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Promoting a Proactive and Innovative Workforce for the New Workplace

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Proactivity & Innovation:

Promoting a New Workforce for the New Workplace

Imagine you are running a marathon. You started at a nice, steady pace, but the speed just kept increasing. You must compete with the others in the race but they keep sprinting forward. And more and more people keep joining the race. Not only that, but things are now being thrown at you from all angles and you must duck and swerve to avoid them, and the finishing line keeps being moved. Feel the pressure? This is how many organizations today operate: in an increasingly competitive environment in which frequent changes in technologies, markets, government regulations, and customers give rise to turbulence and unpredictability. So, how does an organization deal with such pressures? How do they finish the race? We believe that one important ingredient is the proactive and innovative behaviour of employees: that is, employees who help you to sprint forward with new ideas, and who can duck and cope with unpredictability. This chapter examines the concepts of proactivity and innovation. It is unique in that it draws together findings from these traditionally separate research streams and identifies areas of convergence and divergence.

We begin by examining why proactivity and innovation are important and show that these employee behaviours help enhance the effectiveness of organizational marathon runners. Then we look at what these concepts mean and how they relate to each other. The third section deals with the individual and environmental factors that affect proactivity and innovation. Based on these research findings, we suggest ways in which organizations can improve the proactivity and innovativeness of the workforce. Finally, we suggest some directions for future research.

WHY ARE PROACTIVITY AND INNOVATION IMPORTANT?

So do these behaviours help to win the race? Several sources suggest that this is, indeed, the case. For instance, the best performing real estate agents are those who show proactivity (Crant, 1995). Zempel (1999; cited in Fay & Frese, 2001) found that the degree of firm owners' proactivity was correlated with the firms' success, in East Germany, Zimbabwe, and Uganda. In 2000, The UK Prime Minister, Tony Blair said, "creativity and innovation are at the heart of a successful business", and a study conducted on 156 small and medium manufacturing enterprises showed that organizational performance was related to the extent to which these companies used employee suggestions (Turgoose et al., 2000).

There are several reasons why employee proactivity and innovation might contribute to increasing company performance. First, many organizations are now relatively decentralized and employees need to work without close supervision. Proactive and innovative behaviours are necessary in such situations (Crant, 2000; Parker, 1998). Second, employees are closest to the coal-face: they know what is going on, what customers want and need, what inefficiencies lie in the system. Without their suggestions, organizations rely upon potentially outdated products, services and procedures and/or upon management's perceptiveness. Third, proactivity and innovation can promote organizational effectiveness through their effects on employee outcomes, such as career success (Seibert, Crant & Kramer, 1999), team commitment and team performance (Kirkman & Rosen, 1999). Finally, these behaviours are fulfilling and enjoyable (Unsworth & Wood, 2001). Such enjoyment is likely to lead to a more motivated and more productive workforce.

WHAT ARE PROACTIVITY AND INNOVATION?

These constructs represent similar, but slightly different ideas. In order to see the relationships between the two, we first discuss each separately.

Proactivity

Proactivity is about being self-starting and change-oriented in order to enhance personal or organizational effectiveness, such as by making improvements to work procedures or using one's initiative to solve a problem. In the academic literature, many constructs relate to proactivity. These constructs vary according to whether proactivity is seen as a relatively stable personality trait or as an outcome that varies across situations; as a behaviour or a psychological state; and as an individual-level construct or an organizational-level one. Here, we focus on individual-level proactive behaviours that can vary across situations. We view stable traits (e.g., proactive personality style) and psychological states (e.g. proactive motivation) as determinants, rather than defining aspects, of this behaviour.

Even restricting our focus to individual-level proactive behaviours that vary across situations, there are many related concepts with different labels and theoretical underpinnings. Crant (2000, p. 436) refers to 'proactive behaviour' as "taking initiative in improving current circumstances; it involves challenging the status quo rather than passively adapting present conditions". In contrast to 'spontaneous behaviours', which are voluntary extra-role behaviours (George & Brief, 1992), Crant recognized that proactive behaviour can be both in-role (e.g. agents seeking feedback about their sales techniques) or extra-role (e.g. changing the scope of one's job). The key focus of proactivity is an action orientation, rather than a passive or reactive pattern of behaviour. This action orientation is also highlighted in Frese, Kring, Soose and Zempel's (1996; Fay & Frese, 2001) related concept of 'personal initiative', which emphasises 'self-starting' behaviour and action

orientation. However, personal initiative is defined more stringently than proactive behaviour, as the behaviour must be consistent with the organization's mission, have a long-term focus, be goal-directed, and involve persistence. 'Taking charge' (Morrison & Phelps, 1999) includes voluntary behaviours related to making improvement-oriented changes in how work is executed, and is considered similar to proactivity, although it is operationalized quite differently. Other related behavioural concepts are 'task revision' (Staw & Boettger, 1990), or action taken to change procedures, inaccurate job descriptions, and inappropriate role expectations; 'role innovation' (Schein, 1971), or employees' rejecting and re-defining their roles; and 'voice' (Van Dyne & LePine, 1998), which involves challenging change-oriented behaviour, such as speaking out about gender-equity issues.

This brief review shows that there a plethora of concepts that relate to individual-level proactive behaviour. Nevertheless, although these vary in particular ways, they have in common an emphasis on self-starting and change-oriented behaviours. For the purposes of this chapter, we therefore adopt a broad definition of proactive behaviour as:

Proactivity is a set of self-starting, action-oriented behaviours aimed at modifying the situation or oneself to achieve greater personal or organizational effectiveness.

Innovation

While proactivity relates to self-starting change-oriented behaviours, innovation is concerned with the generation and implementation of ideas. Before further elaboration, it is important to note that there is often confusion between creativity and innovation (Drazin & Schoonhoven, 1996; Daww, 1969). Some researchers use the terms synonymously (e.g., Amabile, 1996), while others propose creativity to be the generation of ideas and innovation as the implementation of them (e.g., West & Farr, 1990). Others believe that creativity refers to the individual level while innovation refers to the

organizational level (Dauw, 1969; Oldham & Cummings, 1996). Nevertheless, the most widely-accepted viewpoint is that creativity involves the generation of the idea, while innovation involves both the generation and the implementation of that idea (e.g., Kanter, 1983; Mumford & Gustafson, 1988; Unsworth & Clegg, 2001). Creativity is thus a part of the innovation process, and will be considered as such throughout the rest of this chapter.

One of the most commonly-cited definitions applied to innovation is the following: “a product or response will be judged as creative to the extent that (a) it is both a novel and appropriate, useful, correct or valuable response to the task at hand and (b) the task is heuristic rather than algorithmic” (Amabile, 1983, p.359). As this definition makes explicit, the criterion is the production of novel and useful ideas. However, this raises some problems. First, it might not be generalisable across domains: Sprecher (1959) asked 107 engineers to define creativity and found that novelty was mentioned by only 18 people (compared to comprehensiveness which was noted 34 times). Both novelty and usefulness are based upon subjective judgements (Amabile, 1982), and therefore are domain and time specific (Ford, 1996). The degree of novelty needed is a contentious issue (relative novelty, e.g., Swan, 1995; versus absolute novelty, e.g., Nyström, 1979). Finally, the judgement of usefulness depends upon the referent. What is useful to one stakeholder may, in fact, be detrimental or useless to another.

Therefore, the widely accepted view that innovation is defined by the production of novel and useful outcomes is problematic. In addition, Drazin, Glynn and Kazanjian (1999) recently proposed that these outcome-based definitions neglect examination of the innovation process itself. They present a definition that is based upon engagement in behaviours, regardless of the ultimate outcomes. We agree with their propositions and, thus, suggest that:

Innovation is the process of engaging in behaviours designed to generate and implement new ideas, processes, products and services, regardless of the ultimate success of these new phenomena.

Linking Proactivity and Innovation

Defining innovation in terms of behaviours designed to generate and implement new ideas brings it very close to the definition of proactivity as a set of self-starting, action-oriented behaviours designed to change one's environment or oneself. However, proactivity is broader than innovation; it can result in creativity and innovation, but it can also result in other outcomes such as effective problem-solving and coping with demands. Nevertheless, proactivity is likely to be an important driver of innovation. The self-starting component of proactivity is relevant to creativity, particularly identifying problems and generating novel solutions. Persistence and the focus on pushing change is particularly relevant to idea implementation, which involves behaviours such as seeking sponsorship for ideas and building support (e.g. Kanter, 1983).

Despite the similarities between the concepts, they have not previously been associated. Until recently, even creativity and innovation existed in separate streams of research. While proactivity and innovation are specifically oriented towards organizational domains, creativity research has been conducted predominantly in laboratories and has taken a more general orientation. In addition, creativity research emerged much earlier than proactivity and innovation research, and thus, is more fully developed. We feel it is important to integrate these streams and derive a synthesised model which incorporates both the shared and unique aspects of each concept. To this aim, we now discuss influences on the proactivity and innovation of employees.

HOW CAN ORGANIZATIONS IMPROVE THE PROACTIVITY AND INNOVATION OF EMPLOYEES?

When running a marathon, one wishes to know the factors that will help win the race. These factors will include the right personal characteristics (e.g., stamina, muscle tone), the right tools and context (e.g., shoes, drinks/food), the right social context (e.g., the coaching team), and the right strategy (e.g., entering into the right race). The same question regarding determinants can be applied to proactivity and innovation.

Theories of proactivity (e.g., Crant, 2000; Fay & Frese, 2001; Parker, 1999) and innovation (e.g., Amabile, 1983; Woodman, Sawyer & Griffin, 1993; Ford, 1996) generally cover three sets of antecedents: individual differences (knowledge, skills, abilities, and dispositions), motivation, and context (work, social and organizational). Most theories also suggest that these factors combine in an interactive fashion: the effects of one moderate the effects of others. For instance, the effect of motivation may differ when contextual factors prohibit proactive and innovative behaviours. We now review research that has investigated the specific determinants belonging to each of these categories of individual differences, motivation, and contextual factors. For each category, we look at the determinants of proactivity, then of innovation, before linking the two streams together. At the end of each section, we summarise the key messages from the research (see also Figure 1).

[Figure 1 about here]

Individual Differences in Knowledge, Skills, Abilities and Dispositions

KNOWLEDGE, SKILLS AND ABILITIES

Two broad types of knowledge, skills and abilities (KSAs) are argued to be important to proactivity: job-related KSAs and context-relevant knowledge. Fay and

Frese (2001) argued that taking initiative involves possessing a thorough understanding of one's work and has been shown to be positively related to job qualifications (Frese & Hilligloh, 1994). Fay and Frese (2001) also found that cognitive ability predicted personal initiative using a longitudinal analysis, and that this was independent of motivational effects.

Parker (2000) proposed two types of context-relevant knowledge antecedents. The first is 'integrated understanding', or the degree to which an employee understands the wider work system and the relationships amongst its components (e.g. knowledge about customers, suppliers, and other departments). The more an individual has an understanding of the wider system, the more likely they are to behave in a proactive manner. The second was 'perspective-taking', or the extent to which employees adopt the view point of others. A recent study showed that the more employees adopted their suppliers' perspective, the more likely they were to help them (Parker & Axtell, 2001). The relationship between perspective-taking and proactivity has not been investigated, although it is likely that such a relationship will exist.

A large number of KSAs have been recognised as facilitators of innovation. Most of these are centred around idea generation abilities, such as divergent thinking (e.g., Guastello, Bzdawka, Guastello & Rieke, 1992), experimenting (e.g., Keller & Holland, 1978), and originality and venturesomeness (e.g., Jones, 1964). Others appear to be more concerned with the "doing" of innovation: for instance behavioural abilities (e.g., Ford, 1996), communication (e.g., Pelz & Andrews, 1966), planning skills (e.g., Sprecher, 1959), social skills (e.g., Amabile & Gryskiewicz, 1987), and organizational status (e.g., Aiken, Bacharach & French, 1980). In a related fashion, domain expertise and job-related knowledge has also been shown to be important (e.g., Amabile, 1983; Sternberg & Lubart, 1991). The relationship between creativity and intelligence has been hotly

debated between those who believe there is a positive relationship (e.g., Guilford & Christensen, 1973) and those who believe this relationship is artefactual (e.g., Wallach & Kogan, 1965). The weight of evidence, however, suggests that, if there is a relationship between intelligence and creativity, it is very small and probably limited to verbal or problem-solving tests (e.g., Torrance, 1967).

Thus, there are some similarities between the facilitators of proactivity and those of innovation, for instance, domain expertise and job-relevant knowledge. Nonetheless, the majority of KSAs identified in the creativity and innovation literatures relate to the ability to generate ideas. These differences are not surprising given the different foci of the two research arenas. As noted earlier, most proactivity research has focused on work-related issues, while, until recently, most innovation research was focused on more general creative acts. Thus, researchers interested in proactivity concentrated mostly upon organizational determinants (e.g., the work by Frese, and by Parker), while researchers interested in innovation focused upon more general KSAs (e.g., the work by Amabile). In addition, the requirement for novelty that is inherent within innovation presumably accentuates the need for idea generation and cognitive abilities relative to proactivity.

DISPOSITIONAL INFLUENCES

Dispositional influences are cross-situational and stable tendencies that exert a general influence over behaviour (Fay & Frese, 2001). Proactive personality style (Bateman & Crant, 1993), a tendency to effect environmental change, is an obvious dispositional determinant of proactive behaviour. Indeed, significant positive correlations have been shown between proactive personality and personal initiative (Fay & Frese, 2001), proactive motivation (Parker, 1998; Parker & Sprigg, 1999), and an array of other

proactive outcomes, such as entrepreneurship (Crant, 1996) and career success (Siebert, et al., 1999).

Two other influential predictors of proactivity are need for achievement and self-esteem. Need for achievement and action orientation have been shown to positively predict personal initiative (e.g. Frese et al., 1997; Fay & Frese, 2001), and need for achievement, along with self-esteem, also predict proactive feedback seeking (Vancouver & Morrison, 1995). Self-esteem predicts proactive coping strategies associated with job loss, such as proactive job searching (Kinicki & Latack, 1990), and role innovation (Munton & West, 1995).

In terms of the Big Five personality constructs, Fay and Frese (2001) found that personal initiative was moderately correlated with extraversion ($r = .33$) and conscientiousness ($r = .29$), but had weaker correlations with agreeableness ($-.09$), openness to experience ($.13$) and neuroticism ($-.14$). Consistent with these results, conscientiousness and extraversion were strongly related to voice behaviour and helping/co-operative behaviour in a laboratory study, while agreeableness had a negative relationship with employee voice (LePine & Van Dyne, 2001). Collectively, these studies suggest extraversion is an important personality factor affecting proactivity, and that the effect of conscientiousness and openness depend on the specific outcome assessed.

Piecemeal research into creativity and innovation has identified many, varied influential dispositions. Regarding the Big 5, McCrae (1987) used previously collected data and found that only open-mindedness consistently predicted creativity and innovation (correlations ranged from $r=.37$ to $r=.41$). Nevertheless, as McCrae (1987) argues, the relationship between the other factors (particularly extraversion, neuroticism and conscientiousness) and creativity and innovation may be masked by the data which were responses to laboratory-based, divergent thinking tests. In the workplace, where

ideas need to be pushed and championed (e.g., Howell & Higgins, 1990), it is likely that factors such as extraversion and conscientiousness will influence the successfulness of innovation attempts.

Barron and Harrington (1981) reviewed dispositional influences on creativity and found a “fairly stable set of core characteristics” (p.453). These traits are valuing aesthetic qualities, broad interests, attraction to complexity, high energy, independence of judgement, autonomy, intuition, self-confidence, tolerance of ambiguity and conflicts, and a creative self-identity. Other traits that have been identified as facilitating creativity include a positive attitude towards ideation (e.g., Basadur & Finkbeiner, 1985), curiosity (e.g., Amabile & Gryskiewicz, 1987), discovery orientation (e.g., Csikszentmihalyi & Getzels, 1970), enthusiasm (e.g., Udell, Baker & Albaum., 1976), flexibility (e.g., Gorman & Breskin, 1969), impulsiveness (e.g., Dellas & Gaier, 1970), risk orientation (e.g., Amabile, 1983), and sensation-seeking (e.g., Davis, Peterson & Farley, 1974). Furthermore, similar to the KSAs, a number of dispositional factors appear to be concerned with the “doing” of innovation. Such factors include energy (e.g., Amabile & Gryskiewicz, 1987), an internal locus of control (e.g., Aviram & Milgram, 1977), lack of conformity (e.g., Sprecher, 1959), need for growth (e.g., Brazeal & Weaver, 1990), persistence (e.g., Amabile, 1983), and self-confidence (e.g., Keller & Holland, 1983).

SUMMARY OF INDIVIDUAL DIFFERENCE FACTORS

Comparing the factors that predict proactivity with those that predict creativity and innovation shows some striking trends. Proactivity determinants tend to be those that promote action, such as need for achievement, self-esteem, extraversion and conscientiousness. Creativity determinants tend to represent openness (e.g., attraction to complexity, broad interests, curiosity, sensation-seeking etc), while implementation determinants are again much more action-oriented (e.g., persistence, self-confidence).

These differences are perhaps indicative of the differences between proactivity and innovation. Proactive behaviours are not necessarily creative and, as such, they may not require openness. However, once an idea has been generated, one must often be proactive in order for it to be implemented.

One last comment on individual difference factors is needed. It is now obvious that much research has been conducted in this area, particularly in the prediction of creativity and innovation. The findings, therefore, are based on a broad variety of sampled populations using very different methodologies, and are both wide-ranging and disparate. Unfortunately, much of this research has been conducted in a piecemeal fashion, and it is difficult to compare the relative importance of different individual difference factors. Nevertheless, as both the theories and the statistics are now becoming more sophisticated and more integrative, we hope that future research will be able to shed some light on this issue.

Motivation

Motivation is considered essential in any proactive or innovative exercise (Bejat, 1972; Miner, Smith & Bracker, 1994). However, unlike dispositions, motivational variables are states rather than traits, and are strongly influenced by the context. We identified three situational origins of motivation that differ in their breadth: the task itself (intrinsic motivation), the role (role-based proactive motivation), and external factors (rewards and recognition).

TASK-BASED INTRINSIC MOTIVATION

Intrinsic task motivation is motivation to perform a task for its own sake, because of enjoyment and interest in the task. This type of motivation leads to heightened

concentration on the task, which helps to maintain creative behaviours rather than relying upon habitual responses (e.g., Amabile, 1996; Csikszentmihalyi, 1996).

Perhaps the biggest player in the creativity motivation stakes is Teresa Amabile. Her componential theory of creativity (1983, 1996) places intrinsic motivation in prime position. Building upon Deci and Ryan (1987), she proposes that intrinsic motivation is beneficial to creativity and that alternative forms of motivation (such as the externally-based motivation discussed later) are detrimental (e.g., Amabile, 1985; Amabile, Hennessey & Grossman, 1986).

ROLE-BASED MOTIVATION

Parker (2000) identified two types of role-based motivation (referred to by Parker as proactive motivation) that are likely to promote proactive behaviours amongst employees. First, employees must develop a view of their role and responsibilities that align with proactive expectations; that is, they need a 'flexible role orientation' (Parker, Wall & Jackson, 1997). For employees who have been working in simplified jobs, this means a move away from a narrow 'that's not my job' mentality to an orientation in which employees see broader problems as their responsibility and recognize the importance of being proactive.

Second, employees must feel capable of behaving in these types of ways, or possess 'role breadth self-efficacy' (RBSE, Parker, 1998). RBSE concerns the extent to which people feel capable of carrying out a range of proactive tasks (for example, designing improved procedures, setting goals and targets, and meeting with customers or suppliers). RBSE is distinct from, although related to, proactive personality style (Parker, 1998).

Axtell, Holman, Unsworth, Wall, Waterson and Harrington (2000) found that flexible role orientation and role breadth self-efficacy (particularly the latter) predicted the likelihood of production employees making innovative suggestions. Similarly, Frese,

Teng, and Wijnen (1999) found that various role-based motivational states, especially self-efficacy, proactive orientation, and higher order need strength, predicted whether employees have ideas for improvements, which was in turn predictive of writing and submitting ideas. Other studies have also shown that self-efficacy is an important determinant of personal initiative (Fay & Frese, 2001; Frese et al., 1996; Vennekel, 2000; cited in Fay & Frese, 2001) and taking charge (Morrison & Phelps, 1999).

EXTERNALLY-BASED MOTIVATION

Earlier, it was suggested that externally-based motivation (such as that produced by rewards and recognition) might be detrimental to innovation. However, Eisenberger and colleagues suggest that the negative findings for rewards are caused by ambiguity about which dimension of performance is being rewarded and the high salience of the reward (e.g., Eisenberger & Cameron, 1996; Eisenberger & Armeli, 1997).

Several studies have found that extrinsic motivation, and in particular, rewards, either have no effect (Cox, 1977; Cox, Nash & Ash, 1976) or enhance innovation (Fromme, Mercadal and Mercadal, 1976; Halpin & Halpin, 1973; Krop, 1969; Locurto and Walsh, 1976). Parnes' (1976) review of the literature reported that rewards helped in implementation of ideas. Indeed, even Amabile (1997) concedes that rewards may sometimes contribute to innovation.

Nevertheless, Frese et al. (1999) found that the motive to get a reward had only a slight positive relationship with the number of ideas individuals put forward in a suggestions scheme, and it had no relationship with writing and submitting those ideas. Other motivational and contextual factors were much more important predictors, leading the authors to conclude that financial rewards were not important in this particular context. It appears that the degree to which externally-based motivators facilitate

innovation depends upon the way in which the motivator is administered and the context in which it takes place.

SUMMARY OF MOTIVATIONAL FACTORS

In summary, then, it can be seen that motivation strongly influences the engagement and successful completion of proactive and innovative endeavours and that it can be derived from three sources: responses to the task, responses to the role, and responses to external factors. Although some argue that externally-based motivation is detrimental to innovation, we believe that these three types of motivation influence in an additive fashion. In other words, proactive and innovative behaviours are most likely to occur when an employee is intrinsically motivated by the task, has a flexible role-orientation and role breadth self-efficacy, and is appropriately incentivised and rewarded. Further inquiry is needed to establish whether this is, indeed, the case.

So, the marathon runners now have the right personal attributes and the required motivation. However, they still will not win the race unless the context supports these personal and motivational qualities. It is these contextual factors that we now discuss.

Contextual Factors

We consider three groups of contextual factors: task and work factors, social interaction characteristics, and the wider organizational context.

TASK AND WORK FACTORS

Job Autonomy & Complexity

One of the most important contextual factors likely to affect proactivity and innovation is work design, particularly the amount of *job autonomy* and *job complexity*.

Many studies have linked job control and complexity to proactive and innovative outcomes (e.g., Amabile, Conti, Coon, Lazenby & Herron, 1996; Andrews & Gordon, 1970; Ekvall, 1993). For example, Frese et al., (1996), found that personal initiative was lower amongst East Germans than West Germans due to lower job autonomy and job complexity, and showed that initiative was enhanced with increases in these job characteristics (see also Frese, Garst, & Fay, 2000). LePine and Van Dyne (1998) found that employees were more likely to constructively challenge the status quo to improve their work if they had greater self-management. Axtell et al. (2001) found that autonomy was associated with a greater likelihood of making suggestions. Amabile and Gryskiewicz (1987) found that 74% of scientists mentioned autonomy as a major factor in successfully creative incidents, while 48% reported a lack of autonomy as being a major constraint in unsuccessful incidents. An exception, however, is Frese et al. (1999) who found a slight negative association between job control/ job complexity and having ideas for a suggestion scheme; they suggested that those with high control and complexity can change things themselves, and so may not need to participate in such a scheme.

Many have forwarded explanations for why autonomy is important to proactivity and innovation. Andrews (1975) showed that autonomy assisted in utilizing creative potential. Ekvall and Tangeberg-Andersson (1986) believed that autonomy contributed to a creative climate which affected levels of innovation. Autonomy has been shown to increase felt responsibility (Frese, et al., 1996; Hackman & Oldham, 1976), and intrinsic motivation (Zuckerman, Porac, Lathin, Smith & Deci, 1978) – both of which affect proactivity and innovation. Autonomy also enhances self-efficacy, role orientation, control expectations, and control orientations, which in turn promote proactivity (Frese et al., 2000; Parker, 1998; Parker et al., 1997). Finally, autonomy increases knowledge and

skill acquisition, which in turn helps the conception of alternative methods (e.g., Frese et al., 1996; Wall, Jackson & Davids, 1992; Parker & Axtell, 2001). It is likely that all these mechanisms play a role in the relationship.

However, the effect of autonomy may not be as straightforward as it appears. Pelz and Andrews (1966) found that an individual's level of autonomy interacted with the average level of autonomy within the group. In very loose settings, R&D scientists with more autonomy withdrew from stimulation from colleagues, which decreased their innovation. Conversely, in settings where the group on average had little autonomy, those few autonomous individuals were prevented from capitalizing on their creativity. Only in the middle-range situations was autonomy positively related to innovation. A further study suggested that employees with some degree of proactivity are most likely to make use of job autonomy afforded to them, whereas those with a more passive personality might not exploit the opportunities autonomy offers (Parker & Sprigg, 1999). These studies suggest that there might be individual and organizational contingency factors that moderate the effect of autonomy on proactive and innovative behaviour.

Stressors – Problems, Time Pressure & Role Demands

The common adage, “necessity is the mother of invention” has been tested on a number of occasions with contradictory results. Some have found negative links between "necessity" and innovation (e.g., Drwal, 1973; Ganesan & Subramanian, 1982), mainly due to the conceptualisation of necessity as “anxiety”: a state that diverts attention away from the innovative process. It is also suggested that time pressure prohibits experimentation with collaboration and alternative ways of thinking (e.g., Hards, 1999; Miles, Snow & Miles, 2000).

On the other hand, positive relationships have also been found (e.g., Bunce & West, 1984; Drazin, et al., 1999; Leith, 1972). Longitudinal studies have found work

stressors (time pressure, concentration demands, job ambiguity, and organizational problems) to predict subsequent proactive and innovative behaviours (Andrews & Farris, 1972; Fay & Sonnentag, 2000). In these studies, the stressors are associated with challenge, and proactive and innovative behaviours become coping strategies.

Therefore, it is likely that the effect of stressors on proactivity and innovation depends upon the appraisal of the stressor as either anxiety-provoking or an achievable challenge. Interestingly, Amabile, Conti, Coon, Lazenby and Herron (1996) measured both *excessive* workload (italics added) and challenge: the first hindered innovation while the second helped. As this finding also suggests, the appraisal, and its subsequent effects, are dependent upon the degree to which the stressor exists. This is likely to be a U-shaped curve. Without necessity or stress there is little motivation to engage in the behaviours, too much stress may lead to anxiety which may be detrimental, but a certain amount of challenge and necessity may be beneficial to proactivity and innovation.

SOCIAL INTERACTION CHARACTERISTICS

Collegial Communication & Teamworking

Team processes and communication influence the success of proactivity and innovation in three ways: 1) aligning expectations, 2) increasing response possibilities, and 3) enhancing motivation. First, Campbell (2000) suggested that *information sharing* may align expectations between the employee, manager and the institution and reduce the ‘initiative paradox’: managers expect employees to use their own judgement and initiative, but then are shocked when they behave in unexpected ways. Second, diversity among team members, of both task-related and relationship-oriented characteristics, has been shown to positively affect team innovation – most probably due to the increase in potential response possibilities (e.g., Thornburg, 1991; West & Anderson, 1996). Finally, team processes such as sharing, norms, task orientation and participation significantly

affect innovation levels (Burningham & West, 1995; Triandis, Bass, Ewen & Mikesell, 1963) and high quality communication is an important facilitator of proactive motivation (in particular, RBSE; Parker, 1998).

Leadership

There has been less investigation of the link between leadership and proactive behaviour than one might expect given that proactive employees are an implicit end-goal in many theories of leadership (Campbell, 2000). For example, transformational leadership aims to lead employees to expend exceptional effort and go beyond the expected. One would therefore suppose this type of leadership to be associated with greater proactivity.

Research examining the role of leadership in innovation began in laboratory experiments. Participatory leadership increased quantity of responses while supervisory leadership increased the quality of creative responses (Anderson & Fiedler, 1964). But, this appears to be modified by group climate: under pleasant conditions, participatory leaders increased creativity but under more stressful conditions, supervisory leaders increased creativity (Fiedler, 1962).

More recently, research has moved to the workplace. Here, it is shown that leaders who encourage and facilitate creativity increase the likelihood of innovative behaviours (e.g., Raudsepp, 1987; Redmond, Mumford & Teach, 1993). Supportive, non-controlling leadership behaviour is predictive of employee creativity (Basu & Green, 1997; Cummings & Oldham, 1997; Oldham & Cummings, 1996). However, Basu and Green (1997) found that transformational leadership inhibited innovation, possibly due to intimidation by such a powerful leader. It has also been recognized by several researchers that managers might not always welcome proactivity and innovation, either because the behaviours are incongruent with expectations or because the managers resist the change

it might involve to their own roles (Campbell, 2000). The link between leadership and proactive, innovative behaviour is therefore not straightforward.

ORGANIZATIONAL CONTEXT

At a general level, a climate for psychological safety (i.e. feeling safe to take interpersonal risks) affects proactive and innovative performance. For example, Vennekel (2000; cited in Fay & Frese, 2001) found that individuals' perceptions of psychological safety in the team context was related to personal initiative amongst hospital staff. Such psychological safety develops feelings of openness and trust amongst employees, which increases proactivity and innovation (e.g., Ekvall & Tangeberg-Anderson, 1986; Miles et al., 2000; Mumford & Gustafson, 1988), while a cold and competitive work climate can reduce creative performance (McCarrey & Edwards, 1973).

At a more specific level, climates for innovation manifest the organizational policies and structures, culture and climate, and as such, strongly promote innovative behaviours (e.g., Tesluk, Farr & Klein, 1997; Tushman & Nelson, 1990). Encouraging and supporting innovation, through both words and deeds, significantly increases the chances of innovation occurring (e.g., Eisenberger, Fasola & Davis-LaMastro, 1990; Kanter, 1983; Mohamed & Rickards, 1996; Mumford & Gustafson, 1988). Axtell et al. (2000) found that with low management support, the number of suggestions employees report making has little impact on the number implemented; where management support was high, the more suggestions made, the more were implemented.

Several human resource practices also potentially influence proactive and innovative behaviours. Performance monitoring that focuses on narrow aspects of task performance could be a deterrent to proactivity (Frenkel, Korczynski, Shire, & Tam, 1999). Fay and Frese (2001) reported that they are developing training courses to increase employee proactivity by trying to enhance self-efficacy, change orientation, active coping, and new

ways of handling errors. Similarly, formal creativity training can increase the originality of ideas produced (e.g., Kabanoff & Bottger, 1991). Finally, the presence of various lateral integration devices (Mohrman & Cohen, 1995) might promote proactivity and innovation via enhanced collaboration. Miles et al (2000) argued that effective collaboration lies at the heart of successful organizations in the 'innovation' era. For example, cross-functional teams break down barriers of functional silos and are likely to facilitate continuous innovation.

SUMMARY OF CONTEXTUAL FACTORS

It can be seen, therefore, that several contextual factors may affect proactivity and innovation. These include task and work design (autonomy, complexity, stressors), social characteristics (collegial communication, teamworking, leadership), and organizational characteristics (climate/culture, human resource practices, organizational design). These factors affect proactive and innovative working through encouragement (stressors, culture and norms), support (human resource practices, design), and opportunity (autonomy, leadership). It can also be seen from this review, however, that research in this area is much less comprehensive than other areas. We discuss this deficiency further in the concluding section.

Promoting Proactivity & Innovation: Implications for Managers

In the preceding discussions, we identified many factors that predict proactive and innovative behaviours. To make a more manageable list of implications, we have distilled those findings into the following list of good-practices. These are outlined in Figure 1.

Our analysis first showed that there are some individuals - because of their particular knowledge, skills, abilities, or personality - who are more likely to be proactive

and innovative. An obvious implication for managers who require an innovative workforce then, is for efforts to be made to recruit appropriate individuals into the organization. This will probably mean some adaptation to selecting procedures, such as by extending criteria beyond technical skills to take account of those personal factors that have been linked to proactivity and innovation.

Selection is by no means the only, or even the best, way to obtain a proactive and innovative workforce. In our experience, managers often tend to over-emphasize selection as a strategy for obtaining the appropriate workforce to the neglect of other strategies, such as employee training and development. The knowledge, skills, abilities, and even motivations, necessary for proactive and innovative behaviour can also be enhanced via training. First, both proactivity and innovation require high levels of job knowledge and expertise. Therefore, at the most basic level, it is important to ensure training in the particular technical area. Second, as noted earlier, it also seems possible to train employees in more generic skills and motivation required for proactivity and innovation. Third, individuals can be trained in ways to support the social processes that underpin innovation such as communication, teamworking and leadership skills.

There is little point, however, in investing great effort into recruiting and/or developing proactive and innovative individuals if the environment does not allow, encourage, or support these behaviours. Therefore attention needs to be given to the work context, both the immediate task and work design, and the wider organizational culture, structure and processes. Designing an appropriate context is a strategy that is often neglected by managers, who tend to attribute any lack of proactivity and innovation in their work force to factors outside of their control, such as the employees' non-creative personality or lack of ability. Managers often do not recognise the important role that the work context plays in affecting employees' attitudes and behaviour.

Changing the work design to create autonomous and challenging jobs will encourage proactive and innovative behaviours. The introduction of self-managing teams is an appropriate strategy when groups of employees need to co-ordinate interdependent tasks. If jobs are individual in nature, then work design strategies such as job enrichment (e.g. allowing employees to make decisions traditionally made by managers) and empowerment are appropriate. However, when enriching jobs, a manager should also make sure that the workload is managed so as not to become anxiety-provoking. The work design also needs to align with wider human resource and control systems if it is to be successfully implemented or be sustained over the longer term (Parker, Wall, & Jackson, 1997). For example, financial control systems might need to be modified to reduce unnecessary blockages to employees making financial decisions, and information systems could need to be adapted to ensure employees have high quality access to the information they need to act autonomously without constant referral to management.

In broad terms, the organizational design needs to support both the task and work context and the selection and training of employees if proactivity and innovation are to thrive. This includes an organic organizational structure that facilitates employee self-management, combined with various lateral integration devices and systems (e.g. team working, liaison managers) to promote inter-team, inter-departmental and cross-functional collaboration. For example, social events, job sharing, and knowledge management data systems can help to facilitate effective communication within and across teams, and allow individuals to understand and adopt the perspective of others. Organizational design, however, is more than the presence of formal structures or systems: the development of an organization-wide culture that is open and trusting, that supports and encourages innovation, and that allows speaking out and managed risk-taking is also vital for promoting an innovative workforce. Without such a culture, the

efforts invested in recruitment, training and work redesign may be meaningless. Some organizations will therefore require quite a fundamental change in culture, which is an organizational change that requires commitment from the highest level.

These practices are not meant to be implemented alone. We noted earlier that changing one factor alone (such as selecting individuals with the appropriate KSAs) will not help proactivity and innovation if other factors are not in place (such as a supportive working environment). Having the best running shoes in the world will not help you to win the marathon if you do not have the motivation to enter the race. Enhancing the proactivity and innovation of employees will require an integrated strategy, incorporating elements of recruitment, selection, training, task and work redesign, organizational culture management, human resource systems and organizational redesign. This is by no means an easy feat, which is why organizations that do manage to succeed in building this type of organization are likely to have a sustainable competitive advantage.

CONCLUSION & FUTURE DIRECTIONS

We know that proactivity and innovation are important behaviours for organizations, and that they are likely to become more important as organizations continue to de-centralize to cope with rapidly changing contexts and as competitive pressures drive the demand for innovation to stay ahead. We also know that these behaviours are predicted by a wide array of individual and organizational factors, which in turn have implications for managers who can themselves be proactive to shape and create a proactive and innovative workforce through selection, development, and organizational interventions.

However, there are many things that we still do not know, and many further directions for research. For instance, we know very little about the links between proactivity and innovation. We speculated earlier about these links, but these have not

been tested. Research in these spheres need also to draw upon findings from each other rather than continue as separate traditions. The proactivity literature is relatively more recent, and it is important that it does not proceed independently of the research on innovation.

One important consideration in exploring links between these concepts will be to sharpen up conceptual understanding of the individual constructs. For example, as noted in the introduction, proactive behaviour has been assessed using a plethora of related but distinct concepts. It is not known how much empirical overlap there is between concepts such as taking charge, personal initiative, and voice. Likewise, recent developments in the innovation literature suggest some important subtleties in types of innovation (Unsworth, 2001; Unsworth & Clegg, 2001): responsive (externally required solution to a specific problem – e.g., solutions to divergent thinking tests), expected (externally required solution to a discovered problem – e.g., responses to role expectations of advertising agent), contributory (internally driven to solve a specific problem – e.g., helping solve a colleague's problem), and proactive (internally driven to discover and solve a problem – e.g., suggestions in a suggestion scheme). Future research, therefore, needs to consider these different types when examining predictors and processes.

Throughout the chapter we have discussed the current condition of academic knowledge in proactivity and innovation and highlighted areas which we believe need further research. While we know a considerable amount about the specific predictors we know little about how these factors change over time, how they interact, which are most important, and how they can successfully be changed. There are relatively few longitudinal studies, which means causality is yet to be fully established. There have been very few intervention studies in which aspects of the organization are changed and their effects on proactivity or innovation monitored. Few studies have taken a number of

factors and examined how these factors interact with, or are related to each other (with some exceptions, e.g., Frese et al., 2000; Oldham & Cummings, 1996; Parker & Sprigg, 1999; Scott & Bruce, 1994). In relation to the topic of dispositional antecedents in particular, the rather disparate findings can be attributed to piecemeal approach of much of this research. Future research will benefit from a more integrated approach in which multiple dispositions are assessed simultaneously. The use of Big Five personality determinants also offers greater integrating potential.

In addition, whilst we can be relatively clear about the value of some aspects of the context, e.g. job autonomy and a supportive climate, findings are more mixed when it comes to the roles of other factors such as stressors, collegial communication, and leadership. Research to date has been relatively minimal, and/or conflictual, and indepth field studies are needed. Some questions to be answered include: what factors influence the appraisal of a stressor as a challenge or as anxiety-provoking?; Through what means does collegial communication affect proactivity and innovation?; and What factors moderate the effect of leadership on proactivity and innovation? Moreover, we and others have made several speculations about potentially important influences on proactivity and innovation, such as the inhibitory effect of performance-based monitoring or the positive effect of lateral integration methods. These speculations have not been tested empirically and research on these wider organizational contexts is also needed.

Furthermore, much of the research in these areas focuses upon, and only measures, the end-product. However, when analysing performance in a race, you don't just look at the finishing times, you also need to look at how the runners performed throughout and the reasons why they performed in this way. It is similar here. Drazin et al. (1999) and Unsworth and Clegg (2001) both suggest that researchers need to use methods that collect processual information such as interviews, diaries, observations and more detailed

surveys. This information allows us to look at what happens throughout the proactivity and innovation process. In this way, we can begin to understand how people use proactivity when being innovative, how people go from having an idea to making that idea happen, how people generate ideas, how they use their colleagues and their environment to help them become proactive and innovative, and so on. Using these more novel methods also allows for a greater understanding of innovation types and will enable us to assess which factors affect which particular types.

Along similar lines, more attention needs to be paid to the mechanisms that underpin the links between the various contextual antecedents and employee proactivity/innovation. For example, we suggested that various motivational processes underpin the link between job autonomy and proactive behaviour (e.g, the development of employee self-efficacy), but there are also likely to be cognitive processes (e.g. learning, perspective-taking). For example, team working might lead to employees developing more sophisticated and complex understanding of their work, which could promote innovation. Another mechanism could be via changing employees' expectations of what is required. For example, a supportive and encouraging culture might enhance proactivity and innovation simply because it increases the expectation that every employee must behave in this way.

We know a lot about proactivity and innovation, but there is still a long way to go. The race is getting quicker, and the finishing line is still moving further away, but we are learning more and more about how to run faster. By adopting an integrated strategy to improve the proactivity and innovativeness of their employees, managers can use their entire workforce to help win the race. And, in this race, staying ahead is everything.

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Figure 1. Summary of Influential Factors & Good-Practices



