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Transformational change in organisations: a self-regulation approach

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Abstract

Purpose – The purpose of the present paper is to advance a testable model, rooted on well-established control and self-regulation theory principles, explaining the causal links between change-related sensemaking, interpretation, readiness and subsequent behavioural action.

Design/methodology/approach – Following a review of the two motivation theories and clarification of change-related sensemaking, interpretation, and readiness concepts, the paper proposes a series of research propositions (illustrated by a conceptual model) clarifying how these concepts interact with self-regulating mechanisms. In addition, the feedback model exemplifies how cognitive processes triggered by new knowledge structures relate to behavioural action.

Findings – The model expands upon other existing frameworks by allowing the examination of multi-level factors that account for, and moderate causal links between, change-related sensemaking, interpretation, readiness, and behavioural action. Suggestions for future research and guidelines for practice are outlined.

Practical implications – The variables and processes depicted in the model provide guidelines for change management in organisations, both for individuals and for groups. By eliciting important self-regulating functions, change agents will likely facilitate sensemaking processes, positive interpretations of change, change readiness, and effective change behaviours.

Originality/value – This paper makes two contributions to the literature. First, it offers a comprehensive and dynamic account of the relationships between change-related sensemaking, interpretation, readiness, and behavioural action decision-making. Second, it elucidates the impact of human agency properties, namely the interplay of efficacy perceptions, social learning, and self-regulating mechanisms on these change-related cognitive processes and subsequent behavioural outcomes.

Keywords Self-regulation theory, Sensemaking, Interpretation, Readiness, Transformational change, Organizational change, Behaviour

Paper type Conceptual paper

Introduction

The successful implementation of change in organisations constitutes one of the most challenging managerial activities, as it entails the redefinition – at times radical – of organisational goals and values, accurate anticipation of the changing needs of internal and external customers, and adaptive responses to changes in the business environment (By, 2005; Causon, 2004). While this process should result in improvements to organisational functioning and ensure its survival in a competitive environment (Lines, 2005), the degree to which the implemented changes are successful

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and sustainable is highly contingent upon workforce acceptance of change, opportunity for participation, and development of relevant competencies to sustain implementation. Most of the extant change literature has focused on developing and proposing prescriptive change frameworks to guide managerial interventions, including training for organisational transitions (Ackerman, 1986; Quinones and Ehrenstein, 1997), and leadership strategies to plan and facilitate change (Ackerman, 1986; Axelrod, 2000; Furnham, 2002; Kerber and Buono, 2005; Paglis and Green, 2002; Whitmore, 2004; Woodward and Hendry, 2004). The proposed frameworks are systemic in nature, highlighting the importance of aligning environmental and organisational factors in response to change demands. Despite the wealth of comprehensive guidelines and strategies to manage organisational change, the reported failure rate of recently implemented change programs ranges between 70 per cent and 80 per cent (By, 2005; Karp and Helgo, 2009). In an attempt to identify the causes of unsuccessful change strategy implementation, and to provide more reliable courses of action to manage transformations, researchers have turned to the examination of individual attitudes toward change (e.g. change readiness), along with its antecedents: change sensemaking and interpretation.

An overview of the extant research uncovers a number of frameworks attempting to provide sound theoretical categories to systematise organisational sensemaking accounts. The domains from which different sensemaking categories are drawn include conflict and power (Landau and Drori, 2008), ambivalence and ambiguity (Randall and Procter, 2008), intra- and extra-organisational factors that legitimise change (McKinley *et al.*, 2000; Rousseau and Tijoriwala, 1999), and perceived discrepancies between personal beliefs, change scenarios, and expected change outcomes (Bartunek *et al.*, 2006; Jimmieson *et al.*, 2008; Skar *et al.*, 2008). The latter perspective connects sensemaking and interpretation of organisational change, borrowing from the theories of reasoned action and planned behaviour (Jimmieson *et al.*, 2008; Rousseau and Tijoriwala, 1999; Skar *et al.*, 2008). According to this perspective, the interplay of affective-cognitive congruence (i.e. degree of congruence between feelings regarding change and rational appraisals of change processes), past experiences of change implementation, and change climate perceptions at the group and organisational levels, will determine change interpretations and subsequent behavioural intentions. However, the assumption that behavioural action is the inevitable upshot of experience-fuelled behavioural intent may be precipitate. On the one hand, recent evidence suggests that, while accounting for behavioural intent, the juxtaposition of the theory of planned behaviour with the notion of cognitive representation of change falls short of explaining subsequent behavioural outcomes (Skar *et al.*, 2008). In practice, the relationships between sensemaking, past experience, and behavioural intent appear to hold, whereas the relationship between behavioural intent and behavioural action finds little support. On the other hand, the role of sensemaking and past change experiences as determinants of behavioural intent has only merited interest in recent times, and has yet to be established. This ambiguity may partly stem from the existence of different types of sensemaking that vary in nature and in magnitude of effect on behavioural intent. For instance, self-regulating mechanisms energising sensemaking toward future goals tend to differ from, and even supersede, sensemaking aimed at uncovering reasons that account for past experiences of change failure (Cannon, 1999). Hence, causal reasoning and attributions constitute

sound theoretical approaches to account for the manner in which individuals make sense of change success or failure, whereas self-regulation theory may be better suited for the explanation of how individuals derive future goals from sensemaking. Considering time as a moderator of these processes, it is plausible that individuals first make sense of past change success or failure. This sensemaking step informs forward-looking sensemaking (i.e. belief regarding how successful the current change process will be) and shapes future goals. The distinction between past-looking and forward-thinking sensemaking further suggests that adequate examination of the relationships between sensemaking, interpretations of change, behavioural intent, and change-related behaviours requires a stepwise approach.

The purpose of this paper is threefold. First, it provides a review of the literature and conceptually distinguishes between change-related sensemaking, interpretations, and readiness (understood as behavioural intent). Second, it outlines two motivation theories of information processing – control and self-regulation – and highlights the contributions of each theory to change management research. Finally, this paper proposes a model to test causal relationships between change-related sensemaking, interpretations, readiness, and subsequent behaviours. The model incorporates well-established components of self-regulation frameworks (e.g. goal-setting) to illustrate the cognitive processes triggered by novel knowledge structures that lead to behavioural change.

Organisational change: sensemaking, interpretation, and readiness

Sensemaking and interpretation

Organisational sensemaking is a social process wherein individuals gather and transform input from formal and informal sources across organisational levels. This allows them to create a shared understanding of the organisation's identity with respect to its changing intra- and inter-organisational environments (e.g. work units, teams, industry, and socio-cultural context), which is believed to determine ensuing behaviours in the workplace (Balogun and Johnson, 2005; Landau and Drori, 2008; Maitlis, 2005; Schneider, 1997; Weick *et al.*, 2005).

There is still considerable debate regarding the appropriate level of analysis to examine organisational sensemaking. Several accounts consider sensemaking a collective phenomenon driving strategic behaviour (Schneider, 1997), wherein shared meanings can hold an important role as descriptors of organisational events or as possessing an evaluative component with respect to those events (James and James, 1989). These shared meanings are dynamic in nature; they are continuously challenged to a greater or lesser extent as organisations attempt to adjust to and thrive in a changing environment (Maitlis, 2005).

Nonetheless, most of the existing literature concurs with an individual-level perspective in which individuals draw from a shared frame of reference – schema – to construct their subjective reality (Isabella, 1990). In practice, different organisation members utilise distinct sensemaking tools and mechanisms that best reflect the functional requirements and structural constraints inherent in their position.

Despite the operational intricacies that differentiate these approaches to sensemaking research, there is substantial overlap between the two with respect to:

- their appraisal of the impact of sensemaking on cognitive interpretations of organisational change;

- the relationship between interpretations of change and measurable attitudes toward change implementation; and
- the link between readiness for change and ensuing behavioural outcomes.

Organisational sensemaking is typically an ongoing, unconscious activity that allows individuals to fine-tune their efforts toward immediate and strategic goals, and to sustain valuable relationships in the workplace. However, sensemaking ceases to be tacit and effortless in nature when individuals come across substantial discrepancies between their expectations and the information received from the organisational environment. Under those circumstances, individuals engage in explicit efforts at sensemaking in order to reduce the discrepancies and return to a position where organisational characteristics and processes are comprehensible and hold some degree of predictability (Weick *et al.*, 2005). The degree to which leaders and stakeholders facilitate the sensemaking process in a sensegiving capacity will greatly determine the pace, source-seeking behaviours, and subsequent outcomes of this process (Maitlis, 2005). Transformational changes to the organisation's structure, processes, and culture are commonly associated with disruption to implicit sensemaking, forcing a shift from tacit sensemaking activities to explicit and often taxing information gathering and processing behaviours. Overall, sensemaking activities are a result of individual experiences in an organisation setting, influenced by dispositional variables, physical, functional, and relational characteristics of the work unit, organisational norms and values, and information collected from the business environment.

Cognitive interpretations of organisational change can be broadly defined as a dynamic set of shared meanings concerning organisational transformations. These shared meanings or schemas are in turn the upshot of multi-level interpretations based on information gathered from organisational formal guidelines and culture, social exchange within the primary work unit, and individual differences.

While sensemaking can be roughly described as a process wherein individuals attempt to reduce perceived discrepancies between their knowledge structure content and new organisational events through actively gathering information from relevant sources (Weick *et al.*, 2005), interpretation pertains to the ascription of value to those perceived discrepancies. Interpretations of organisation events result from individual-, group-, and organisation-based knowledge structure contents organised in the course of sensemaking (Walsh, 1995). Moreover, this cross-level information generated and disseminated at the organisational and group level will be processed by each constituent according to his/her individual characteristics and work-related constraints (Thomas *et al.*, 1994). As a result, different individuals and organisational groups will hold particular sensemaking mechanisms, which results in disparate interpretations of events across individuals, work units, and organisation levels (Brotheridge, 2005; Gilbert, 2006; Landau and Drori, 2008). Therefore, it becomes essential to study the individual-, group-, and organisation-level antecedents that contribute to cognitive interpretations of organisational events at the various organisational levels (Walsh, 1995). For instance, the change in knowledge structure (i.e. discrepancy) that results from business process reengineering may be interpreted by some individuals as a necessity and an opportunity, and by a different group of individuals as a threat or a nuisance that will disrupt the workflow. This positive or negative valuation will depend on the nature of the information gathered, the sources of information utilised,

and the manner in which the information is processed. In this example, both groups of individuals are presented with challenges to their current knowledge structures about the organisation that require a readjustment of expectations and work goals. However, the interpretation of events differs between these groups, which will expectedly determine attitudes toward the reengineering process. There are multiple factors that may account for these interpersonal variations in interpretation, including individual differences (e.g. dispositional variables and previous experience), communication systems, leadership behaviours, and organisational climate.

Thomas *et al.* (1994) examined the unique contribution of individual, group, and organisational variables to interpretations of organisational events. Interestingly, individual-level variables did not significantly impact the interpretation of key organisational events after group – (e.g. group identity strength, participation) and organisation-level variables (e.g. size, type) were accounted for. It should be noted that these findings were obtained from individuals in higher hierarchical positions and with longer organisational tenure. These individuals are well-positioned to gather and analyse objective organisational data (e.g. financial performance). As a result, their interpretations of organisational events are less influenced by dispositional variables, and based essentially on objective information. However, individual factors did influence the degree to which the objective data were used as the main source of interpretation, suggesting that important moderating effects are significant at this level of analysis. The role of organisational climate on the interpretation of key events was also noteworthy, beyond the negligible effect of structural variables. Highly politicised environments are conducive to interpretations of events that are political in nature and that create a blind spot with respect to strategic implications. Conversely, environments that facilitate the understanding of strategic goals and direction, typically found in organisations that have continuous learning systems as a feature, will elicit interpretations of key events rooted on a strategic orientation (Gioia and Thomas, 1996; Thomas *et al.*, 1994). Another interesting aspect pertains to the link between organisation and its external environment, namely the relationship between organisational image (e.g. socially responsible, financially sound) and the interpretation of organisational events (Gioia and Thomas, 1996). This highlights the need to expand organisation-level variables beyond the structural and functional scopes, and include perceptions of organisational position in its business and socio-cultural environment.

Readiness for change

Employee readiness for change reflects positive attitudes and beliefs about the need for organisational change, a manifest intention to support the change process, and the conviction that the proposed transitions can be successfully accomplished by the organisation and will entail benefits for all parties involved (Jones *et al.*, 2005; Wanberg and Banas, 2000). Similar to organisational sensemaking, the readiness for change construct has been examined both at the individual level of analysis (Cunningham *et al.*, 2002) and at the organisational level of analysis (Weeks *et al.*, 2004). The first position defends that organisational change should be investigated with emphasis on individual agents, given that it results from the combination of different readiness for change perspectives found within each work unit, which will account for the success or failure of change implementation (Rafferty and Simons, 2006). The second position

suggests that if change is a systems-level phenomenon, the organisational level of analysis is more adequate for its investigation (Cole *et al.*, 2006).

The growing interest on individual attitudes toward organisational change instigated a series of empirical examinations with the purpose of identifying factors that determine positive interpretations of change and subsequent readiness. An overview of recent empirical findings reveals a number of individual, group, and organisational variables that account for readiness for change. With respect to individual-level variables, self-efficacy represents one of the most widely referenced factors associated with readiness for change (Kirton and Mulligan, 1973; Paglis and Green, 2002). Research findings suggest that employees who perceive themselves as able to successfully respond to organisational transitions (Cunningham *et al.*, 2002; Rafferty and Simons, 2006; Wanberg and Banas, 2000) and report high level of job knowledge (Hanpachern *et al.*, 1998) are more accepting of change initiatives. Moreover, managers who believe that they possess the necessary skills and knowledge to lead change initiatives are more willing and likely to begin these initiatives, and to persist in the face of obstacles (Paglis and Green, 2002). In this sense, self-efficacy is conducive to positive interpretations of change processes and subsequent intention to engage in change implementation behaviours. In addition to self-efficacy, personality has also been reported as an individual-level construct related to readiness for change, particularly the dimensions of neuroticism (Holt *et al.*, 2007) and openness to experience (Pierro *et al.*, 2002). Empirical findings show that individuals with low neuroticism and high openness to experience tend to show more positive attitudes toward change.

While dispositional variables are not susceptible to training or other managerial interventions, change self-efficacy can be enhanced through the implementation of communication systems that clarify the proposed vision and process, and by supportive leadership concerned with employee responsiveness to the transition. For example, regarding the latter aspect, research shows that trust in leadership and perception of managerial ability to plan and implement change processes are positively associated with employee readiness for change (Holt *et al.*, 2007; Rafferty and Simons, 2006).

Finally, the relationship between individuals and their primary work group has also emerged as an important factor influencing readiness for change, albeit with conflicting findings. Early research on attitude toward change shows that group cohesiveness may have a detrimental effect on employee perception of the benefits of organisational change (Trumbo, 1961). One explanation suggests that proposed changes to an already desired and rewarding state will be perceived as threatening. Furthermore, changes to unit structure and work dynamics have the potential to weaken an important source of functional and social support in cohesive workgroups (Jones *et al.*, 2005). However, recent studies reveal that the quality of work relationships, namely peer support and trust in peers, will have a positive impact on readiness for change (Rafferty and Simons, 2006). The inconsistent findings regarding the role of group trust, cohesiveness, and support on attitude toward organisational change merit further research to explore whether different facets of group relations and unit functioning have a differential impact on readiness for change.

Overall, the existing research on readiness for change and attitudes toward change brings about important questions regarding the role of individuals, their immediate

work groups, and the organisational system in promoting positive or negative attitudes toward change. In particular, it suggests that readiness for change is an individual-level phenomenon impacted by dispositional, relational, structural, and functional elements of the work setting. Furthermore, the interplay of individual characteristics with the organisation's culture, with job characteristics, and with managerial and peer dynamics is multifaceted, where perceived differences and commonalities between the individual and the work environment operate as catalysts or as obstacles to change readiness (Caldwell *et al.*, 2004; Nadler, 1999; Pellettiere, 2006).

Change may be perceived as positive and necessary to the organisation, and even be endorsed by senior level managers, but these positive attitudes do not extend to the individuals' sense of ability to functionally cope with upcoming changes or reflect positive individual-level valence toward change. A possible explanation for this phenomenon can be found in the literature describing the interplay of cognitive representations of change and change implementation strategies, wherein cognitive mechanisms of response to organisational change operate in association with the overall change management strategy to result on attitude toward organisational transformations (Gavetti and Levinthal, 2000; Gilbert, 2006). At an earlier stage of change implementation, positive attitudes toward change are fostered by organisation-wide communications that underscore the criticality of the changes to the future of the organisation. At a later stage, these positive attitudes are drawn out by an individual-level approach, including training and intra-departmental communication, emphasising the personal benefits of change. Considering this perspective, it is conceivable that the current implementation stage will have an impact on the different facets of individual readiness for change. In regard to climate, a positive climate for change is associated with greater involvement in the process, enhanced trust in management, and better information networks, which in turn have a positive influence on cognitions regarding change and increase overall readiness (Van Dam *et al.*, 2008). Given that the role of organisational climate on attitude toward change and sensemaking regarding organisational transformations has been widely suggested in the existing literature (Armenakis *et al.*, 1993; Kumari and Dwivedi, 1988; Stensaker and Falkenberg, 2007), future research is needed to explore the concurrent impact of change-related attributions and of change implementation strategies and climate on individual responses to change and subsequent behaviours.

Frequent changes to structural, cultural, and functional features of the work environment have become emblematic of modern organisations worldwide. While these changes may be associated to worker well-being through increased opportunities for self-actualisation and the achievement of important career goals (Lord *et al.*, 2010), they also pose considerable challenges. For instance, the simultaneous introduction of multiple novel demands – typical of transformational change processes – requires that individuals quickly adapt their effort levels and strategies to achieve the newly-proposed objectives, while pursuing their previous, valued goals. Making sense of the change objectives, process, and expected outcomes, and subsequently reframing goal accomplishment strategies to adequately fulfil organisational expectations, entail increased use of affective and cognitive resources. Hence, it becomes essential to understand the manner in which individuals' use of affective and cognitive resources are influenced by sensemaking mechanisms, triggered in the course of changes to the

work environment. Moreover, changing organisations benefit from the ability to identify factors that guide and motivate the development of new goal achievement strategies and subsequent behavioural action, namely communication systems and feedback from peers and supervisors. In essence, a feedback model that describes not only the causal relationships between sensemaking, interpretations, readiness, and change behaviours, but also the impact of behavioural outcomes and organisational processes pre- and post-change implementation on sensemaking activities would conceivably provide a sound depiction of the mechanisms that account for change interpretation and behaviours. The following sections of this paper offer an overview of control and self-regulation theories, and propose a framework to explain the affective and cognitive mechanisms through which individuals attempt to reduce perceived discrepancies between the "as is" (status quo, pre-change situation and goal requirements), and "to be" states (post-change vision and set of requirements to fulfil the organisation's strategy).

Control and self-regulation theories: an overview

Control theory

Control theory introduces a self-directed notion of behaviour wherein individual behaviour is not merely a reaction to environmental stimuli, but rather an instrument that allows for the control of internal states (Campion and Lord, 1982; Carver and Scheier, 1981). By means of behavioural action, individuals seek to reduce the discrepancy between internally established goals and the outcomes achieved. Knowledge of behavioural impact on tangible outcomes is elicited by individual observation along with external feedback. Control theory is essentially a dynamic theory of motivation in that the need to reduce discrepancy leads to continuous cycles of behavioural adjustment aimed at correcting error (Hyland, 1988).

The extant literature on control theory proposes two motivational approaches that can be integrated in a single model to explain the mechanisms whereby individuals identify and attempt to reduce the perceived discrepancies: negative feedback loop approach and hierarchical organisation of goals approach. The fundamental control model is rooted on the notion of negative feedback loop, in which an internally generated goal or reference standard sets the desired outcome of behaviour. Based on environmental and internal cues, or perceptual input, the individual uses this comparator to detect the discrepancy between current state and desired goal (i.e. detected error). From that point on, perceived self-efficacy and goal salience will determine the amount of effort the individual is willing to spend to reduce the perceived discrepancy, which leads to subsequent behavioural action. Environmental feedback regarding the manifested behaviour will constitute the perceptual input from which individuals draw information on the degree of discrepancy between the outcome achieved and the desired goal, and establish a causal chain in memory that can later be used to moderate the intensity of effort needed to reduce further discrepancy (i.e. error sensitivity).

Given the complexity of individual cognition, behaviour, and of the multiple, often competing environmental stimuli, a hierarchical organisation model provides the basic control model with a multitude of goals that can be pursued simultaneously and that are hierarchically ordered into higher level and lower level goals (Campion and Lord, 1982). Lower level goals represent intermediate steps leading to the accomplishment of

higher level goals. This notion of goal hierarchy adds a segment to the model – selector – which connects higher- and lower-level goals (superordinate and subordinate goals, respectively). Although most of the terminology used to describe this hierarchical model is similar to that adopted in the previous negative feedback loop model, the relationships between the constituent elements are more intricate. For instance, error detection in the present model is more than a segment to a linear relationship between a discrepancy of desired goal and current state; it occurs at the superordinate goal level and functions as an activator of the loop at the subordinate goal level that leads to goal achievement. In addition, expectancy and error sensitivity are linked to different levels of the goal hierarchy, affecting goal organisation and goal salience, which determines subsequent behaviour. At any given time, individuals pursue a number of goals that can be proximal or distal, that represent the end point of a path – superordinate – or a segment of the path to achieve a higher goal – subordinate –, and that hold different degrees of salience at different times, depending on the level of discrepancy perceived, external pressures, or internal needs.

Goal-setting in the context of control theory underscores that different individuals have different goals, and that one individual may have competing goals, hierarchically organised goals, or goals whose salience is continuously altered depending on external constraints and internal dispositions. Control theory adds to goal-setting theory by including effort antecedents to explain reference standard achievement. Feedback control focuses on the discrepancy between signals that is detected through comparison of current system state to the desired state. Control theory integrates goal-setting and feedback in two ways. First, determining that some goals are more salient than others lends a personalized perspective to feedback responsiveness, in that not all detected discrepancies are personally meaningful to the individual. Second, the theory highlights the existing differences between the cognitive processes involved in processing feedback and in taking on specific goals, and the differing variables that determine subsequent behavioural actions. Finally, expectancy theory explains cognitive and behavioural aspects of control theory determining the anticipation of detected error (e.g. past experience) and the amount of effort invested taking into account the perceived utility of goal attainment or instrumentality.

Despite its clear significance to the operational demonstration of behavioural models from a goal-setting perspective (Vancouver, 2005), control theory assumes that efforts toward goal attainment are essentially aimed at discrepancy reduction. Moreover, this approach does not take into account the capacity to gain awareness of and to exercise influence over individual motivation and behaviour.

The acknowledgement that personal agency is at the core of cognitive, affective, and motivational factors guiding human behaviour represents the cornerstone of social cognitive theory (Bandura, 1989). In accordance with this principle, individuals have ability to influence and regulate their thoughts, emotions, and efforts with regards to internal and external stimuli. Importantly, personal agency transcends the boundaries of self-contained and self-generated processes, as human action also accounts for continuous and significant changes to the external environment. This notion of reciprocal causation, wherein cognitive, affective, and behavioural mechanisms simultaneously influence and are shaped by social and environmental factors (Bandura, 1999, 2002), offers substantial insight into sensemaking mechanisms during organisational change. Consider the premise that external environments can be

imposed, selected or constructed (Bandura, 1999). In changing organisations, employees are presented with the challenge of adapting to new structural and operational features in their work environment. Though this imposed environment is hardly susceptible to individual control, employees hold some degree of autonomy in the manner in which they construe or make sense of the new environment, and act in response to the challenges posed. The interplay of employee responses will in turn transform the social fabric of the organisation, and ultimately permeate change implementation processes. In general terms, responses to change represent the integrated product of social learning, knowledge acquisition, and self-efficacy beliefs, rooted on self-regulatory mechanisms. The concept of self-regulation is central to the mutual causation principle, wherein self-generated sources of influence interact with external sources of influence to determine behavioural and cognitive changes (Bandura, 1991). Self-regulation theory, as proposed by Bandura (1977, 1989, 1991), departs from the notion of negative feedback advanced in the abovementioned control theory, and effectively addresses its two main limitations:

(1) failure to acknowledge personal agency in cognition, motivation, and action; and

(2) emphasis on discrepancy reduction. Bandura's self-regulation theory and underlying mechanisms will be examined in greater detail in the next section.

Self-regulation theory

Self-regulation mechanisms allow an individual to effectively adjust goal-directed activities to situational constraints (Bandura, 1991). In practice, the mechanisms are triggered when habitual activities are impeded or when new goals emerge, and involve deliberate adjustment of cognition, affect, and behaviour. The outcomes of self-regulation are a function of self-influence constituents, of external sources of influence, and of goal-setting.

The structure of self-regulation models is similar to that of control models in that it relies heavily on the goal-setting approach. The relationship between self-regulation and goal-setting is based on the capacity to respond to specific goal attributes (e.g. specificity, difficulty, and clarity), and to the choice of goals (through the effect of self-efficacy in determining the likelihood that a proposed goal will be achieved). For instance, when individuals are able to respond to failure with positive affect and display greater emotional differentiation, they are more likely to maintain goal level and to engage in new attempts (Barrett *et al.*, 2001).

Another important link between self-regulation and goals pertains to the interaction between external and internal sources of influence. Social interactions and collective comparisons determine the choice of goals, in particular higher-level goals (e.g. career), and provide a source of individually meaningful reference standards. The interaction between internal and external sources of influence can be empirically examined at the group-level of analysis. For instance, group self-efficacy is likely the result of an interaction between individual-level variables (e.g. personality, individual self-efficacy, self-monitoring) and group-level variables (e.g. group norms, cohesiveness, past experiences of success and failure), and will determine the group responses to task feedback, as well as subsequent goals.

Internal sources of influence, or the processes explaining self-evaluative reactions to perceived discrepancy, self-efficacy, and goal-setting as motivators of subsequent

behavioural action, constitute the key differentiators between self-regulation and control perspectives. With respect to these two motivators, the concepts of need satisfaction, perspective on ability, self-monitoring, and self-awareness determine the extent to which self-regulation affects goal setting and response to performance feedback. The perceived discrepancy between comparator and reference standard triggers either self-dissatisfaction with the results attained (results fail to meet standards) or satisfaction with results (results exceed proposed standards). When individuals perceive themselves as capable of performing a task (self-efficacy) and are personally invested in achieving the goal (meaningfulness), they will increase the level of effort put into the task (Bandura, 1977, 1991). Self-efficacy is largely dependent upon the individual's perspective on ability. The level of effort invested in pursuing a goal will increase if the individual conceptualises ability as a skill that can be developed. In this case, developing ability can become a higher-level goal. In conjunction with self-awareness, self-monitoring ability becomes essential to strategy development upon goal-setting. The greater the awareness of internal and external cues (thoughts, feelings, behavioural responses of others) and the capacity to act on them, the better and more efficient goal achievement strategies will be developed (Barrett *et al.*, 2001; Phillips *et al.*, 1996).

External sources of influence can be broadly conceptualised as scripts, i.e. as cognitive representations of how a known and frequently encountered situation will occur, held in memory as sequences of scenes (Gioia and Poole, 1984). Script acquisition can occur through personal experience or via observation or report of other people's experiences. In relation to goal-setting, scripts guide behavioural action in that they establish the expectation that a given behavioural sequence will lead to a desired outcome (Lord and Kernan, 1987). Scripts can be strong when they organise behavioural expectations into a sequence of scenes, or weak when the expectations are not organised into scenes. Proximal goals will likely rely on strong scripts, whereas distal goals, particularly when detached from a known sequence of proximal goals, will likely involve weak scripts.

The aforementioned mechanisms wherein individuals engage in autonomous goal-setting based on internal and external sources of influence highlight the fundamental difference between control and self-regulation approaches. Contrary to the emphasis on discrepancy reduction advanced in control theory, the proactive stance toward goal-setting is unique to the self-regulation perspective and introduces positive discrepancy creation in addition to discrepancy reduction as a determinant of behavioural action (Phillips *et al.*, 1996). According to the principle of positive discrepancy creation, individuals set goals that exceed their past experiences. Internal and external sources of influence (e.g. individual- and group-level perceptions of efficacy, organisational guidelines) are expected to trigger this mechanism (Phillips *et al.*, 1996).

This distinction between discrepancy reduction and positive discrepancy creation is essential to understanding individual perceptions, interpretations, and subsequent behaviours in the context of changing environments. Furthermore, a causal model of sensemaking and interpretation of organisational events founded on a self-regulation framework would likely illuminate the mechanisms inherent in change-related behaviours, allow for the empirical examination of the various stages of the model, and

highlight potential areas of managerial intervention when planning and implementing change.

A self-regulation approach to sensemaking, interpretations and readiness for organisational change – model specification and propositions

Discrepancy and sensemaking

Transformations to current knowledge structures, similar to the ones that occur when new vision and goals are communicated at the onset of organisational change, trigger explicit, deliberate sensemaking processes. Faced with new knowledge structures (i.e. discrepancy), individuals cease to rely solely on automatic scripts to make sense of the organisational environment, and actively gather information from multiple sources to generate new and suitable scripts. This sensemaking process has the potential to become cognitively and emotionally taxing, particularly if it requires substantial effort to gather and integrate novel information in response to the perceived discrepancy (i.e. error sensitivity). Hence, as a first proposition to the model, it can be advanced that:

P1. An intentional and purpose-driven sensemaking process is triggered by the level of discrepancy perceived by individuals. High discrepancy levels (e.g., substantial differences between status quo and new mission and goals) trigger a sensemaking process, whereas low discrepancy levels do not trigger a sensemaking process.

Organisational constituents rely on a myriad of sources of information and are influenced by personal and environmental variables when making sense of change. For instance, the extent to which sensemaking is a cognitively and emotionally cumbersome process will largely depend on individual characteristics (e.g. ability, previous experience with organisational change, dispositional resistance to change), and on the availability and quality of information from external sources (e.g. formal and informal peer networks, change climate, clarity of communication regarding strategic goals of change) (Bartunek *et al.*, 2006). Importantly, while the manner in which change-related information is gathered and interpreted will differ across individuals by virtue of their personal characteristics and experiences (Bartunek *et al.*, 2006; Schneider, 1997), sensemaking aimed at facilitating subsequent goal alignment and the adoption of positive change behaviours (i.e. developing shared understandings of change) can be achieved through adequate management of external information sources (Landau and Drori, 2008). With respect to formal and informal networks, ensuring that work teams and business units exhibit positive affect toward change and a sense of self-efficacy regarding the acquisition of skills and adoption of new behaviours will influence positive interpretations of change events at the individual level (Jones *et al.*, 2005). In addition to group-level perceptions, the ability of change drivers to clearly communicate new knowledge structures will determine the functional accuracy of subjective meanings attached to change processes and expected outcomes, and positively impact the perception of legitimacy with respect to change rationale and implementation strategies (Balogun and Johnson, 2005; Daly *et al.*, 2004; Rousseau and Tijoriwala, 1999).

From a sociocognitive standpoint, organisations that are able to generate and clearly disseminate change-related schemas and scripts – in the form of goals or guidelines for competency development – will reduce the information-processing load

experienced by organisational constituents, guide information gathering efforts, and facilitate the process of attaching accurate meanings to novel organisational events (McKinley *et al.*, 2000). Overall, a second proposition can be put forward:

P2. The extent to which change-related sensemaking is an affectively and cognitively taxing process is contingent upon intra-individual characteristics (e.g., previous change experience), and availability of information from organisational sources (e.g. knowledge of strategic goals).

Interpretation of change

At this stage, individuals learn and develop new behaviours to adequately match change requirements. This is possible through appropriate reconstruction of the subjective reality, which occurs along a continuum of information gathering and experimentation over a period of time (Isabella, 1990). From a self-regulation perspective, the interpretation of organisational events is predicated on individual-level variables such as self-efficacy, and on goal clarification and strategy delineation at the group and organisational levels. With respect to the latter component, the degree to which organisational goals elicit positive and accurate interpretations is largely contingent upon participation in addition to formal and informal communications. Participation empowers individuals and allows them to perceive the benefits of change across a spectrum ranging from individual competence development to organisational bottom-line achievement (Bartunek *et al.*, 2006; Devos *et al.*, 2007). Extending participation to multiple organisational levels enhances positive appraisals of change and better adjustment (Martin *et al.*, 2006). Individuals involved in organisation-level goal-setting and implementation will be better able to construct accurate reference standards from which to generate individual-level goals. Overall, goal-setting aimed at generating positive and accurate interpretations at this level requires three important components: the clarification of change benefits (i.e. a forecast of the qualitative improvement that moving from "as is" to "to be" will bring about), information regarding the manner in which individual contributions fit into the change strategy, and an estimate of the expected gains for organisational constituents (Jones *et al.*, 2005). Hence, a third proposition can be stated as follows:

P3. The sensemaking processes that lead individuals to construct their interpretations of organisational change are affected by a number of individual-, group-, and organisational-level variables. Most notably amongst these, is the individual's degree to which he/she believes is capable of performing the proposed tasks (self-efficacy).

Individual-level variables are also essential to change interpretations. Even though individual self-efficacy is pivotal to the causal chain that connects sensemaking, interpretation, and behavioural action, it is just as critical to examine not only the degree to which individuals resist change, but also to distinguish between sources of resistance. Most of the extant organisational change theory has highlighted the detrimental impact of dispositional resistance to change (individual differences in reaction to change that are not a direct result of specific work arrangements and organisational characteristics) (Oreg, 2003; Van Dam *et al.*, 2008). However, non-dispositional resistance to change – herein functional resistance to change – represents a fundamental element of cognitive transition (Isabella, 1990) linking

sensemaking mechanisms to interpretation. Moreover, functional resistance to change may constitute an important source of information leading to the identification of gaps or flaws to the change implementation strategy, particularly when this resistance is manifested at the top organisational ranks (Barner, 2008).

Readiness for change

Readiness for change can be operationally defined as the set of attitudes that reflect evaluations of the change process (i.e. change-related interpretations). At this stage, it is important to assess the degree to which emphasis on discrepancy reduction vs. emphasis on positive discrepancy creation are significantly related to readiness for change. To that end, an evaluation of the existing reference standards is in order. While most organisations present a fairly stable set of fostered norms and goals, some hold a discursive structure wherein systemic uncertainty and multiplicity of perspectives represent the baseline for sensemaking and interpretation. In the latter case, the organisation exhibits a culture of continuous transformation that will likely enhance general acceptance of change processes, given its legitimacy to a dynamic organisational environment (Heracleous and Barrrett, 2001; Rousseau and Tijoriwala, 1999). In these organisations, the focus shifts from attempting to curtail resistance during change to facilitating acceptance of continuous transformations, framing them as necessary conditions to organisational survival and individual self-actualisation. This represents a move from normative change implementation to the construction of organisational schemas that implicitly foster continuous transformation, acceptance of ambivalence as part of the changing process and essential to self-actualisation (Jones *et al.*, 2005), and promote a non-threatening interpretation of lack of control over change events (Randall and Procter, 2008; Walinga, 2008). Establishing a parallel with the self-regulation approach, this uncertainty-friendly climate reflects a departure from behavioural change rooted on discrepancy reduction, to behavioural change stemming from interpretations of change that allow for positive discrepancy creation.

Here, it would be hypothesised that positive discrepancy is positively related to both proximal (self-efficacy, perceptions of change as personally beneficial) and distal elements of change readiness (perceived appropriateness of change implementation to the overall strategy and perceived support from senior managers). Conversely, emphasis on discrepancy reduction would be positively associated with distal elements of change, but negatively associated with perceived self-efficacy regarding change and personal benefits expected to arise from change implementation. In sum:

P4. The extent to which individuals display readiness for change is contingent upon the interplay of change interpretations (focus on discrepancy reduction vs. positive discrepancy creation) with the existing reference standards provided by the organisation (culture of dynamic vs. stable organisational environment)

Change behaviour and behavioural outcomes

The feedback provided by individual experience, objective work outputs, quality of group-level processes and outcomes, and organisation-level outcomes inform subsequent sensemaking activities (Isabella, 1990). At this stage, outcomes of organisational change become tangible and sensemaking activities are evaluative with

respect to new organisational norms and praxis. The final proposition is an extension of *P2*:

P5. The information needed to construct a discrepancy account of the perceived change, is provided by behavioural outcomes from previous change experiences (feedback).

All the above propositions can be depicted in a single descriptive model, as shown in Figure 1.

Conclusion

The purpose of the present paper was to advance a testable model, rooted on well-established self-regulation theory principles, to explain the causal links between change-related sensemaking, interpretation, readiness and behavioural action. The model and research propositions put forth introduce three main benefits for organisational change research:

(1) the opportunity to examine factors that account for sensemaking, interpretation, readiness, and behavioural action using a single framework;

(2) the potential for stronger empirically discerned relationships between model components through the consideration of moderator variables for each causal link (e.g. self-efficacy, culture-specific references); and

(3) the possibility of using a single model to test change phenomena at different levels of analysis.

Regarding the latter benefit, the model allows for the examination of relationships between individual- and group-level sensemaking and interpretations, both separately and simultaneously. This is particularly relevant in furthering our understanding of the mutual influence process between individual- and group-level schemas for sensemaking during organisational change, and of the relationship between aligned group-level interpretations of change and subsequent change behaviours (Balogun and Johnson, 2005).

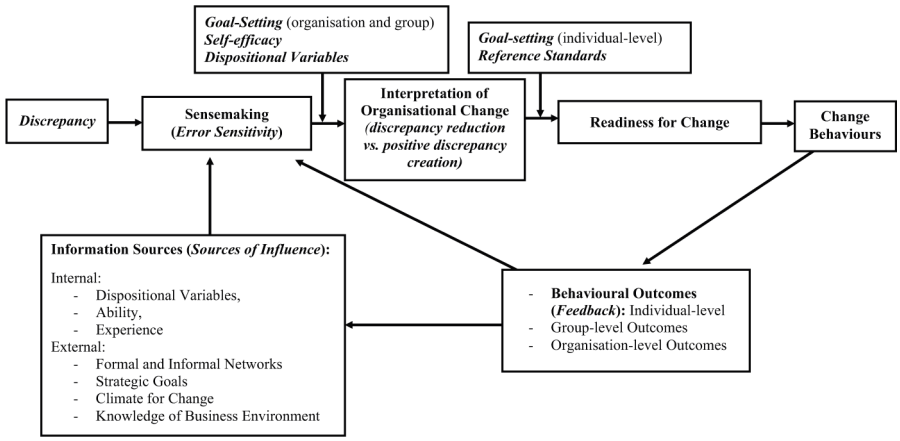

Figure 1.
Self-regulation model of change-related sensemaking, interpretation, readiness and behaviours

With respect to potential moderators, the model highlights the unique impact of individual characteristics, organisational culture and communication systems on sensemaking, interpretation, and change readiness. Importantly, these sources of influence shape expectations that determine individual attitudes and behaviours toward change (Frahm and Brown, 2007). Along with the immediate workgroup, these sources of influence constitute critical sensegivers (Bartunek *et al.*, 1999; Maitlis, 2005) as they provide information regarding change meanings and objectives. Future research is needed to investigate whether organisations that effectively consider the integration of workforce characteristics with organisational objectives in their change management strategy are more likely to facilitate important self-regulating mechanisms, and whether these mechanisms are related to positive interpretations of change, change readiness, and effective change behaviours.

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Further reading

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