DEPARTMENT OF MANAGEMENT

THE EFFECTS OF PERSONALITY COMPOSITION AND DECISION-MAKING PROCESSES ON CHANGE PREFERENCES OF SELF-MANAGING TEAMS

KATRIN MUEHLFELD, JENNY VAN DOORN
& ARJEN VAN WITTELOOSTUIJN

UNIVERSITY OF ANTWERP
FACULTY OF APPLIED ECONOMICS, DEPT. OF MANAGEMENT
KIPDORP 61 (S.Z.105) BE-2000 ANTWERPEN
TEL. +32 (0)3 265 50 64 | FAX +32 (0)3 265 50 79
HTTP://www.ua.ac.be/ACED

^{A}CED

FACULTY OF APPLIED ECONOMICS

DEPARTMENT OF MANAGEMENT

The Effects of Personality Composition and Decision-Making Processes on Change Preferences of Self-Managing Teams

Katrin Muehlfeld, Jenny van Doorn
& Arjen van Witteloostuijn

RESEARCH PAPER 2011-002
ACED 2011-009
APRIL 2011

University of Antwerp, City Campus, Kipdorp 61, B-2000 Antwerp, Belgium
ACED Administration – room S.Z.105
phone: (32) 3 265 50 64 - fax: (32) 3 265 50 79
e-mail: anne.vanderplanken@ua.ac.be

The papers can be also found at website:
http://www.ua.ac.be/aced & http://www.ua.ac.be/TEW
(research > working papers)

D/2011/1169/002
^{A}CED/2011/009

The Effects of Personality Composition and Decision-Making Processes on Change Preferences of Self-Managing Teams

Katrin Muehlfeld*
(Utrecht University, the Netherlands; University of Antwerpen, Belgium)

Jenny van Doorn+
(University of Groningen, the Netherlands)

Arjen van Witteloostuijn‡
(University of Antwerpen, Belgium; Tilburg University, the Netherlands; Utrecht University, the Netherlands

* Corresponding author; correspondence address: Utrecht University School of Economics, Utrecht University, Janskerkhof 12, 3512 BL Utrecht, The Netherlands, k.muehlfeld@uu.nl. Katrin Muehlfeld gratefully acknowledges financial support through the Antwerp Centre of Evolutionary Demography (ACED) which is financed by the Odysseus program of the Flemish Science Foundation (FWO).

+ Department of Marketing, Faculty of Economics and Business, University of Groningen, P.O. Box 800, 9700 AV Groningen, The Netherlands, j.van.doorn@rug.nl.

‡ Correspondence address: Faculty of Applied Economics, University of Antwerpen, Prinsstraat 13, 2000 Antwerpen, Belgium, Arjen.vanWitteloostuijn@ua.ac.be. Arjen van Witteloostuijn gratefully acknowledges the financial support through the Odysseus program of the Flemish Science Foundation (FWO).

The Effects of Personality Composition and Decision-Making Processes on Change Preferences of Self-Managing Teams

ABSTRACT

Team decision-making on organizational and strategic changes is pervasive. Yet, little is known about determinants of teams' change preferences. We analyze how composition with respect to personality traits associated with (pro-)active behavior (locus-of-control, type-A/B behavior) influences self-managing teams' preferences for the likelihood and magnitude of changes, and whether participative decision-making and team monitoring as core features of group decision-making counteract or reinforce change tendencies. Results from a business simulation with 42 teams largely support predictions. Stronger type-A orientation increases the likelihood of (drastic) changes. Teams dominated by internal locus-of-control members are highly responsive performance feedback in their change preferences. Participative decision-making encourages while team monitoring restricts tendencies towards extreme magnitudes.

Keywords: change preferences; self-managing teams; team personality composition; team decision-making processes, business simulation.

INTRODUCTION

Accountability in modern companies has increasingly shifted from the individual to the team level (e.g., Marks and Panzer, 2004). Despite growing prevalence and importance of teams as decision-making units in organizations (cf. Senior and Swailes, 2007) and much insightful research (cf. Cohen and Bailey, 1997; Ilgen, Hollenbeck, Johnson, and Jundt, 2005; LePine, Piccolo, Jackson, Mathieu, and Saul, 2008; Mathieu, Maynard, Rapp, and Gilson, 2008), many questions remain about vital aspects of team decision-making. One important area relates to the decision-making processes that underlie change preferences. Such preferences play an important role in the domains of organizational and strategic change, but also in the daily operations of areas such as product management and development. Little is known about the influence of team composition variables on change preferences, in particular with respect to difficult-to-measure, deeper-level variables such as personality, attitudes and opinions, and intra-group decision-making features. While antecedents of teams' preferences for specific types of *organizational forms, strategies,* and *practices* have been extensively studied (e.g., Boone, van Olffen, and van Witteloostuijn, 2005; Finkelstein and Hambrick, 1996; Pitcher and Smith, 2001), few studies have analyzed the determinants of preferences for types of *change* (cf. Jackson, 1992). The few studies that exist have mostly investigated the influence of observable demographic features on change preferences (e.g, Wiersema and Bantel, 1992). While demographics properties often constitute suitable proxies for a person's cognitive and experiential attributes (Finkelstein and Hambrick, 1996), deeper-level attributes impact even more strongly on behavior and outcomes (Boone et al., 2005; Carpenter, Geletkanycz, and Sanders, 2004; Fahr and Irlenbusch, 2008; Hambrick and Mason, 1984; Neuman, Wagner, and Christiansen, 1999), in particular in the medium to long run (Harrison, Price, Gavin, and Florey, 2002; Harrison, Price, and Bell, 1998). Studies that focus simultaneously on deeper-level characteristics and decision-making processes within teams are even rarer. In fact, we are not aware of any study that jointly analyzes the effects of team personality composition and intra-group decision-making features on change preferences.

The result is that drivers of teams' change decisions in modern organizations are still not well understood. This is an important research gap. If teams' change decisions are partially driven by personality composition and intra-group decision-making features, insight into these influences is important in order to be able to account for the resulting implicit biases when evaluating the appropriateness of decisions, for example, when top managers interpret strategic and organizational change recommendations generated by staff teams. Further, such biases would bear implications for the staffing of teams in relation to task requirements and, when staffing flexibility is limited, for institutional structures such as, for example, control mechanisms.

The present study addresses this gap by investigating team-level antecedents of two fundamental aspects of change preferences – their likelihood and magnitude. Specifically, we analyze how team composition with respect to two personality traits that are associated with (pro-) active behavior and leadership – locus-of-control and type-A/B behavior – influence self-managing teams' preferences for the likelihood and magnitude of change, and whether key aspects of intra-group decision-making – the degree of participative decision-making and monitoring within the team – counteract or reinforce tendencies towards certain change preferences.

In response to evidence on the growing importance of self-managing teams as decision-making unit in organizations (e.g., Barker, 1993; De Jong, De Ruyter, and Wetzels, 2005; Gilson, Shalley, and Blum, 2001), we focus on this specific type of team. While definitions of self-managing teams vary (cf. Langfred, 2007), consensus exists on core characteristics such as discretion in organizing their design and structure as they see fit (Cohen and Ledford, 1994; Hackman, 1986). These properties make them a particularly suitable to the study of the impact of team personality composition because research has shown that personality matters most when there is scope for discretion (Hambrick and Finkelstein, 1987). In the business domain, self-managing teams are found at various hierarchical levels, ranging from the top management team (TMT) to project groups and task forces, and in diverse areas of operations, from management (e.g., Wiersema and Bantel, 1992), to production (e.g., Barker, 1993), and service (e.g., De Jong et al., 2005).

In analyzing the impact of teams' composition with respect to deeper-level features such as personality traits, we opt for a business simulation setting. In so doing, we build on a recent stream of studies that has promoted the direct investigation of the effects of deeper-level features on the behavior of individuals and teams, primarily by means of using experimental methods and business simulations (e.g., Boone et al., 2005; Boone, van Olffen, and van Witteloostuijn, 1998; Fahr and Irlenbusch, 2008; Harrison et al., 2002). This design choice facilitates the study of personality features considerably as it is rarely possible in field work to obtain detailed attitudinal, perceptual and personality data of all key decision-makers (Pitcher and Smith, 2001) and then link them to observed change decisions.

As in prior work (e.g., Boone et al., 2005; Fahr and Irlenbusch, 2008; Mathieu and Schulze, 2006; Oosterhof, Van der Vegt, Van de Vliert, and Sanders, 2009), our sample involves (undergraduate) university students. For several reasons, we believe the use of students is warranted in this study (cf. Bello, Kwok, Radebaugh, Tung, and van Witteloostuijn, 2009). First, we are interested in the change preferences of self-managing teams in general. Hence, our focus is on fundamental rather than proximate aspects of teams' decision making processes, structures and outcomes, easing concerns about the use of a student sample (Bello et al., 2009). Second, while only a tiny fraction of business students will ever make it to the top of an organization, the current trend towards increased use of (self-managing) teams makes it very likely that the vast majority of them will become members of teams at various hierarchical levels soon after they enter the business world. Numerous accounts show that (change) decisions of the kind analyzed in this study and the decision-making processes that underlie them constitute important contexts of team decision-making at various levels of the organizational hierarchy (Jackson, 1992). Third, while we present several novel findings, our results on the effects of team monitoring are closely related to established findings reported in prior research (Langfred, 2004, 2007) that has employed non-undergraduate samples, lending support to the generalizability of our other findings as well.

In keeping with prior work (e.g., Boeker, 1997; Wiersema and Bantel, 1992), we limit the analysis to two fundamental properties of change: its likelihood and its magnitude. In terms of team outcomes, this study considers change decisions as revealed preferences. These preferences are assessed by studying change decisions for a key parameter in the specific task environment of the business simulation, that is, price.

THEORY AND HYPOTHESES

The Impact of Team Personality Composition on Change Preferences

In view of the abundance of deeper-level features discussed in the broader psychological literature, prior research has highlighted the difficulty as well as need to choose with care those attributes that may be most relevant for the particular research question and most in line with the type of task (Harrison et al., 1998; Hackman, 1986). The two traits under study – locus-of-control and type A/B behavior – can be expected to be particularly salient in shaping teams' change preferences because both are strongly associated with pro-activity and perceived leadership qualities (e.g., Strube, Keller, Oxenberg, and Lapido, 1989; Baron and Rodin, 1978; Campbell and Martinko, 1998). Proactive behaviors have been identified as important drivers of change at different levels of organizations (Griffin, Neal, and Parker, 2007). Yet, there is also an important difference between the two traits which makes their joint study particularly appealing: One trait (type-A) has been shown to be strongly associated with activity for its own sake (cf. Appels, Mulder, and van Houtem, 1985; Baron, 1989; Glass, 1983). The other trait (internal locus-of-control) can be expected to make individuals highly responsive to prior performance feedback in their change decisions.

Locus-of-control. Locus-of-control refers to differences in individuals' generalized beliefs in internal versus external control of reinforcement (Rotter, 1966). Individuals with an internal locus-of-control ('internals') see themselves as active agents who trust in their capacity to influence the environment and control events in their lives by own effort and skill. Conversely, 'externals' see themselves as relatively passive agents whose lives are predominantly determined by forces such as luck, chance or powerful others. Previous research has shown this trait to pick up fundamental differences between individuals (Boone and De Brabander, 1993). In addition, control perceptions feature prominently in attempts to explain individual performance and organizational outcomes. For instance, firms led by internally minded Chief Executive Officers (CEOs) appear to consistently outperform firms headed by external CEOs (Boone, De Brabander, and van Witteloostuijn, 1996; Miller and Toulouse, 1986).

Empirical evidence on individuals', let alone teams', preferences for change depending on their locus-of-control is scant compared to the conceptual foundations. Miller, Kets de Vries, and Toulouse (1982) in an early field study found that internal CEOs engaged in more frequent changes to product lines, introduced a greater number of new products, and made more drastic changes in their product lines. However, it is important to note, as Miller et al. (1982) did, that the results might have partly been driven by self-selection and an according bias in their sample: Internals might be attracted to join companies in more dynamic environments that require more frequent and drastic changes, precisely because of the greater latitude they enjoy in these environments (Miller et al., 1982). The influence of locus-of-control on change should therefore not be viewed in isolation, but conditional on situational circumstances and, in particular, past performance. In line with theoretical predictions from strategic choice (Child, 1972) and performance feedback theory (Greve, 2003), most empirical studies find past performance to act as a powerful predictor of the likelihood and attributes of change (e.g., Boeker, 1997; Ferrier, Fhionnlaoich, Smith, and Grimm, 2002).

Internal locus-of-control, by definition and evidence, is strongly associated with feelings of potency. As a result, previous research has shown internals to be more likely to use opportunities at hand in manipulating the environment to achieve their goals (Boone et al., 1996). As internals appear better equipped to effectively seize upon learning opportunities, they can be expected to be more sensitive to the cues implied in performance feedback. Hence, we expect internals to be more likely to engage in change in response to poor past performance, and to be more likely to abstain from change in case of performance that is in line with or in excess of aspiration levels. By the same token, we expect internals to condition their preferences for change magnitude on past outcomes. In case of unsatisfactory performance, their greater sense of empowerment and perceived control is likely to induce them to favor bolder, larger-scale changes. However, the more successful the prior course of action has been – as reflected in past performance – the less likely we expect them to be to make any considerable changes. While they may favor incremental improvements to a strategy that appears to work well, we expect them to abstain from drastic changes. In sum, with respect to preferences at the *level of the individual*, we propose that the degree of internal control perception is not associated unconditionally with preferences for a particularly high propensity or magnitude of strategy changes, but expect it to be contingent on past performance.

Our approach to the trait's *aggregation to team level* is guided by theoretical arguments on behavioral differences stemming from varying control perceptions. As emphasized by Barrick, Stewart, Neubert, and Mount (1998), the appropriateness of any approach to aggregating individual-level information on member characteristics to the team level crucially hinges both on the research question and the specific traits being analyzed. Internal locus-of-control strongly relates to perceived control (Rodin, 1990), with perceived control reflecting a sense of personal competence and an expectation that one has the power to participate in making decisions such that desirable consequences are fostered (Baron and Rodin, 1978). Externals, in turn, are more prone to learned helplessness (Seligman, 1975), a condition that is associated with transferring responsibility for solving problems to others (Campbell and Martinko, 1998). In self-managing teams with both internally and externally-oriented members, internals who feel more in control and have a stronger perception of empowerment are more likely to take on responsibility. The relationship between internal and external locus-of-control at the team level can, hence, be viewed as complementary in the sense that they are different but mutually-supporting personality characteristics (Haythorn, 1968). Hence, the team's decisions are more likely to reflect internals' preferences for change. As a result, we suggest that the common approach (cf. Chen, Mathieu, and Bliese, 2004) of using some measure of central tendency such as the mean level of an attribute (e.g., age) of team members is not the most suitable approach to aggregating individual-level information on the locus-of-control personality trait. Averaging implies that external and internal scores cancel each other out at the team level. Instead, we suggest the percentage of internals within a team as a more suitable way of capturing the degree of internality as a 'team personality trait' in self-managing teams. This allows us to account for internals' greater inclination to shape their environment according to their interests compared to inherently more passive externals.

Taken together, we suggest that teams vary in their responsiveness to pressures for change stemming from (poor) past performance as well as in their ability to resist the temptation to engage in change when performance is good, depending on the degree to which their decisions are dominated by internally-oriented or external members. We summarize the above logic in the following hypotheses concerning the propensity and the magnitude of change. This gives

Hypothesis 1a (H1a): The higher the percentage of team members with an internal locus of control, the lower this team's likelihood of undertaking changes if faced with good past performance.

Hypothesis 1b (H1b): A higher percentage of team members with an internal locus-of-control is associated with an magnitude of changes that is smaller the better the past performance.

Type-A/B behavior. Individuals who reveal type-A behavior are involved in an aggressive and incessant struggle to achieve more and more in less and less time (Friedman and Booth-Kewly, 1987; Friedman and Rosenman, 1974). Individuals that score high on this trait (as opposed to type-B persons) exhibit time urgency, interpersonal hostility, aggression, impatience and high levels of competitiveness (Baron, 1989; Glass, 1983). Type-A persons, due to their impatience and competitiveness, are not only less likely to show cooperative behavior than type-B individuals, but also have greater difficulties to learn the most beneficial strategy (Boone, de Brabander, and van Witteloostuijn, 1999). Baron (1989) observes that type-As report a higher frequency of conflict with subordinates than type-B persons. Type-As are less inclined to use accommodation as a conflict-handling method than type-Bs. Accommodation implies a strong concern for the views of the other side and a somewhat lesser concern for one's own desires (Kabanoff, 1987). Generally, type-As exhibit a more active and more dynamic style regarding group problem-solving (Strube et al., 1989). Recent documents the importance of conflict management for team cohesion and, thereby, performance, satisfaction with the team, and team viability.

Based on these findings, we suggest that the typical profile of a type-A person will make him or her more likely to engage in activities that reflect *active* competition such as changing the previously chosen course of action. Further, because of their tendency to pursue activity for the sake of pursuing activity, type-As, driven by their urgency and impatience, run the danger that change becomes an end in itself, rather than a means towards some end. Taken together, we expect them to exhibit a higher inclination for changes. Second, we argue that their impatience and time urgency will lead type-As to engage in changes with greater magnitude because they will strive to achieve a desired move in one go rather than by means of a series of several smaller changes. Importantly, we expect type-A persons to have an inclination for large-scale change independent of prior performance. Unlike individuals with an internal locus of control, we expect type-As to display the suggested behavioral patterns unconstrained by prior outcomes.

How will such behavior play out at the team level? Our approach is again guided by theoretical arguments on behavioral differences between type-A/-B individuals. Type-As tend to be less cooperative (e.g., Boone et al., 1999) and have a higher inclination to push through their views, due to their competitiveness and urgency-drive. Type-A persons strive to attain and maintain control (Lee, Ashford, and Bobko, 1990). Type-Bs are characterized by a comparatively stronger concern for the views of others and somewhat lesser concern for their own desires (Kabanoff, 1987). As a result, type-As tend to dominate the more contained type-Bs. This suggests a complementary relationship between type-As and type-Bs at the team level, although rather in the form of mutual accommodation than support (Haythorn, 1968). Consistent with this view, Strube et al. (1989) report that type-As are generally seen as more competent than type-Bs because of their active dynamic style – even if their behaviors objectively hinder group problem-solving. As a consequence, teams are likely to confer greater weight in the decision-making process to type-As, even if they are potentially less qualified to exert it. Based on these arguments, we suggest the percentage of type-A individuals within a team as the most appropriate way of capturing the trait's influence on change decisions in self-managing teams. Hence, we propose

Hypothesis 2a (H2a): A higher percentage of type-A team members is positively associated with this team's likelihood of undertaking changes.

Hypothesis 2b (H2b): A higher percentage of type-A team members is positively associated with the magnitude of changes.

The Impact of Team Decision-Making Processes on Change Preferences

Given that we are interested not in individuals' but in self-managing teams' change preferences we further ask whether core features of self-managing teams' intra-group decision-making, such as participative decision-making and monitoring within the team (e.g., Barker, 1993; Langfred, 2004; Latham, Winters, and Locke, 1994; Locke and Schweiger, 1979; Wagner and Gooding, 1987), counteract or reinforce any possible tendencies towards certain change preferences. Jointly including these two features is interesting because they can be expected to have opposite effects on change preferences. Participative decision-making might contribute to tendencies to engage in change in the first place, but also favor larger change magnitudes. Team monitoring – through which team members act, either explicitly or implicitly, as a control for each other – might dampen such tendencies. If this would indeed be the case, it would, first, suggest the need to simultaneously consider team personality composition and decision-making process feature in evaluating the content of teams' change decisions. Further, it would offer ways to counterbalance biases that result from personality composition in cases where composition is given by stimulating or discouraging, respectively, certain intra-group processes.

Participative decision-making. Participative decision making has been defined for non-hierarchical settings as joint decision making (Locke and Schweiger, 1979) or, for hierarchical settings, as influence-sharing between superiors and subordinates (Mitchell, 1973). Its importance as a means of influencing group performance has been studied for several decades (e.g., Latham et al. 1994; Locke and Schweiger, 1979; Wagner and Gooding, 1987). In this study, we focus on participative decision-making within a team. First, participative decision-making might contribute to the formation of preferences which are independent of previous outcomes. Specifically, more extensive discussions among a greater number of team members may raise expectations that at least some activity will follow. Further, a higher degree of participative decision-making may give rise to an emergent state of team confidence via mechanisms of communication and cooperative interaction and information-sharing (e.g., Lester, Meglino, and Korsgaard, 2002; Sergeant and Frenkel, 2002).

The team literature distinguishes two such emergent states – team efficacy and potency. Team efficacy reflects 'a shared belief in a group's collective capability to organize and execute courses of action required to produce given levels of goal attainment' (Kozlowski and Ilgen, 2006: 90). While efficacy is task-specific, potency has been defined as a collective belief in a group's general ability to succeed across various tasks and in different contexts (Shea and Guzzo, 1987). Both team efficacy and potency have been argued and shown to relate to team-level outcomes (e.g., Sivasubramaniam, Murry, Avolio, and Jung, 2002). Most relevant for this study are findings by Knight, Durham, and Locke (2001) who found a positive relationship between team efficacy and a team's level of risk-taking. In the context of this study, this would suggest that teams that exhibit higher degrees of team efficacy or potency can be expected to take bolder, more risky decisions. If they engage in change, we would expect to see larger-scale changes. Importantly, Lester et al. (2002) found that communication and cooperation within an entity foster collective confidence perceptions. Sergeant and Frenkel (2002) found that cooperative interaction and information-sharing between teams increase feelings of confidence related to joint competence. Communication, cooperative interaction and information-sharing are all activities associated with, and partially preconditions for, participative decision-making. Hence, to the extent that higher levels of participative decision-making nurture the development of team efficacy or potency, we would expect them to opt for larger-scale change for any given prior performance. Taken together, this leads us to formulate the following hypotheses on the unconditional effects of participative decision-making on change decisions.

Hypothesis 3a (H3a): A higher degree of participative decision-making is positively associated with this team's likelihood of undertaking changes.

Hypothesis 3b (H3b): A higher degree of participative decision-making is positively associated with the magnitude of changes.

Beyond these unconditional effects, there is evidence that suggests that participative decision-making might be accompanied by a heightened responsiveness to performance feedback, giving rise to conditioning of change preferences. Prior research on the link between participative decision-making and outcomes such as performance, motivation, or satisfaction has yielded moderately, though not unambiguously, positive results (e.g., Miller and Monge, 1986; Stashevsky and Elizur, 2000; Wagner and Gooding, 1987). Based on expectancy theory, the key arguments behind this positive relationship are increased quality of decision-making because, for instance, a wider range of angles is being considered, and more thoroughly so, and team members reveal higher motivation due to participative decision-making (Black and Gregerson, 1997). For the question how a team's (self-selected) degree of participative decision-making affects change preferences and decisions, these arguments imply that we expect teams that make extensive use of participative decision-making to be more sensitive to performance feedback. In other words, we expect them to more strongly condition their decisions on past performance. While poor performance should tend to trigger change (both in terms of higher propensity and magnitude), a more inclusive, participative decision-making process should enable teams to resist the temptation to engage in (large scale) change for its own sake if past performance was good. Therefore, we formulate

Hypothesis 4a (H4a): A higher degree of participative decision-making is associated with a lower likelihood that this team will undertake changes if faced with good past performance.

Hypothesis 4b (H4b): A higher degree of participative decision-making is associated with an magnitude of changes that is smaller the better the past performance.

Team monitoring. Team monitoring refers to the level of members' surveillance and awareness of each other's activities (Langfred, 2004). It involves feedback, coaching, and assistance to other members in working towards task accomplishment (Farr, Sin, and Tesluk, 2003). Through these activities, team members act, either explicitly or implicitly (based on peer pressure), as a control institution for each other's input. The higher the level of monitoring within a (self-managing) team, the more its members are subject to 'concertive control' (Barker, 1993; Tompkins and Cheney, 1985). This type of control has been found to constitute a particularly powerful way to constrain members' decisions and actions, compared, for example, to traditional bureaucratic control (e.g., Barker, 1993). The reasons for this are, first, an increase in the sheer number of controlling entities, making it more ubiquitous, second, shared value consensus as the source of this type of control, and, third, the fact that it is a less apparent, more subliminal type of control (Barker, 1993). Therefore, we propose that team monitoring primarily acts as a 'brake' on change preferences. By promoting inertia and 'conservative' decisions we expect that it decreases the likelihood of engaging in change, and also reduces the magnitude of changes, should the team decide to undertake any.

Suggesting change represents a deviation from the previously agreed upon course of action. Under conditions of strong monitoring, any such proposition will be evaluated more critically than in a group with a lower degree of team monitoring. Members watch more closely for errors in the actions of their team mates (Marks and Panzer, 2004). Dickinson and McIntyre's (1997) model hence argues that increased team monitoring results in heightened feedback provision. We expect this dampening effect on change propensity and magnitude to be general in nature – that is, we expect higher degrees of team monitoring to make a team more cautious towards risking *any* change, unconditional of past performance. Note, though, that our hypotheses on the relationship between team monitoring and change decisions are on the exploratory side, due to the relative scarcity of related empirical research that we could build on (Marks and Panzer, 2004). We therefore have

Hypothesis 5a (H5a): A higher degree of team monitoring is negatively associated with this team's likelihood of undertaking changes.

Hypothesis 5b (h5b): A higher degree of team monitoring is negatively associated with the magnitude of changes.

Figure 1 summarizes the conceptual framework and hypotheses tested in this study.

[INSERT FIGURE 1 ABOUT HERE]

METHODS

Sample and Procedures

The data for this study are drawn from a multi-period computerized business simulation, the so-called Competitive Strategy Game (CSG).[1] The materials for this task included a portfolio of a fictitious company and general information about the task environment. The CSG offers a simulated market environment in which several teams together form a competition unit and compete against each other in any or all of four markets. The markets differ in terms of production costs, entry costs, market size, degree of product differentiation, and growth rates. There are no direct relationships between markets. Each team controls one firm. They choose which market(s) to enter or exit, and when, how much capacity to build in each market, what prices to charge, and how much output to produce. At the beginning of the simulation, all firms' costs are randomly drawn from a joint distribution that is common knowledge. Each firm knows only its own costs, and the market-level distribution as characterized by mean and standard deviation. In this study, the game was divided into twelve periods. Teams were informed about this in advance. Teams had to submit their strategies, consisting of market entries, capacities, production quantities (≤ capacity) and pricing

[1] The simulation was created by Severin Borenstein (University of California at Berkeley). Further information is available from http://csg.haas.berkeley.edu/. Game instructions and market profiles used in this study are available upon request.

decisions, in electronic format to the game administration (one of the authors of this study) before the simulation was run for each period. The software then simulated the market processes for the particular period – i.e., which teams sold what quantities at the prices they had set. Subsequently, teams received standardized feedback about the period. Some information was public knowledge, such as firms' prices and capacities. Other information was available in the form of noisy signals (e.g., firms' combined sales within each market in a given period). Some information, such as individual firms' quantities sold, revenues, and updates of their financial situation, was private information. Each firm started with $1,000,000 in a 'bank account'. All financing came from and went into this account. Depending on the balance, teams either earned or paid interests, respectively.

In our simulation, 195 students from a second-year course on Strategic Management participated. They comprised 42 teams, resulting in seven competition units consisting of six teams each. As teams were assigned standardized names, they received no information as to the identity of their rivals. Teams received extensive instructions prior to the start of the simulation, and could post clarifying questions to game administration. The simulation was run over the course of six weeks. This meant that teams worked under considerable time pressure imposed by the submission deadlines for each round's strategy. Teams had to schedule separate meetings outside class for assessing feedback information and deciding on the next round's strategy. After the CSG had ended and teams had learned about their results, they were paid a total of €1,050 (about $1,260), divided across teams according to rank, based on final profits, with the first rank earning the team €100.

Individuals completed survey instruments at two points in time. The first survey was returned prior to the start of the business simulation and team interaction (time 1). The second survey was completed after the end of the simulation (time 2). The two questionnaire surveys were used to collect information about the individuals (time 1) and their teams (time 2), in order to supplement data (e.g., pricing decisions) derived directly from the simulation.

Measures

Dependent variables. Our proxies for changes in this simulation were changes in pricing. In the simulation, price was the central decision parameter. While teams had to decide as well on production quantities, quantities served as a residual that adjusted to whatever demand a team was able to elicit at the price that they had set. In this respect, the strategic nature and competitive model of the simulation is best described as similar to a Bertrand setting (Cabral, 2000), in which price is the central parameter that defines strategy (dynamics).[2] This was also the case in the particular task environment of our simulation. Further, feedback on the effect of price (change) decisions was quick and unambiguous. Prices of all teams were readily observable. In assignments after the simulation was finished, which required teams to assess their decisions over the course of the game, price was frequently mentioned as the central decision parameter. Therefore, we considered changes in pricing a suitable proxy for (revealed) change preferences in general, and measured a team's propensity to change their strategy as their propensity to change the price in a particular market and period. The propensity that a team adjusted the price upwards (*Likelihood upward change*) and downwards (*Likelihood downward change*), respectively, constituted the first pair of dependent variables used to test those hypotheses that relate to the likelihood of a team opting for change. We considered whether in any given period and in any given market a team decided to increase or decrease its price (as a binary variable). We decided to construct such asymmetric measures, distinguishing downward from upward price changes to explore whether our hypotheses are robust with respect to the direction of change. Analogously, the second set of dependent variables related to the magnitude of pricing changes, which was used to test those hypotheses that concerned the magnitude of change, and reflected the degree to which a team changed its previous course of action, capturing small incremental changes as well as radical jumps. *Magnitude upward change* and

[2] Note that in contrast to the theoretical Bertrand model, there were instances in which quantities could act as a lower bound, for example, in case of extremely low prices and/ or very drastic price reductions.

Magnitude downward change were measured as the magnitude of an increase and decrease in price, respectively, as adopted by a team in a given period and market.

Independent variables. Our first set of independent variables related to team personality composition. In team studies, researchers often consider as the two key variables describing composition with respect to a particular attribute the average level of the attribute within the team (usually measured as the arithmetic mean), and some standard measure of variability (e.g., standard deviation) to account for heterogeneity with respect to the attribute (e.g., Neuman et al., 1999; for an overview of different ways to operationalize team composition, see Barrick et al., 1998). For the purpose of this study, another approach appeared better suited, as argued above. In keeping with prior literature faced with similar measurement issues (e.g., Eby and Dobbins, 1997), we computed the percentages of team members possessing a particular personality attribute to capture the degree to which the trait was present at the team level.

Individual *Locus-of-control* was measured with the Rotter scale (Rotter, 1966). It contains 23 forced-choice items measuring control expectancies and 14 filler items. A total locus-of-control score is obtained by summing the number of external control alternatives (with a minimum of 0 and a maximum of 23). To facilitate ease of interpretation, we reversed the measure such that a score of 23 reflects maximum internal orientation. The reliability and validity of the scale were demonstrated in numerous prior studies (e.g., Boone et al., 2005; Pines and Julian, 1972). Cronbach's alpha (Cronbach, 1951) in this study was 0.72, which is similar to the internal consistencies reported by Rotter (1966). To obtain a measure at the team level, we classified respondents as either external or internal depending on their score. The number of internals within a team was divided by the total number of team members, yielding the percentage of members with an internal orientation. This served as a measure of team composition with respect to (the internality of) locus of control.[3]

We measured *Type-A behavior* using the 'Student Jenkins Activity Survey' (SJAS) by Yarnold, Mueser, Grav, and Grimm (1986). The SJAS contains 21 items, each offering between two to four possible answers from which respondents have to choose one. Each 'correct' response – reflecting type-A behavior – yields one point. Summing these points results in a total score ranging from 0 to 21. Subjects with scores above the median (7) were classified as Type A and subjects with scores below the median were classified as Type B (cf. Yarnold et al., 1986; see Glass (1977) for a discussion regarding the 'median-split' method of assignment to A/B categories). Cronbach's alpha was .57 in the present sample – not an uncommon value, given that the SJAS has generally been found to exhibit only fair internal consistency – with Cronbach's alphas ranging from .40 to .72 (Corcoran and Fischer, 2000). Reliability of the scale was improved by dropping items 2 and 3, yielding a Cronbach's alpha of .61, which exceeded the threshold of 0.6 as established by Bagozzi and Yi (1988). We estimated all models using both measures of type-A. Results remained virtually unchanged. For the sake of comparability, we report the results using the original scale (results using the shortened scale are available upon request from the authors). Concerning the construction of our team-level score, we classified respondents above the threshold as type-As. The number of type-As within a team was divided by the total number of members, yielding the percentage of type-A members. This served as a measure of team composition with respect to (the degree of) type-A behavior.

The second set of independent variables related to team decision-making processes. We based our measure of *Participative decision-making* on a four-item, seven-point Likert-type scale drawn

[3] For robustness checks, we ran estimations with alternative measures for team level locus-of-control and type-A behavior, such as mean team score. The results were comparable in pattern to the ones presented here, but less strong, as could be expected based on our conceptual arguments.

from Oliver and Anderson (1994). We adapted the scale and extended it by adding two items to account for the fact that we transferred the original measure to a non-hierarchical and non-field setting (see Appendix A for the adapted scale). The scale showed good internal consistency with a Cronbach's alpha of .74, almost identical to the .75 reported by Oliver and Anderson (1994). We measured *Team monitoring* using the items developed by Cummings and Bromiley (1996) on a seven-point Likert-type scale. The internal consistency of the scale was very good, with a Cronbach's alpha of .85, which is comparable to the .81 reported by Langfred (2004) who used the same scale.

As the data for both of these measures were collected at the individual level, statistical conditions should be met in order to justify aggregation to the group level. In particular, it is necessary to show sufficient agreement among the individual responses within the teams. A commonly used way to assess the degree of within-group interrater agreement is the interrater agreement index (r_{wg}) for a multiple item estimator proposed by James, Demaree, and Wolf (1993, 1984) (e.g., Eby and Dobbins, 1997; George, 1990; Harrison et al., 2002). In order to demonstrate sufficient homogeneity within a group, a value of .70 or higher is required (George, 1990). Using the James et al. (1993, 1984) procedure, the average r_{wg} indexes were .84 and .74 for participative decision-making and team monitoring, respectively.

Control variables. The first set of control variables covered standard demographic variables that research has shown to possibly affect team behavior in similar contexts (cf. Boone et al., 2005; Jackson, Joshi, and Erhardt, 2003). We controlled for gender and age differences by including the *Percentage of male team members* and mean *Age*, and we included the (absolute) *Number of ethnicities* within a team. As there was little variation in educational background, we left out the corresponding variable. Second, we included standard team level characteristics (Ferrier et al., 2002; Harrison et al. 2002) such as *Team size* and familiarity of team members with each other, the latter proxied by the average period of *Acquaintance* in months. Also, even when concerned with team-level measures of elevation (e.g., mean or proportion), it is important to control for within-group variation with respect to the attribute of interest (e.g., Harrison et al., 2002; Neuman et al., 1999). Hence, we included the within-team variances of the scores for both locus-of-control and type-A/B (*LOC diversity* and *Type-A/B diversity*, respectively). Third, we included procedural aspects of team meetings such as the average *Team meeting duration* as the mean value of meeting time (in minutes) reported by team members. All teams reported that they met once for each of the twelve rounds. Hence, we did not include a meeting frequency variable.

The fourth set of control variables captured properties of the game. Price changes can be a result of a certain team composition, but can also constitute reactions to past performance and to the competitive environment. Also, previous team strategy decisions can influence current decisions. Therefore, we included corresponding control variables. In order to capture the impact of *Past team performance*, we included the profits that a team had been able to accumulate until the end of the previous period across all markets of its activity. This was a key piece of information provided as part of each round's feedback sheet. During the simulation, teams did not receive any information on the profits of their rivals, so the information about their own absolute cumulative profits was the most direct performance feedback they received. In order to account for differences in the competitive situation, we added a variable that captured whether any new rivals had entered the market in the previous period (*Prior period entry*). Further, we included variables indicating whether competitors had changed their prices in the previous period (*Prior rival price increase* and *Prior rival price decrease*). We accounted for the scale of any such price changes by including variables that recorded the highest such change by any competitor in the specific market (*Max prior rival price increase* and *Max prior rival price decrease*, respectively). In order to capture the impact of prior decisions of a team, we included control variables that reflected whether the team itself had changed its price in the market in the previous period (*Prior own price increase* and *Prior own price decrease*), as well as variables for the corresponding magnitudes of any such changes (*Magnitude own prior price increase* and *Magnitude own prior price decrease*). Finally, fifth, in order to account for learning processes over the course of the simulation that might induce teams to adapt their change preferences over time, we included the time period of the observation as a control variable (*Time*).

Methods

The structure of the data is a pooled cross-section and time series (42 teams, over 12 periods, active in up to 4 markets each period, resulting in n = 706 data points – i.e. 706 'team-period-market' combinations). Pooled data are generally characterized by autocorrelation as the same entities (e.g., teams) are observed several times. To account for this problem it is common to use a fixed-effect estimator. However, this is not a solution in our case because our main independent variables (e.g., team personality composition) did not change over time. Therefore, in keeping with prior work (e.g., Boone et al., 2005), we used the method of generalized estimating equations (GEE) (Liang and Zeger, 1986), which generalizes quasi-likelihood estimation to a panel-data context and represents a very flexible method for dealing with clustered data (Ballinger, 2004; Liang and Zeger 1986).

GEE allows us to account for different autocorrelation structures by specifying a working correlation matrix. Since we could not assume independence of the error terms over time, we assumed first-order autocorrelation. We report robust standard errors, using the sandwich estimators developed by Huber (1967) and White (1982), as we could not assume the observations to be independent. We used a logit-model to deal with the binomial dependent variables (propensity of price changes). A disadvantage associated with GEE is that the development of summary goodness-of-fit statistics is problematic, because the residuals from these models are correlated (Ballinger, 2004). Since we did not perform a model selection based on fit-statistics, we accepted this problem vis-à-vis the advantages of GEE. We used and report Wald Chi-square statistics, which are not genuine goodness-of-fit statistics, but contain useful information by testing whether at least one regression coefficient is significantly different from 0. We used STATA to estimate all models. The Wald-statistics indicated that the null hypothesis ('all regression coefficients are equal to zero') could be rejected at $p = 0.001$ for all models.

ANALYSES AND RESULTS

Participants were, on average, 20.7 years old (s.d. = 2.4); 80.5 per cent had a European background, 16.4 per cent were Asian, and 3.1 per cent were from North or Latin America. The majority of students was in their second year (84.6%), followed by third-year students (11.8%). Teams had, on average, 4.76 members (s.d. = 1.25), ranging from two to seven.[4] On average, participants knew each other for 4.8 months (s.d. = 6.9). The average percentage of male team members was 60.5 (s.d. = 32%). Table 1 reports the descriptives. Table 2 presents the bivariate correlations. They do not exceed 0.5, lying below the commonly used threshold of 0.8 which indicates a potential threat of multicollinearity (Mason and Perreault, 1991).

[INSERT TABLES 1 AND 2 ABOUT HERE]

Table 3 presents results of the GEE estimations for change propensities and magnitudes.

[INSERT TABLE 3 ABOUT HERE]

We first consider preferences in terms of change *likelihood*. Model 1 predicts the propensity of upward changes. Model 2 provides estimates for the likelihood of downward changes. In full support of our argument, the coefficients associated with the degree of internality of a team (*Locus of control*) are non-significant in both models, supporting the idea that a high degree of internality is not conducive to unconditional change preferences. Instead, we expected change preferences to depend on prior performance (H1a). The coefficient for the interaction term of *Locus-of-control* and *Past*

[4] Only one group in the sample consisted of two members. Further, such varying group sizes are common in this type of research (e.g., Eby and Dobbins, 1997; Harrison et al., 2002; Lee et al., 2002; Mathieu and Schulze, 2006).

performance in Model 1 is negative and significant. However, the coefficient is not significant in Model 2. Taken together, this implies that H1a is supported only for upward changes. Next, H2a suggested that a higher proportion of type-As would be positively associated with a team's propensity to undertake strategy changes. The positive and significant coefficients for *Type-A behavior* in Models 1 and 2 indicate full support for H2a.[5] H3a proposed an unconditional, positive effect of participative decision-making on change propensity. The positive and significant coefficient of *Participative decision-making* in Model 1 indicates support for H3a for the likelihood of upward changes. In Model 2, the coefficient is non-significant, implying that H3a is not supported for downward changes. Similar to H1a, H4a proposed a conditional effect of participative decision-making. Specifically, we expected that a higher the degree of participative decision-making would decrease the probability of a team changing its previous course of action if faced with good past performance. The corresponding coefficients for the interaction terms of *Participative decision-making* and *Past performance* are non-significant in both Models 1 and 2. H4a is, therefore, not supported. In H5a we proposed that a higher degree of team monitoring would be negatively associated with a team's propensity for change. While the coefficients associated with *Team monitoring* have the predicted negative signs in Models 1 and 2, neither one is significant. Hence, H5a is not supported.

We now turn to change preferences in terms of their *magnitude*. Model 3 shows the results for the magnitude of upward changes. First, unlike predicted, we find support for a positive and significant main effect of a team's degree of locus-of-control internality on the magnitude of price increases. The effect is not significant for the magnitude of downward changes. However, as indicated by the significant and negative coefficient for the interaction term of *Locus-of-control* and *Past performance*, we find evidence of the conditional relationship proposed in H1b, that is, a higher percentage of internal team members is associated with a smaller magnitude of upward changes for

[5] We also conducted analyses including an interaction term between *Type-A* and *Past Performance*. As expected, the corresponding coefficients were non-significant across the board.

higher levels of past performance. Further, the positive and significant coefficient for Type-A indicates support for H2b, which predicted that a higher percentage of type-A members would be positively associated with the magnitude of changes. According to Model 3, both the predicted magnitude-increasing main effect of participative decision-making (H3b) and its magnitude-reducing effect conditional upon prior performance (H4b) are confirmed. The significant and negative coefficient for *Team monitoring* suggests support for H5b as well. Higher degrees of team monitoring were associated with smaller magnitudes of upward changes. Model 4 reports the results for the second dependent variable capturing the magnitude dimension – that is, the magnitude of downward changes. Similar to Model 2, we find support only for one hypothesis, namely H2b, which predicted that teams with a higher degree of type-A orientation would tend towards higher magnitudes, unconditional of past performance (note that the negative sign of the coefficient implies a larger magnitude in absolute terms for higher degrees of type-A orientation, given that the scale of downward changes is denoted as a negative figure).

Regarding control variables, we limit the discussion to consistent patterns found across at least three models. Team age is positively associated with greater likelihood of reducing prices, and with larger magnitude for both upward and downward changes. Longer team meetings are associated with higher likelihood of downward changes and larger magnitudes. A larger own prior price increase is associated with a lower likelihood of a subsequent rise, but a higher propensity of a reduction, possibly to correct for overshooting. In line with this, the magnitude of a reduction in the following period is larger, while the magnitude of a further increase is smaller.

DISCUSSION AND CONCLUSION

Fostered by the move towards process-based organizations, accountability in modern companies has increasingly shifted from the individual level to teams and groups (e.g., Marks and Panzer, 2004), with a strong focus on self-managing teams. Despite the growing prevalence and importance of teams as decision-making units in organizations (cf. Senior and Swailes, 2007) and much insightful research into teams (cf. Cohen and Bailey, 1997; Ilgen et al., 2005; Mathieu et al., 2008), many questions remain unresolved about vital aspects of team decision-making. One important area relates to the decision-making processes that underlie organizational and strategy change preferences and choices, and, in particular, the influence of team composition with respect to difficult-to-measure, deeper-level variables such as personality and intra-group processes on change preferences.

The present study contributes to addressing this gap by investigating team-level antecedents of two fundamental aspects of self-managing teams' change preferences – their likelihood and magnitude. Specifically, we analyze how team composition with respect to two personality traits that are associated with (pro-) active behavior and leadership qualities – locus-of-control and type-A/B behavior – influence self-managing teams' preferences for the likelihood of making a change and its magnitude, and whether key procedural properties of intra-group decision-making – the degree of participative decision-making and monitoring within the team – counteract or reinforce tendencies towards certain change preferences. Drawing on team research and upper echelon theory, and the personality and social psychology literatures, we proposed a set of hypotheses on how the degree of internal locus-of-control and type-A orientation as well as the levels of participative decision-making and team monitoring would affect teams' preferences for the likelihood and magnitude of changes. We tested these hypotheses in a business simulation with 42 student teams for a particular decision-making parameter that was at the heart of the business simulation – price – and considered both upward and downward changes as dependent variables to explore possible asymmetries.

Our findings provide strong support for our hypotheses with respect to the likelihood and magnitude of upward changes. In the case of downward changes, only the hypotheses on the effects of a team's degree of type-A orientation are supported. While we do not have a clear-cut explanation for this observation, several alternatives seem plausible. First, the discrepancy could be, at least to some extent, an issue of statistical power. The number of observations for upward changes was 249, while prices were reduced in only 169 instances. A second explanation might be that decisions on price reductions were driven by other factors than price increases, i.e. other than our variables of interest. Considerable prior price reductions by rivals and (overshooting of) own prior price increases are some of the candidates from among our set of control variables. Yet, factors not captured at all in our models might have played a part as well. Hence, in this discussion, we focus in particular on those results that are based on upward changes.

The main results fall in three groups. They imply that our study makes contributions, first, to research on organizational and strategic change preferences, and, by extension, to upper echelon studies, and, second, to the literature on self-managing teams by responding to calls for team-level research on how personality traits affect team design, processes and outputs (Stewart, 2006). First, starting with the effect of team personality composition on change preferences, the degree of a team's type-A orientation emerged as the strongest, most robust and consistent impact. Teams with a high proportion of type-A members exhibited clear preferences for change of any type. They tended towards greater likelihood of changes (both downward and upward) as well as more drastic changes, unconditional of performance feedback. This finding fits with the psychological literature on type-A/-B behavioral differences (e.g., Baron, 1989; Glass, 1983). It seems that urgency drive and impatience indeed induce type-As to prefer change over 'inactivity' regardless of whether or not performance feedback suggests a (strong) need for it. Similarly, for want of patience, they seem attracted to drastic rather than incremental changes. Further, the consistent pattern of influence of this trait lends credence to the notion that change preferences of type-As will be reflected more strongly in a team's decisions than those of type-Bs, presumably because of type-As inherent strive for domination and greater perceived competency (Strube et al., 1989). Next, we also found support for the hypothesized effects of a teams' locus-of-control composition, albeit with qualifications. A team's internal locus-of-control orientation had the expected effect of reducing change likelihood and magnitude following positive outcomes, but only for upward changes. In addition, we found a positive main effect of a team's internality on the magnitude of price increases. While this result was unexpected, the observed main effect applied only to the magnitude dimension, and not to the likelihood of changes. Hence, it does not contradict our basic proposition that high degrees of internal orientation will make teams more likely to condition their change decisions on prior performance rather than act for the sake of action. We speculate that the observed increase in the magnitude of upward changes might be due to a greater feeling of potency associated with internality. Once a decision to increase price has been taken, a larger magnitude indicates a stronger willingness to 'push the boundaries', a perspective that one would expect from individuals that feel powerful and capable of manipulating their environment (such as internals), rather than those who tend to feel helpless (such as externals).

Second, we found partial support for our hypotheses on the impact of the team decision-making process variables. The difficulty of predicting downward changes was particularly pronounced for this set of variables, with none of the expected effects being significant for price reductions. As for team monitoring, while the signs of the corresponding coefficients were in line with expectations across all four dependent variables, the predicted restraining effect was significant only for the magnitude of upward changes. One could argue that among the dependent variables, this one – the magnitude of upward changes – was associated with the greatest risk. A too radical price increase could cost a team all its revenues for that period in a specific market, at the extreme. So it is possible that teams focused their monitoring efforts on those types of decisions for which the danger of severe mistakes was most pronounced. Similar to the conditional effect of a team's internal locus-of-control orientation, we had expected that higher degrees of participative decision-making would be associated with lower change likelihood and magnitude following positive performance. Again, while the coefficients had the expected signs in all cases, only the coefficient for the magnitude of upward changes was significant. Support for the predicted unconditional effects of participative decision-making was stronger. We found significant evidence of both an increased propensity and magnitude of upward changes. Possibly, more comprehensive discussions raised expectations of activity and, thereby, the propensity of change. To the extent that participative decision-making might have nurtured feelings of team efficacy or potency, it may have induced teams to opt for bolder changes, in case they had decided to increase the price in the first place.

Finally, in supplementary analyses, we additionally explored whether there was a relationship between pricing changes and teams' performance. Table 4 shows the effect of price change decisions on team performance (including the same set of control variables as in our main estimations).

[INSERT TABLE 4 ABOUT HERE]

Team performance was assessed for each period and was measured based on the profits that a team had been able to accumulate until the end of the focal period across all markets of its activity. We found that price reductions positively affected subsequent performance, but only if they were not too drastic. While opting for a price increase as such had no significant effect, the magnitude of price increases was positively related to subsequent performance. Hence, in particular the magnitude of changes influenced performance. In additional analyses (available upon request), we also tested whether change decisions fully mediated the effects of team composition variables on team performance. In the specific setting of this business simulation, this was the case. With one exception, we did not find evidence of significant direct effects of the team composition variables on performance, and entering the team composition variables into the model did not change the signs and significance of the other variables either. The exception was variance in the proportion of type-A members which was positively associated with team performance, possibly because it facilitated decision quality by reducing the potential for personality clashes. Hence in as far as team composition affected performance, it did so primarily through its effects on change decisions. These findings serve to confirm the impressions of our main analyses and are in line with the conceptual arguments underlying our hypotheses.

Managerial implications. This study offers implications for managerial practice. First, at a general level, the results bolster the notion that psychometric tests and, in particular, personality assessments are valuable tools for recruitment and selection, and may confer real economic benefits (Fahr and Irlenbusch, 2008; Moutafi, Furnham, and Crump, 2007; Schmidt, 1988). While tests measuring general mental ability have been found to be rather good predictors of performance in many job and task environments, personality tests have had a more mixed record (Schmitt, Gooding, Noe, and Kirsch, 1984). Our study suggests some worthwhile refinements. We found a subtle pattern of influences through which individual traits affected change preferences, including main effects, interaction effects, and differences across change dimensions. As a result, what would constitute the most successful type of preference and, hence, trait, would depend on many factors such as task environment, team and organizational context, and environmental conditions, implying that the lower predictive power of personality assessments for total performance might partly be due to traits having contingent effects.

Second, our results bear direct implications for the staffing and design of self-managing teams. Type-As' tilt towards change for its own sake may require careful equilibration, especially given that their active and dynamic behavioral style and associated perceived leadership qualities make them particularly likely to shape a self-managing team's decisions. If incremental adjustments rather than radical changes are required, staffing a team with many strong type-As may be inappropriate, and vice versa. If the possibility for staffing adjustments is limited, the imposition of suitable institutional structures constitutes a viable alternative. Examples include the appointment of a leader, encouragement of control mechanisms (and their formal adoption) such as team monitoring, and the restriction of self-managing teams' scope of discretion.

Third, our findings highlight the need for TMTs and high-ranking decision-makers to take into account not only the content of information they receive, but also the processes by which this information was generated. Whenever high-ranking decision-makers rely on information filtered by subordinate teams, they should be aware of the team's composition and procedural features during task execution because these may imply biases in the presented information. Awareness of such biases facilitates more informed assessment and decision-making. Consider, for example, teams in functional units such as strategy development that directly report to the executive board. Often, such teams are entrusted with developing new strategies. They then submit their propositions for strategies (and changes) to the executive board. While ultimate decision-making power then lies with the board, they are confronted only with a subset of options, namely those that have successfully passed through the filtering process conducted by the staff team. This filtering will have been based on market research and the use of established tools such as SWOT analyses. Yet, it will also have been influenced by the – more or less conscious – preferences of the members. As a result, the set of options, their assessment and substantiation as presented to the board have already been narrowed down and influenced by the preferences of employees at a lower level in the hierarchy.

Limitations and future research. Several implications for future research arise from the limitations of this work. A first limitation stems from our sample. While student samples are common in this type of research (e.g., Eby and Dobbins, 1997; Harrison et al., 2002; Mathieu and Schulze, 2006; Oosterhof et al., 2009; Sivasubramaniam et al., 2002), they have limitations in terms of external validity. While we believe this is less of a concern for the current study, future field work in order to corroborate our findings would be an important extension. For example, limited heterogeneity in terms of age, ethnicity, and skills may have resulted in stronger effects of the studied team composition variables compared to member differences with respect to these other factors. A second limitation related to the study's design is its relatively stable context. Organizational and strategic changes and their importance may even be more salient in other types of environment (e.g., turbulent ones; Clark and Soulsby, 2007). Environmental properties have, for example, been identified as important contingency variables (Carpenter et al., 2004). It would, therefore, seem important to extend the perspective to cover a broader range of environments. A third limitation concerns to the vast number of potentially relevant personality and decision-making process variables. While we based our selection on a careful study of the related literatures, it seems, nevertheless, worthwhile to collect data on other personality concepts, including more comprehensive ones, and compare the results with our nuanced perspective on personality traits. Fourth, we analyzed change decisions very much from a bird's eye view in an artificial simulation setting. We believe that such work is helpful in an area where so much 'noise' complicates measurement, estimation and interpretation, and especially facilitates the investigation of deeper-level features (Pitcher and Smith, 2001). Yet, it is clear that future field work is needed to explore to which extent lab findings can be generalized to a real-world context.

In conclusion, our study extends team research and the literature on organizational and strategic change by presenting evidence that both team personality composition and team decision-making process variables impact change decisions, with personality composition emerging as the better predictor. We found that teams dominated by type-A persons were particularly likely to engage in (drastic) change, independent of performance feedback, whereas teams dominated by members with an internal locus-of-control strongly conditioned their decisions on past outcomes. Procedural properties of decision-making partly had a change-promoting effect (participative decision-making), and partly counteracted change tendencies (team monitoring).

REFERENCES

Bagozzi, R., & Yi,Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, **16***(1), 74-94.

Ballinger, G.A. (2004). Using generalized estimating equations for longitudinal data analysis. *Organizational Research Methods, 7,* 127-150.

Barker, J.R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly, **38***, 408-437.

Baron, R.S. (1989). Personality and organizational conflict: Effects of the type-A behavior pattern and self-monitoring. *Organizational Behavior and Human Decision Processes, **44***, 281-96.

Baron, R.M., & Rodin, J. (1978). Personal control as a mediator of crowding. In A. Baum, J. Singer, & S. Valins (Eds.), *Advances in Environmental Psychology (*pp. 145-190). Hillsdale, NJ: Lawrence Erlbaum Associates.

Barrick, M.R., Stewart, G.L., Neubert, M.J., & Mount, M.K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, **83***, 377-391.

Bello, D., Kwok, L., Radebaugh, L., Tung, R.L., & van Witteloostuijn, A. (2009). From the editors: student samples in international business research. *Journal of International Business Studies, **40***, 361-364.

Black, J.S., & Gregerson, H.B. (1997). Participative decision-making: An integration of multiple dimensions. *Human Relations, **50***, 859-78.

Boeker, W. (1997). Strategic change: The influence of managerial characteristics and organizational growth. *Academy of Management Journal, **40***, 152-170.

Boone, C., & De Brabander, B. (1993). Generalized versus specific locus-of-control expectancies of chief executive officers. *Strategic Management Journal, **14***, 619-26.

Boone, C., De Brabander, B., & van Witteloostuijn, A. (1996). CEO locus-of-control and small firm performance: An integrative framework and empirical test. *Journal of Management Studies, **33***, 667-99.

Boone, C., De Brabander, B., & van Witteloostuijn, A. (1999). The impact of personality behavior in five Prisoner's Dilemma games. *Journal of Economic Psychology, **20***, 343-37.

Boone, C., van Olffen, W., van Witteloostuijn, A. (2005). Team locus-of-control composition, leadership structure, information acquisition, and financial performance. *Academy of Management Journal, **48***, 889-909

Cabral, L. (2000). *Introduction to industrial organization*. Cambridge, MA: MIT Press.

Campbell, C.R., & Martinko, M.J. (1998). An integrative attributional perspective of empowerment and learned helplessness: A multimethod field study. *Journal of Management, **24***, 173-200.

Carpenter, M.A., Geletkanycz, M.A., & Sanders, W.G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management, **30***, 749-778.

Chen, G., Mathieu, J.E., & Bliese, P.D. (2004). A framework for conducting multilevel construct validation. In F.J. Yammarino, & F. Dansereau (Eds.), *Research in Multilevel Issues: Multilevel Issues in Organizational Behavior and Processes* (vol. 3, pp. 273-303). Oxford, UK: Elsevier.

Child, J. (1972). Organization structure, environment, and performance: The role of strategic choice. *Sociology, **6**,* 1-22.

Clark, E., & Soulsby, A. (2007). Understanding top management and organizational change through demographic and processual analysis. *Journal of Management Studies, **44**,* 933-954.

Cohen, S.G., & Bailey, D.E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, **23***, 239–290.

Cohen, S.G., & Ledford, G.E. (1994). The effectiveness of self-managed teams: A quasi-experiment. *Human Relations, **47***, 13-43.
Corcoran, K., & Fischer, J. (2000). *Measures for clinical practice.* (3rd ed.). New York, NY: Free Press.
Cronbach, L.J. (1951). Coefficient alpha and the internal structure of a test. *Psychometrika, **16***, 297-334.
De Jong, A., De Ruyter, K., Wetzels, M. (2005). Antecedents and consequences of group potency: A study of self-managing service teams. *Management Science, **51**,* 1610-1625.
Fahr, R., & Irlenbusch, B. (2008). Identifying personality traits to enhance trust between organisations: An experimental approach. *Managerial and Decision Economics*, **29**, 469-487.
Farr, J.L., Sin, H.P., & Tesluk, P.E. (2003). Knowledge management processes and work group innovation. In L.V. Shavinina (Ed.), *International handbook on innovation* (pp. 574-586). Oxford, UK: Elsevier.
Ferrier, W., C.M. Fhionnlaoich, K.G. Smith, & C.M. Grimm (2002). The impact of performance distress on aggressive competitive behavior: A reconciliation of conflicting views. *Managerial and Decision Economics*, **23**, 301-316.
Finkelstein, S., & Hambrick, D.C. (1996). *Strategic leadership: Top executives and their effects on organizations*. Minneapolis/St. Paul, MN: West Publishing Company.
Friedman, M., & Rosenman, R.H. (1974). *Type-A behavior and your heart*. New York, NY: Knopf.
George, J.M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology, **75***, 107-116.
Gilson, L.L., Shalley, C.E., & Blum, T.C. (2001). Team and organizational attitudes as a lens and mirror impacting customer satisfaction: An empirical test in self-managed teams. *Journal of Quality Management, **6***, 235-256.
Glass, D. C. (1977). *Behavior Patterns, Stress and Coronary Disease*. Hillsdale, NJ: Lawrence Erlbaum.
Greve, H. (2003). *Organizational learning from performance feedback*. Cambridge, UK: Cambridge University Press.
Griffin, M. A., Neal, A., & Parker, S.K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, **50***, 327–347.
Hackman, J.R. (1986). The psychology of self-management in organizations. In M.S. Pallack, & R.O. Perloff (Eds.), *Psychology and work: Productivity, change, and employment* (pp. 85-136). Washington, DC: American Psychological Association.
Hambrick, D.C., & Finkelstein, S. (1987). Managerial discretion: A bridge between polar views or organizational outcomes. In B.M. Staw, & L.L. Cummings (Eds.), *Research in organizational behavior* (vol. 9, pp. 369-406). Greenwich, CT: JAI Press.
Hambrick, D.C., & Mason, P. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, **9***, 193-206.
Harrison, D.A., Price, K.H., & Bell, M.P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal, **41***, 96-107.
Harrison, D.A., Price, K.H., Gavin, J.H., & Florey, A.T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *Academy of Management Journal, **45***, 1029-1045.
Ilgen, D.R., Hollenbeck, J.R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. In S.T. Fiske, A.E. Kasdin, & D.L. Schacter (Eds.), *Annual Review of Psychology* (vol. 56, pp. 517-543).
Jackson, S.E. (1992). Consequences of group composition for the interpersonal dynamics of strategic issue processing. In P. Shrivastava, A. Huff, & J. Dutton (Eds.), *Advances in Strategic Management* (vol. 8, pp. 345-383).

Jackson, S.E., Joshi, A., Erhardt, N.L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management, **29***, 801-830.
Knight, D., Durham, C.C., & Locke, E.A. (2001). The relationship of team goals, incentives, and efficacy to strategic risk, tactical implementation, and performance. *Academy of Management Journal, **44***, 326-338.
Kozlowski, S.W.J., & Ilgen, D. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, **7***, 77-124.
Langfred, C.W. (2007). The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Academy of Management Journal, **50***, 885-900.
Langfred, C.W. (2004). Too much of a good thing? Negative effects of high trust and individual autonomy in self-managing teams. *Academy of Management Journal, **47***, 385-399.
Latham, G.P., Winters, D.C., & Locke, E.A. (1994). Cognitive and motivational effects of participation: A mediator study. *Journal of Organizational Behavior, **15***, 49-63.
Lee, C., Ashford, S.J., & Bobko, P. (1990). Interactive effects of 'Type A' behavior and perceived control on worker performance, job satisfaction, and somatic complaints. *Academy of Management Journal, **33***, 870-881.
LePine, J.A., Piccolo, R.F., Jackson, C.L., Mathieu, J.E., & Saul, J.R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology, **61***, 273–307.
Lester, S.W., Meglino, B.M., & Korsgaard, M.A. (2002). The antecedents and consequences of group potency: A longitudinal investigation of newly formed work groups. *Academy of Management Journal, **45***, 352-368.
Locke, E.A., & Schweiger, D.M. (1979). Participation in decision making: One more look. In B.M. Staw (Ed.), *Research in organizational behavior* (vol. 1, pp. 265-339). Greenwich, CT: JAI Press.
Marks, M.A., & Panzer, F.J. (2004). The influence of team monitoring on team processes and performance. *Human Performance, **17***, 25-41.
Mason, C.H., Perreault Jr., W.D. (1991). Collinearity, power, and interpretation of multiple regression analysis. *Journal of Marketing Research, **28***, 268-280.
Mathieu, J.E., Maynard, M.T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advances and a glimpse into the future. *Journal of Management, **34***, 410-475.
Mathieu, J.E., & Schulze, W. (2006). The influence of team knowledge and formal plans on episodic team process-performance relationships. *Academy of Management Journal, **49***, 605-619.
Miller, D., Kets de Vries, M.F., & Toulouse, J.M. (1982). Top executive locus-of-control and its relationship to strategy-making, structure, and environment. *Academy of Management Journal, **25***, 237-253.
Miller, K.I., & Monge, P.R. (1986). Participation, satisfaction, and productivity: A meta-analytic review. *Academy of Management Journal, **29***, 727-53.
Moutafi, J., Furnham, A., & Crump, J. (2007). Is managerial level related to personality?. *British Journal of Management, **18***, 272-280.
Neuman, G.A., Wagner, S.H., & Christiansen, N.D. (1999). The relationship between work-team personality composition and the job performance of teams. *Group & Organization Management, **24***, 28-45.
Oliver, R.L., & Anderson, E. (1994). An empirical test of the consequences of behavior- and outcome-based sales control systems. *Journal of Marketing, **58(4)***, 53-67.
Oosterhof, A., Van der Vegt, G.S., Van de Vliert, E., & Sanders, K. (2009). Valuing skill differences: Perceived skill complementarity and dyadic helping behavior in teams. *Group & Organization Management*, ***34***, 536-562.

Pitcher, P., & Smith, A.D. (2001). Top management team heterogeneity: Personality, power, and proxies. *Organization Science,* ***12***, 1-18.

Rodin, J. (1990). Control by any other name: Definitions, concepts, and processes. In J. Rodin, C. Schooler, & K.W. Schaie (Eds.), *Self-directedness: Cause and effects throughout the life course* (pp. 1-15). Hillsdale, NJ: Lawrence Erlbaum Associates.

Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs,* ***80***, 1-28.

Schmidt, F.L. (1988). The problem of group differences in ability test scores in employment selection. *Journal of Vocational Behavior,* ***33***, 272-292.

Schmitt, N., Gooding, R.Z., Noe, R.A., & Kirsch, M. (1984). Meta-analyses of validity studies published between 1964 and 1982 and the investigation of study characteristics. *Personnel Psychology,* ***37***, 407-422.

Seligman, M.E. (1975). *Helplessness.* San Francisco, CA: Freeman.

Senior, B., & Swailes, S. (2007). Inside management teams: Developing a teamwork survey instrument. *British Journal of Management,* ***18***, 138-153.

Sergeant, A., & Frenkel, S. (2002). When do customer contact employees satisfy customers? *Journal of Service Research,* ***3(1)***, 18-34.

Shea, G.P., & Guzzo, R.A. (1987). Groups as human resources. In K.M. Rowland, & G.R. Ferri (Eds), *Research in Personnel and Human Resources Management* (vol.5, pp. 323-356). Greenwich, CT: JAI Press.

Sivasubramaniam, N., Murry, W.D., Avolio, B.J., & Jung, D.I. (2002). A longitudinal model of the effects of team leadership and group potency on group performance. *Group & Organization Management,* ***27***, 66-96.

Stashevsky, S., & Elizur, D. (2000). The effect of quality management and participation in decision-making on individual performance. *Journal of Quality Management,* ***5***, 53-65.

Stewart, G.L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management,* ***32***, 29-54.

Strube, M.J., Keller, N.R., J. Oxenberg, & Lapido, D. (1989). Actual and perceived group performance as a function of group composition: The moderating role of the Type A and B behavior patterns. *Journal of Applied Social Psychology,* ***19***, 140-158.

Tompkins, P.K., & Cheney, G. (1985). Communication and unobtrusive control in contemporary organizations. In R.D. McPhee, & Tompkins, P.K. (Eds.), *Organizational* c*ommunication: Traditional themes and new directions* (pp. 179-210). Newbury Park, CA: Sage.

Wagner III, J.A., & Gooding, R.Z. (1987). Shared influence and organizational behavior: A meta-analysis of situational variables expected to moderate participation-outcome relationships. *Academy of Management Journal,* ***30***, 524-541.

Wiersema, M.F., & Bantel, K.A. (1992). Top management team demography and corporate strategic change. *Academy of Management Journal,* ***35***, 91-121.

Yarnold, P.R., Mueser, K.T., Grav, B.W., & Grimm, L.G. (1986). The reliability of the student version of the Jenkins Activity Survey. *Journal of Behavioral Medicine,* ***9***, 401-14.

Figure 1: Conceptual framework

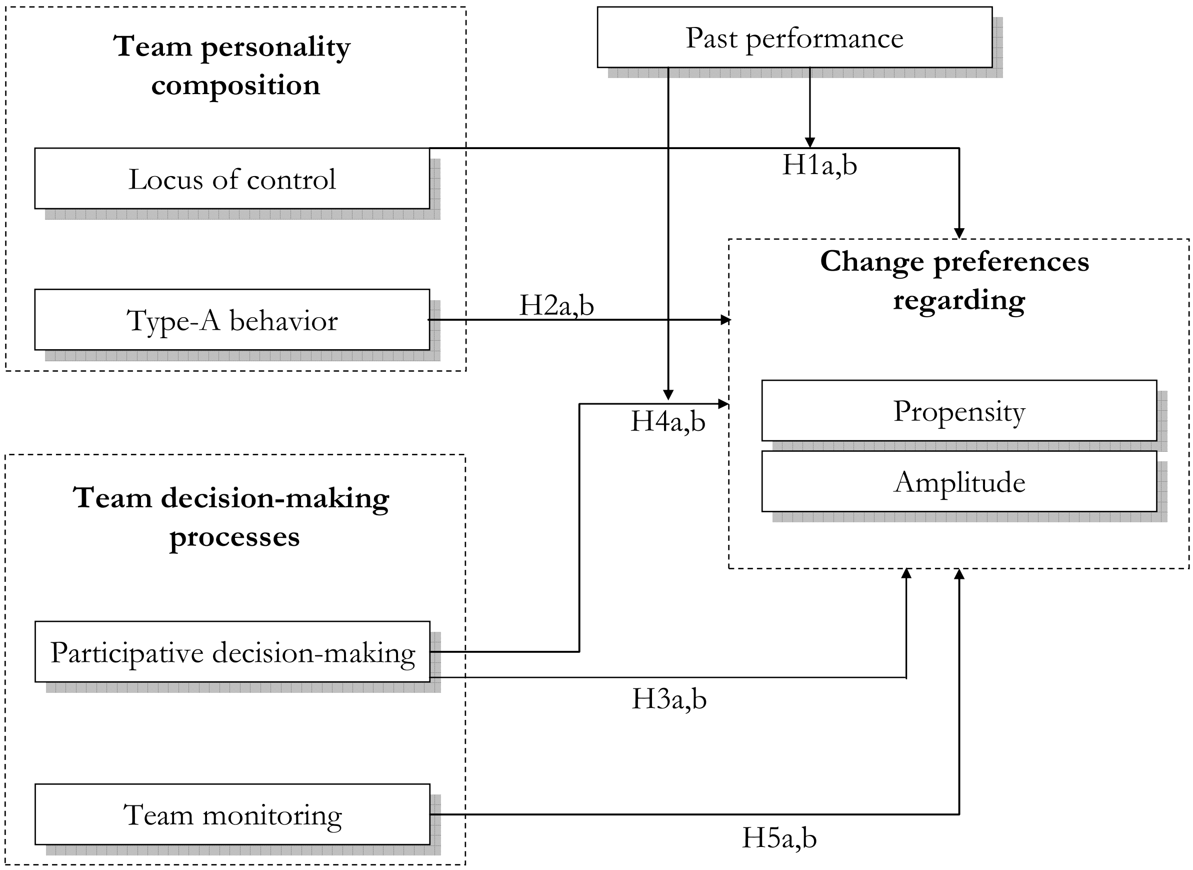

Table 1: Descriptive statistics

Variables	Mean	s.d.	n
Control variables			
Time	8.3201	2.4331	706
Percentage of male team members	.6107	.3146	706
Age	20.5734	1.3318	706
No. of ethnicities	1.5595	0.6436	706
Team size	4.6501	1.3319	706
Acquaintance	4.7224	5.4063	706
Team meeting duration	37.0212	18.0930	706
LOC diversity	16.6270	10.1921	706
Type-A/B diversity	10.6549	8.2666	706
Past team performance	125311.6	610599.8	706
Prior period rival entry	.0637	.2445	706
Prior rival price increase	.7096	.7895	706
Prior rival price decrease	.5397	.7199	706
Max prior rival price increase	39.1530	94.5575	706
Max prior rival price decrease	-27.4887	93.2892	706
Prior own price increase	.3428	.4750	706
Prior own price decrease	.2507	.4337	706
Magnitude own prior price increase	24.9745	77.6501	706
Magnitude own prior price decrease	-18.8187	76.0910	706
Dependent variables			
Likelihood upward change	.3527	.4782	706
Likelihood downward change	.2380	.4261	706
Magnitude upward change	26.0043	73.3098	706
Magnitude downward change	-16.8782	64.6863	706
Independent variables			
Locus of control	.52228	.2274	706
Type-A behavior	.4154	.2370	706
Participative decision-making	4.4128	.8044	706
Team monitoring	3.9745	.8014	706

Table 3: Results of the GEE models predicting the likelihood and magnitude of strategy changes

Variables	**Model 1: Likelihood upward change**	**Model 2: Likelihood downward change**	**Model 3: Magnitude upward change**	**Model 4: Magnitude downward change**
Intercept	-6.6400*** (1.8400)	-3.3200* (1.6500)	-162.1591**	44.8074* (22.3209)
Time	.1610 *** (.0371)	-.1486** (.0514)	4.0570*** (1.0647)	.8635 (1.2408)
Percentage of male team members	.0012 (.0350)	.0033 (.0038)	-.0301 (.1116)	-.0559 (.0740)
Age	.0848 (.0715)	.1216† (.0655)	5.0986* (2.0616)	-2.5205† (1.3218)
No. of ethnicities	.1187 (.2070)	-.2208 (.2028)	-14.0288† (5.1169)	6.3217 (4.2057)
Team size	.0509 (.0754)	.0626 (.0792)	1.9462 (3.9540)	-.3490 (1.6831)
Acquaintance	.0281† (.0153)	-.0039 (.0153)	.1217 (.5941)	-.3834 (.3429)
Team meeting duration	.0046 (.0052)	.0141** (.0053)	.3510* (.1408)	-.2211† (.1137)
LOC diversity	.0023 (.0102)	.0197† (.0110)	.0259 (.2478)	-.2712† (.1651)
Type-A/B diversity	-.0180 (.0114)	-.0237† (.0131)	-.6230 (.4195)	.2194 (.2795)
Past team performance	2.78E-06* (1.09E-06)	-1.10E-06 (1.52E-06)	.0001** (4.51E-05)	-.00001 (4.95E-05)
Prior period rival entry	.0662 (.3886)	.0596 (.3538)	.5041 (7.1428)	3.2087 (5.1684)
Prior rival price increase	.1227 (.1433)	.0257 (.1578)	3.7131 (4.1409)	0.3335 (2.2674)
Prior rival price decrease	-.1332 (.1357)	.1580 (.1370)	3.6763 (3.8055)	5.3861 (4.2587)
Max prior rival price increase	.0033** (.0010)	-.0017 (.0012)	.2005*** (.0533)	.0295 (.0334)
Max prior rival price decrease	.0015 (.0011)	-.0015 (.0010)	.0360† (.0198)	.1192** (.0410)
Prior own price increase	1.5400*** (.2140)	.2250 (.2820)	11.3982† (5.8954)	9.9908† (5.3115)
Prior own price decrease	.9660** (.2810)	.5753† (.3118)	.1501 (6.3984)	-9.6095 (5.8691)
Magnitude own prior price increase	-.0019† (.0010)	.0044*** (.0012)	-.1102** (.0365)	-.3367*** (.0855)
Magnitude own prior price decrease	-.0003 (.0011)	.0001 (.0001)	-.1338* (.0565)	-.0148 (.0220)
Locus-of-control (% internals)	.4888 (.4107)	.0184 (.4183)	42.3128* (17.4246)	-6.3225 (9.6610)
Type-A behavior (% type-As)	.7816† (.4339)	.7958† (.4503)	32.5179† (18.9333)	-19.8802† (10.7444)
Participative decision-making	.2426† (.1345)	-.06935 (.1308)	9.5928* (4.4753)	-.4663 (2.2206)
Team monitoring	-.0916 (.1305)	-.1026 (.1230)	-9.7902** (3.8713)	2.1481 (1.7852)
*Locus-of-control * Past team performance*	-1.76E-06** (5.86E-07)	3.58E-07 (7.98E-07)	-0.0001* (2.63E-05)	9.89E-06 (2.87E-05)
*Participative decision-making * Past team performance*	-2.75E-07 (1.75E-07)	9.05E-08 (2.47E-07)	-0.00001* (7.56E-06)	4.98E-06 (7.58E-06)
Cases in the analysis[6]	705	705	705	705
Model Wald chi-square	200.93***	103.41***	182.80***	219.23***

† $p < .10$; * $p < .05$; ** $p < .01$; and *** $p < .001$ (standard errors in parenthesis).

[6] We had to exclude one case from the analyses because the team had been active in the particular market for one period only. As a result, w e could not calculate any change variables.

Table 4: Effects of strategy changes on team performance[7]

Variables	**Model 5: Team performance**
Intercept	-410496** (95353.99)
Time	53001.81** (10452.74)
Price increase	39333.95 (56820.78)
Price decrease	141992* (58987.35)
Magnitude price increase	1369.682* (601.1255)
Magnitude price decrease	-1567.23* (740.8095)
Past team performance	0.502426** (0.084826)
Prior period rival entry	83131.27 (91504.13)
Prior rival price increase	18273.13 (39276.56)
Prior rival price decrease	-23132.3 (19961.23)
Max prior rival price increase	-68.2892 (332.0385)
Max prior rival price decrease	114.0985 (299.7072)
Prior own price increase	81953.69 (56451.94)
Prior own price decrease	-60582.9 (57049.32)
Magnitude own prior price increase	-0.65533 (527.5298)
Magnitude own prior price decrease	-210.052 (343.005)
Cases in the analysis	705
Model Wald chi-square	239.94***

† $p < .10$; * $p < .05$; ** $p < .01$; and *** $p < .001$ (standard errors in parenthesis).

[7] In robustness analyses, we explored the possibility of nonlinear effects by also including squared terms for the magnitude of price increases and decreases. The coefficients for the squared terms were not significant and their inclusion did not change the other results. Hence we report the results without squared terms.

Table 2: Bivariate correlations

Variables[n]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Time																						
2. % of male team members	.010																					
3. Age	.008	-.139**																				
4. Number of ethnicities	-.019	-.414**	.480**																			
5. Team size	-.000	-.217**	.116**	.441**																		
6. Acquaintance	.008	.110**	-.338**	-.111**	.047																	
7. Team meeting duration	-.008	.038	-.111**	.142**	.173**	-.064																
8. LOC diversity	-.032	-.137**	-.106**	.030	-.091*	.118**	-.159**															
9. Type-A/B diversity	-.007	.111**	-.193**	-.121**	-.072	.214**	-.042	.156**														
10. Past team performance	.148**	.067	.092*	.043	.063	.005	.077	-.041	-.007													
11. Prior period rival entry	-.177**	-.003	.004	-.002	.003	-.002	-.021	.036	.049	-.038												
12. Prior rival price increase	.121**	-.099**	.067	.133**	.014	.057	-.010	.034	.005	.037	-.051											
13. Prior rival price decrease	-.070	-.088*	-.014	.058	.000	-.004	.036	.020	.076*	-.053	-.027	-.293**										
14. Max prior rival price increase	.02	-.047	.033	-.004	-.031	.0177	.052	-.037	-.055	-.01	.033	.419**	-.207**									
15. Max prior rival price decrease	.043	.055	.026	-.012	-.015	.001	-.040	-.013	-.033	.001	.010	.150**	-.467**	.138**								
16. Prior own price increase	.078*	-.047	.089*	.086*	.042	.020	.085*	-.053	-.081*	.024	-.091*	.137**	-.027	.043	-.087*							
17. Prior own price decrease	-.172**	.008	.035	.041	.029	-.045	.117**	-.003	-.054	.102**	.050	-.069	.116**	-.038	-.069	-.418**						
18. Magnitude own prior price increase	.035	.000	.075*	.016	-.018	-.048	.100**	-.080*	-.096*	.124**	-.051	.034	-.028	.155**	-.079*	.446**	-.186**					
19. Magnitude own prior price decrease	.137**	-.017	-.008	-.033	-.011	-.049	-.088*	-.012	.032	-.066	-.010	-.023	-.032	-.015	.039	.179**	-.428**	.080*				
20. Locus of control	-.020	.076*	.146**	.114**	.114**	-.174**	.046	-.305**	-.028	-.001	.014	.005	.007	.070	-.011	.063	.017	.115**	.011			
21. Type-A behavior	-.009	-.236**	-.015	.064	-.268**	-.071	.043	-.185**	.248**	-.058	-.006	.106**	.087*	.084*	-.047	.078*	.045	.080*	.039	.0735		
22. Participative decision-making	.002	-.055	.027	-.033	.017	-.003	.251**	.122**	-.190**	.068	.053	-.081*	-.060	-.073	.025	.031	.029	.012	.014	-.280**	-.183**	
23. Team monitoring	-.013	-.163**	.055	.003	-.063	.068	.108**	-.041	.003	-.001	.068	-.001	.055	-.044	-.007	-.010	-.008	-.036	-.055	-.082*	.150**	.361**

** Correlation is significant at the .01 level (two-tailed).

* Correlation is significant at the .05 level (two-tailed).

Appendix A

Selected Study Measures with Reliability Estimates

Participative decision-making (6 items, $\alpha = .74$)
Extended and adapted from Oliver and Anderson (1994).

1. Decisions on strategies were mainly taken by a few members of the team. (R)
2. Decisions on strategies were worked out together in this team.
3. One or more team members did not contribute as much to the decision-taking as others. (R)
4. When deciding on the strategies, the opinions of all team members were actively sought out.
5. One or more team members pushed their opinions through without much regard of what the other team members thought. (R)
6. Decisions were generally taken in a consensual way.