational performance (Nienaber, 2010). Hence, they are the drivers of performance in the organisation (Berntal *et al.* 1997; Crotts *et al.*, 2005; Jamrog *et al.*, 2008; McManus, 2008). Organisational performance has recently received heightened attention in the literature (Broadbent and Laughlin, 2009; Burkert *et al.*, 2011; Ferreira and Otley, 2009; Muras *et al.*, 2008; Svensson *et al.*, 2008). The essence of these papers is that performance management is complex, interpreted to mean different things to different people and often misunderstood, causing more confusion than clarity. The importance of people in general and managers in particular in achieving organisational performance is acknowledged. Despite the importance of people, irrespective of their position in the organisational hierarchy, in achieving organisational performance, various studies have found that efforts to capitalise on people's contribution to organisational performance remain ineffective (Fegley, 2006; Harvey, 2009; Linne, 2009; Nancherla, 2009). Furthermore, the direct influence of leadership on organisational performance is disputed in the literature (Svensson *et al.*, 2008). This disagreement is understandable for a number of reasons. One is that leadership (CEO and top management) sets the direction of the organisation, which is executed by lower levels of management (Nienaber, 2010) in a given context. Therefore, the leadership is not the sole actor in organisational performance (and should not claim all of the rewards). Furthermore, organisational performance is equated to the economic performance it produces (Drucker, 1955), and expressed as financial gain (Ronda-Pupo and Guerras-Martin, 2012), which is dependent on a number of multi-faceted factors, like employees, customers and society (Ghoshal, 2005, p. 80; Heskett *et al.*, 1994; Svensson and Wood, 2005) and the environment (Hellriegel *et al.*, 2008; Jones and George, 2007; Nienaber and Roodt, 2008). In more precise terms,

organisational performance is generally associated with goal achievement and more specifically financial gain (see Nag *et al.*, 2007; Ronda-Pupo and Guerras-Martin, 2012). Ultimately, the aim of organisational performance is change, thus ensuring the survival and growth of the organisation in the long term. Hence, it is difficult to determine the exact contribution of each factor to the outcomes achieved (Richardson, 2008) and it is reasonable to maintain that leadership's contribution to organisational performance is inflated, as proposed by Svensson *et al.* (2008).

The phenomenon of top management's inflated contribution to organisational performance was also found by Hooghiemstra (2008), showing that both Japanese and the US managers reported organisational performance in a self-serving way; i.e. managers take personal credit for successes and deny responsibility for failures, attributing them to external causes that are beyond their control. A possible reason for this self-serving behaviour is to minimise the impact of negative exposure on the business while preserving the esteem of the managers and inspiring confidence and motivation (Hooghiemstra, 2008). This phenomenon confirms the principle that management is accountable for results that are within their control and that top management seems to cope with uncontrollable factors more effectively than lower management and staff (Burkert *et al.*, 2011), which may contribute to the inflated role of leadership in organisational performance. Other reasons for the inflated role of leadership in organisational performance stems, *inter alia*, from the literature's portrayal of a top-down approach to management as being superior to a bottom-up approach (Svensson *et al.*, 2008). The literature implies that a command and control management system safeguards organisational performance, while (seemingly) ignoring the contribution of employees. This view is further advanced by presenting leadership as individualistic, relying on a simplistic, linear approach, which assumes that approximate and tentative knowledge is complete and accurate (Richardson, 2008) and thus sufficient to secure future performance. However, organisations are complex systems (Mumford, 2011), as alluded to earlier, the management of which is complicated by a number of factors, among others interactions among various parts of this system (Richardson, 2008). Notable in this regard are interactions among diverse people. These interactions are complex and uncertain processes (Karp and Helgø, 2009) because of their networked nature (Richardson, 2008), which is all but simplistic. It is therefore contended that leadership is limited in knowing and/or predicting the future accurately, which places limits on what can be achieved in a pre-determined way. As a result, it is not surprising that the realised results of the organisation fall short of the planned results (Mankins and Steele, 2005; Mintzberg, 1973; Tait and Nienaber, 2010).

Relevance of complexity science in organisational performance

Complexity science is generally associated with the natural sciences, specifically disciplines like physics, mathematics and biology, but it also has application in social sciences. This holds true for general management of which leadership forms an integral part (Nienaber, 2010). In the case of (general) management, the application of complexity science stems from the evolution of systems theory, given that the organisation is seen as an open, social system necessitating management to be responsive to their environment (external as well as internal). Responsiveness is necessary to facilitate the organisation in pursuing its goals to ensure its survival, and ultimately its performance. The openness, as well as the responsiveness of the organisation, causes uncertainty, at least to a degree, for the organisation in terms of its future survival.

In managing the organisation, leadership (especially the CEO and top management), adheres to one or more school of management thought (Hellriegel *et al.*, 2008; Jones and George, 2007; Nienaber and Roodt, 2008), whether knowingly, consciously, explicitly and deliberately or not (sometimes management consultants may advise the CEO on the prevailing contemporary application without regard to the appropriateness, of the school of thought promoted, to the client concerned). It may be that one school of thought dominates the thinking and action of the leader(s) or it may be an integrated approach, of which the leader may not even be consciously aware. The schools of management thought form part of the documented body of knowledge underpinning the management discipline, of which leadership is an integral part (Wren, 2005) and which in turn forms part of the social sciences. As such, management (and leadership) is an applied science, which is concerned with the study of a business that productively satisfies the needs and wants of its customers. It stands to reason that the study of management (and leadership) entails research, which examines management problems and principles to assist business to best direct their efforts towards goal achievement (performance/high performance) (Du Toit *et al.*, 2010), including financial gain.

Scientific method is employed in the study of management and leadership to gain new knowledge. Two points need to be emphasised here. One is that science and the scientific method seem to be associated with natural sciences like biology and mathematics because they test hypotheses and measure observations in a different way than social sciences. However, the fact that procedures differ from discipline to discipline does not make social sciences any less of a science than natural sciences. Neither does the fact that social sciences and especially human relations cannot be expressed in a mathematical equation or formula make social sciences and management in particular less scientific. However, it stands to reason that it is tempting for some people to focus on formulas and equations, as this approach may appear to be more controllable than phenomena that cannot be expressed in terms of formulas and equations. In this regard, the excessive concern of management and leadership with profits and profitability (that is financial gain) to the exclusion of humans and human relations in the organisation may be explained (see e.g. Heskett *et al.*, 1994; Kamakura *et al.*, 2002). Second, and more alarming, some researchers in the management sciences rely largely on personal experience, to the exclusion of more systematic knowledge, which is contrary to scientific understanding (Rousseau, 2006), confirming the view of Parker and Ritson (2005) that the susceptibility of the management discipline to fads and its willingness to accept contradictions that other scientific disciplines would deem intolerable. This susceptibility of the management discipline to fads and the seemingly unopposed acceptance of these fads open the management discipline to scientific criticism. Hence, scholars in the field should be vigilant in ensuring the scientific rigour of their discipline/field to prevent it from being perceived as unscientific.

Nevertheless, the organisation as open, social system utilises processes, operated by people (with their own uniqueness, who interact with one another, and are influenced by their personal goals, which are not necessarily congruent with those of the organisation, as well as attitudes arising from the “technical interface”, including their sense of organisational justice, in the work environment), who have a “will of their own” (Parker-Follett, 1933/1940), and who are not a submissive resource (Holbeche, 2009) in following the organisation’s goals, which are presumed effective. Hence the focus of leadership in managing the organisation is on the efficient achievement of these goals, whether they are in fact effective (i.e. appropriate to the environment in

which the organisation operates/competes) or not. In achieving the organisation's objectives, it is presumed to achieve performance and hence ensuring the long-term survival and growth of the organisation.

Processes transform inputs to outputs, based on decisions which are generally informed by selecting the best possible course of action among alternatives, explicitly or intuitively, in a given situation or context. These decisions may, or may not be, based on a logical process which is not necessarily linear, and expressed in terms of selected goals and objectives. These processes furthermore take into account feedback from the interactions among various components, including the environment (internal and external) in which the organisation operates. The feedback contributes to continuous and iterative decisions and actions, which fuel interactions.

This brief summary of the organisation as open, social system shows that the organisation is a complex system, with a number of simultaneous and continuous interacting parts, both inside and outside of the organisation, influencing its performance. Performance is generally expressed in terms of financial gains; however, the ultimate aim of performance is change, ensuring the survival and growth of the organisation. Hence it is appropriate to apply complexity science to organisational management. Accordingly, this paper draws (specifically) on complexity sciences from an organisational theory perspective.

Conceptual framework

Different labels are used in the literature, whether the natural or social sciences, to identify complexity science. These include chaos theory, dissipative structures, complex adaptive systems and non-linear dynamics (Karp and Helgø, 2009). The interpretation, however, is not unanimous (see Svensson *et al.*, 2008). The literature also offers a variety of definitions of complexity science, which contain more conflict than agreement (Wallis, 2009). Despite these discrepancies there are common elements, presenting the core of complexity science, which is generally accepted, showing the enduring and useful nature of complexity science (Wallis, 2009).

The core dimensions of complexity science, according to Wallis (2009, p. 310), are predictability, emergence, fitness, action and strategy. These five dimensions are interrelated and consequently a change in one dimension causes a change in one or more of the other dimensions, making it a dynamic system. Given the dynamic nature of the system, it stands to reason that limits are placed on what leaders and managers can know about the system (Richardson, 2008). The implication of limited knowledge is that action and achievement (performance) in a particular, pre-planned way are restricted. Richardson (2008) maintains that complexity science can provide a means of overcoming these limitations imposed by the system to a certain degree.

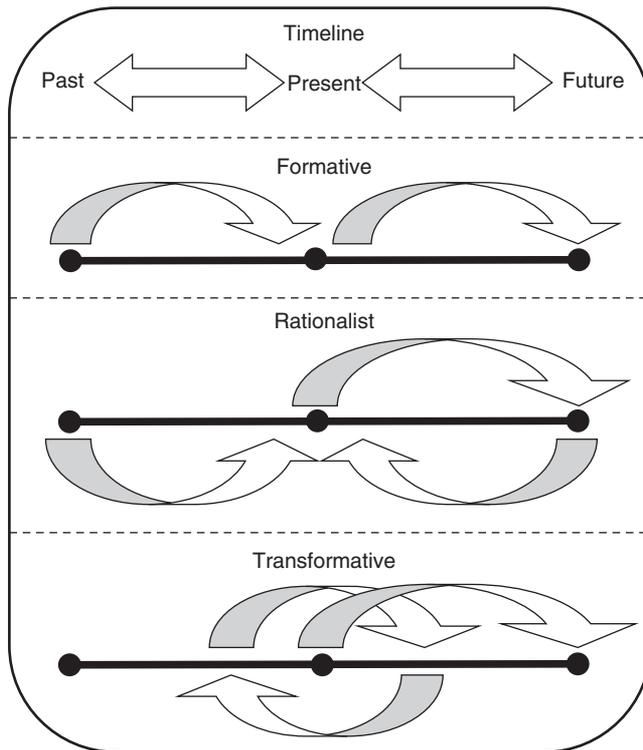
This brief exposition of complexity sciences alludes to the fact that a system consists of numerous, continuous, linear, non-linear and even random interacting parts. Furthermore, feedback, which is also non-linear, based on these interactions, requires (continuous) choice about action to ensure the survival of the system. However, this action is influenced by the predictability of the resulting outcome of action or actions. As such it is suggested that the planning of a particular pre-planned/pre-determined outcome is difficult (Richardson, 2008). The predictability of a pre-determined outcome is demonstrated by the teleological approaches to complexity science as proposed by Stacey *et al.* (2000) and explained by Svensson *et al.* (2008).

Svensson *et al.* (2008) focus on three teleological approaches proposed by Stacey *et al.* (2000) to illuminate leadership performance in organisational accomplishment.

These are formative, rationalist and transformative. In essence these three teleological approaches offer a variety of possibilities about the nature of the future with regard to the degree of known (accompanied by the influence, or otherwise, of the present and past). Essentially, the formative approach holds that one has a notion of the future, which is knowable and predictable, in the present, informed by a given past (extension of the past). In the case of the rationalist approach the future is also predetermined and predictable. However, meaning is located in the future, arising from the present, based on choice and change. The transformative approach holds that the future is unknown and unpredictable, though meaning is derived from continuous transformations in the present. These are illustrated in Figure 1.

Managerial framework

Leadership and management, as per Nienaber (2010), consist of a number of interrelated tasks and activities which are necessary to execute in order to attain (desired/pre-planned) performance. Leadership, as in the top management of the organisation, formulates policy or strategy, while middle management is involved in translation of the strategy and front line managers execute the policy/strategy (Sheldon, 1923/1970) in an effort to achieve the (pre-planned) goals of the organisation, which is deemed to be performance.



Source: Adapted Svensson *et al.* (2008)

According to this exegesis, leadership is charged with tasks and activities relating to the survival and growth of the organisation, which requires an anticipation of the future. This anticipation in turn influences the direction of the organisation. According to the teleological approaches discussed above, the future can be known and predictable or unknown and unpredictable. The teleological approach adopted by leadership (whether explicitly or intuitively) will influence their stance on the future (i.e. known or unknown).

Nevertheless, the direction of the organisation is determined by its vision, mission, goals and strategy to achieve the goals, which ultimately is the long-term survival and growth of the organisation. To ensure the organisation's safe arrival at the future destination, leadership must communicate the direction and ensure that there is a shared understanding of this direction as well as a unified movement towards it. This implies that priorities should be clear. Furthermore, leadership should maintain and improve the wealth-creating capacity of the organisation, which will contribute to the creation and maintenance of an environment in which employees can perform. This will depend on the arena where leadership chooses to compete and what constitutes customer value. Leadership should thus also ensure access to required knowledge, skills, assets, resources and processes so that value is provided to customers in the chosen arena, all of which requires information on which they will base their decisions and consequent actions. The way leadership discharges these tasks and activities is influenced by their teleological approach – whether they are aware of and acknowledge the approach or not.

Middle managers are charged with the main responsibility of translating the strategy to ensure action, which entails a number of tasks and activities. Again their teleological approach influences how they discharge their tasks and responsibilities. These include communication of the direction and checking for a shared understanding, as time goes on, as well as mobilising employees to focus their efforts on goal achievement. These activities include determining what goods and services the customers desire (with due regard to the arena where the leadership chooses to compete) and what constitutes organisational performance from both the perspectives of customers and the organisation.

Therefore, middle management needs to understand the environment in which the organisation operates (this includes the organisation itself) and to hone the skills of staff to ensure that they can achieve their potential, in a contracted (not necessarily from a legal perspective but also a psychological perspective) way that benefits both employees and the organisation, empowering the employees to discharge their responsibilities in a productive way. Again all of these activities require information. Employees implement strategy under the supervision of the front line managers, based on their understanding and clarification of what is expected of them, which entails some of the above-mentioned activities. How employees implement strategy will in turn depend on their teleological approach, whether consciously known to them or not.

With this exposition we contend that most organisations face a more or less known and predictable future, which is fine-tuned by adjusting to new situations as they emerge as the future unfolds. Hence, one may conclude that leadership (CEO and top management) tends to be rationalist in nature – the future is given based on the past, but as new meaning emerges in the present, the future is correspondingly adapted. Management tends to be formative in nature as the future is given based on the past (specifically the strategic planning session which sets the path for the year ahead), while employees tend to be transformative in nature – every now and again middle management informs them of the latest decision of top management and the

accompanying changes that they are expected to effect. (This explanation does not necessarily take multiple, continuous interaction into account.) Figure 2 summarises the hierarchical levels and the applicable teleological approach.

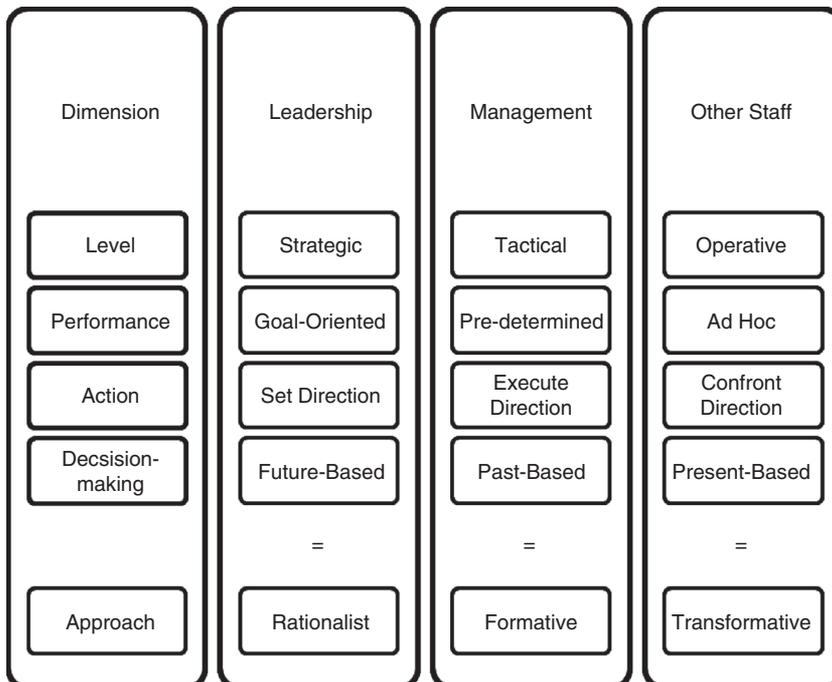
Figure 2 is divided into four constituents of organisational performance as follows: dimension, leadership, management and other staff. These constituents propose a foundation and framework to understand and describe organisational performance in five dimensions.

The first dimension addresses the organisational level in focus, whether the organisational performance is on the strategic, tactical or operative level. The second one concerns the nature of organisational performance, whether it has an emphasis that is goal-oriented, predetermined or ad hoc. The third one approaches the organisational action taking place, whether it is about setting direction, executing direction or confronting direction. The last dimension encapsulates organisational decision making, whether it is future-based, past-based or present-based. The final dimension categorises the previous four dimensions into teleological approaches, whether their composition is predominantly rationalistic, formative or transformative.

In Figure 2 we provided an analytical framework of organisational performance incorporating complexity sciences into leadership and management. Specifically, an attempt was made to reinforce and distinguish the differences between leadership and management as indicated by Nienaber (2010).

Conceptual analysis

Based on the above conceptual and managerial frameworks of leadership and management, their roles are depicted according to the teleological approaches to complexity science, in Table I.



R/L	F/M	T/O	Task
X			1. Assume responsibility for the survival and growth of the business (survival)
X			2. Anticipate the future (foresight)
			<i>Set direction</i>
X			3. Provide an organisational vision
X			4. Formulate a mission
X			5. Set goals
X			6. Decide on a strategy
X	X		7. Communicate direction, including a shared understanding of the direction
X	X		8. Mobilise employees to focus their efforts on goal achievement
X			9. Determine priorities
	X		10. Determine what goods and services customers desire, including the price they are willing to pay
			<i>Determine organisational performance in terms of</i>
	X		11. Organisational view ($f = \{\text{ability, motivation, opportunity}\}$)
	X		12. Customer view ($f = \{\text{opinion of value obtained}\}$)
	X		13. Understanding the environment in which the business operates (macro, market, micro)
X	X		14. Maintaining and improving the wealth-creating capacity of the business
			<i>Maintain an information base to</i>
	X	X	15. Establish needs
	X	X	16. Gather and evaluate information
X	X		17. Use information
			<i>Create and maintain an environment in which employees can perform by</i>
X	X	X	18. Honing their abilities to ensure that they can achieve their full potential
X	X	X	19. Contracting with workers in a way that is advantageous to both them and the firm
X	X	X	20. Empowering employees so that they can discharge their responsibilities effectively
X	X		21. Considering the emotions of staff, which contributes to building trust
X	X		22. Selecting a competitive arena to compete
X	X		23. Determining what constitutes customer value
X	X		24. Ensuring access to required knowledge, skills, assets, resources and processes so that value is provided to customers in the chosen arena
	X	X	25. Ensuring adherence to the principles of productivity in accomplishing the goals of the business
18	18	6	<i>Sum</i>

Source: Adapted Nienaber (2010)

Table I.
Typical classification of leadership and management task and activities according to the teleological approaches

According to the information in Table I, the interpretation of the literature seems to be based on organisations that are inflexible, with a top-down orientation based on linear interactions. These interactions focus on a strategic level that in turn is forced upon the tactical and operative levels (see Figure 1).

The bottom-up orientation, as part of interaction as explained in the literature, and particularly propounded in both systems thinking and complexity science as set out in this paper, is not reflected in the presentation of leadership and management tasks and activities in Table I. As such the command and control view of leadership in managing the organisation is perpetuated. One of the reasons for this situation is ascribed to leadership's view of performance, which is generally equated to and expressed in terms of financial gain. This is the result of the literature favouring indicators of organisational performance like profitability, shareholder return, environmental

survival and social responsibility, while neglecting the role of employees in the performance or survival of the organisation (Ghoshal, 2005; Pfeffer, 2010).

Leadership's concern with the indicators of performance like profitability and shareholder return is attributed to the ideology of the supremacy of markets and shareholder interests as well as the associated idea that market outcomes are fair and just, with sentient individuals making informed choices (Pfeffer, 2010) in the best interest of the organisation's survival. As such, the idea that the organisation primarily exists with a view of maximising profitability is adopted (see Friedman in Ghoshal, 2005, p. 79) at the expense of the contribution of other, equally important, contributors like employees and customers (Heskett *et al.*, 1994; Kamakura *et al.*, 2002; Svensson and Wood, 2005).

We argue that the literature and research in the field need to focus more on the rationalist and even transformative approach to leadership and management. It is perhaps not so easy to illustrate such an approach elegantly, because interaction takes place among numerous parts that are linear, non-linear and even random. We would like to suggest a more comprehensive account of leadership and management tasks and activities than that provided in Figure 1, which would better prepare leadership and management for sudden and unexpected changes in the market and society, like those in 1998 in South-East Asia and 2007/2008 in the USA and Europe (even earlier situations like the Enron debacle).

Our proposal, based on complexity science, is illustrated in Table II. In terms of the information in Table II we expand the allocation of responsibilities to show that although a specific layer of management may be ultimately charged with a the responsibility of a task or activity, it may also provide an input to a task or activity at a different hierarchical level and even a joint responsibility, hence we show this as an "added responsibility".

Table II shows shared and overlapping responsibilities, indicating the interaction among the different role players and layers of the management/leadership hierarchy in the organisation. For the sake of order one of these positions needs to assume ultimate responsibility for a specific task and activity. However, ultimate responsibility does not preclude participation from any other hierarchical layer, nor the acceptance of input provided by role players. The illustration in Table II does not reflect these interactions, as it is not possible to do so in a complete or eloquent fashion, but merely shows ultimate responsibilities, shared responsibilities and inputs to other responsibilities. However, it contrasts with the view that neglects the role of employees in organisational performance, and echoes the sentiments of Owen (1813/1970) who lamented the neglect of human resources in favour of machines, as well as those of Ghoshal (2005) and Pfeffer (2010) regarding employees' contribution to organisational performance and the subsequent survival of the organisation.

In applying complexity science to the tasks/activities of the different layers of the management/leadership hierarchy in the organisation, a pluralistic approach is supported that synthesises a variety of perspectives, including a bottom-up approach to problem solving, in which the knowledge and experience of employees are taken into consideration to ensure organisational performance. In this way the application of complexity science gives effect to transformational leadership as advocated by authors such as Burns (1978) and Bass (1985). According to these authors transformational leadership creates significant changes in the life of people and organisations alike. Transformational leadership connects employees to the vision, mission and goals of the organisation and inspires them to contribute to goal achievement by doing

R/L	F/M	T/O	Task
X	+	✓	1. Assume responsibility for the survival and growth of the business (survival)
X	✓	✓	2. Anticipate the future (foresight) <i>Set direction</i>
X	✓	✓	3. Provide an organisational vision
X	✓	✓	4. Formulate a mission
X	✓	✓	5. Set goals
X	✓	✓	6. Decide on a strategy
X	X	+	7. Communicate direction, including a shared understanding of the direction
X	X	✓	8. Mobilise employees to focus their efforts on goal achievement
X	✓	✓	9. Determine priorities
✓	X	+	10. Determine what goods and services customers desire, including the price they are willing to pay <i>Determine organisational performance in terms of</i>
+	X	✓	11. Organisational view ($f = \{\text{ability, motivation, opportunity}\}$)
✓	X	✓	12. Customer view ($f = \{\text{opinion of value obtained}\}$)
+	X	✓	13. Understanding the environment in which the business operates (macro, market, micro)
X	X	+	14. Maintaining and improving the wealth-creating capacity of the business <i>Maintain an information base to</i>
✓	X	X	15. Establish needs
✓	X	X	16. Gather and evaluate information
X	X	+	17. Use information <i>Create and maintain an environment in which employees can perform by</i>
X	X	X	18. Honing their abilities to ensure that they can achieve their full potential
X	X	X	19. Contracting with workers in a way that is advantageous to both them and the firm
X	X	X	20. Empowering employees so that they can discharge their responsibilities effectively
X	X	+	21. Considering the emotions of staff, which contributes to building trust
X	X	✓	22. Selecting a competitive arena to compete
X	X	✓	23. Determining what constitutes customer value
X	X	✓	24. Ensuring access to required knowledge, skills, assets, resources and processes so that value is provided to customers in the chosen arena
✓	X	X	25. Ensuring adherence to the principles of productivity in accomplishing the goals of the business
25	25	25	<i>Sum</i>

Notes: X, traditional (ultimate responsibility); +, added responsibility; ✓, input

Table II.
Classification of leadership and management task and activities according to the teleological approaches

meaningful work, including challenging the status quo. Hence the expectation is created that the contribution of the employees, including managers at lower hierarchical levels than the leadership cadre, counts in the pursuit of organisational performance. True transformational leaders will thus not over-claim success for organisational performance, but will rather commend their managers and staff for their contribution to the organisational performance.

This view has implications for modern-day organisations in terms of culture, structure, processes and systems, as well as for the school of management thought implicitly or explicitly adopted, the ideology of leadership and their assumptions, to mention a few. In the same breath we would like caution against the nature of the management discipline as mentioned previously, which is susceptible to fads and a

willingness to accept contradictions that other disciplines would not tolerate (Parker and Ritson, 2005) on which leaders and managers rely in contemporary times (Rousseau, 2006).

Implications and lessons learned

Leadership (CEO and top management of the organisation) is ultimately charged with the responsibility of organisational performance. Organisational performance is broader in scope than merely profitability and shareholder returns. As pointed out, the ultimate aim of organisational performance is change, ensuring the long-term survival and growth of the organisation. The direct influence of leadership on organisational performance is not clear from the literature.

A number of actors are involved in organisational performance, from leadership who sets the direction to management that translates the direction, and employees that execute strategy. A number of multi-faceted factors influence the performance of the organisation, which makes it difficult to determine the exact contribution of each role player and factor to organisational performance.

The presentation and interpretation of the literature in this regard seems to attach an inflated role to leadership in achieving organisational performance. This is attributed to a top-down approach to management, portraying a command and control approach as superior to a bottom-up approach, safeguarding the performance of the organisation. The contribution of employees and other factors are discounted in this view. Furthermore, this view presents leadership as overly simplistic, ignoring the fact that the organisation is an open, social system, operating in a dynamic environment. The interactions among the parts of the system may take various forms: linear, non-linear and even random, at times imposing limitations on knowing and/or predicting the future accurately. Hence leadership is not in a position to know or predict the future accurately and consequently limits are placed on what can be achieved in a pre-planned/pre-determined way.

Since complexity science deals with complex systems and it can be used to aid leadership decisions and actions as the future unfolds in securing organisational performance, based on a pluralistic approach. The purpose of this paper was to explore leadership's contribution to organisational performance by linking their tasks and activities at the different hierarchical levels of the organisation in terms of three teleological approaches to complexity science.

In essence, complexity science holds that there are limits to what can be known with a consequent limit on what can be achieved in a pre-determined or planned way. Nevertheless, it is not impossible to overcome these limitations to secure the organisation's survival. The degree to which these limitations are overcome depends on the view that leadership takes on management, i.e. an integrated approach or favouring a specific school of thought, for example, the systems or contingency or any other approach to management as well as their ideology and assumptions.

Outside the organisation consists of numerous, continuously interacting parts within and outside the organisation, generating feedback, which requires action (and fuelling the interactions). The action is influenced by the predictability of the resultant outcome of the action, which can be known or unknown, based on the present and past, according to the formative, rationalist and transformative teleological approaches to complexity science. In the case of the formative approach, the future is known and predictable, in the present, it is based on the past (linear relationship). The rationalist approach also holds that the future is known and predictable; however, meaning arises in the future,

arising from the present (linear and non-linear). The transformative approach holds that the future is unknown and unpredictable and meaning is derived from continuous transformations in the present (non-linear, but can also be random).

Leadership consists of a number of tasks and activities, the ultimate responsibility of which rests with different hierarchical levels in the organisation. However, the different role players may have an overlapping involvement and responsibility in executing these tasks and activities or at least an input in carrying out these tasks and activities, as suggested in this paper. Accounting for all role players and their contribution (however marginal) presents management of the organisation more accurately, and the bottom-up approach is credited for. This approach obliges leadership to consider their approach to choice and action explicitly, rather than acting “unconsciously” without realising the full implications of their choice and the consequences, especially unintended. Being aware of choices, i.e. to involve employees and the extent of their involvement, may cause leadership to reappraise their own role in organisational performance and the accompanying rewards claimed. In this way complexity science can inform better leadership decisions and actions in managing the organisation, moving away from the linear, simplistic view to a non-linear, possibly random, pluralistic view in securing the long-term survival of the organisation.

It is recommended that the problem of leadership and their link to organisational performance be studied from the view of human behaviour, whether from a socio-psychological or stewardship perspective, which attends to people and their behaviour in specific situations.

Concluding thoughts

This paper contributes to both theory and practice by using an alternative presentation of managing organisations to achieve performance, which endeavours to reflect the complexity of organisations and takes into account a pluralistic approach that synthesises a variety of perspectives. This includes taking a bottom-up approach to problem solving, in which the knowledge and experience of employees are taken into consideration to ensure organisational performance.

The contribution for both theory and practice includes inter alia that we need to think differently about managing organisations without falling prey to fads. This would entail how we present and reflect on information that appears to be “linear” although it is not necessarily the case, making deliberately explicit our assumptions, ideologies and philosophies, and considering unintended consequences of our decisions and actions emanating from these assumptions, ideologies and philosophies. The “human nature” of the organisation should also be reconsidered.

We believe that the conceptual and managerial frameworks that have been introduced will enhance the understanding of management and leadership among scholars and practitioners and that it will contribute to a better understanding of management and leadership and how they complement each other. Nevertheless, there are a few limitations to be acknowledged. First, whenever involving complexity in conceptual and managerial frameworks it is challenging to substantiate the framework empirically. Second, since we use teleological approaches of complexity science in a new way in this paper, they need to be validated in a broader context.

The highlighted limitations offer opportunities for further research as well as improved practices in business. It would be interesting though challenging to explore complexity empirically in examining leadership’s contribution to organisational performance.

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