Antecedents for achievement of alignment in organizations

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This study investigated potential antecedents of the alignment of organizational subunits' processes and goals with the organization's primary goals and therefore with each other. Alignment data of 329 aggregated subunits (7,359 employees), organization-wide, of a large US manufacturing company were examined. Managerial effectiveness, communication about goals and objectives, and employee enhancement positively related with alignment at a group or subunit level. Alignment, in-turn, positively related with company satisfaction at an individual level. Moreover, 95% of the variation in satisfaction across subunits could be explained by alignment and its antecedents.

Organizations are commonly viewed as open systems in which various components of the organization are interdependent; that is, the functioning of one unit in an organization's structure depends on the functioning of other units of the system. If one component is not meeting the needs of another or if two components are striving for inconsistent goals, there is incongruency (Nadler & Tushman, 1997); the system is then less likely to be effective as a whole (Nadler & Tushman, 1988). The achievement of alignment is a component of contextual ambidexterity, an inward looking process of organizations that is necessary for organizational effectiveness (Gibson & Birkinshaw, 2004), and in systems theory of organizations, alignment reflects principles of coordination and integration among the parts of the structure (Katz & Kahn, 1978). Thus in an ideal organization, different subunits focus their efforts towards achieving the organization's overall goals. This does not always happen, however, even among management-level employees (e.g. Rieley, 2004). Often, beliefs and actions in some units of the organizational structure are more aligned with the rest of the organization

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than in other units. Although the importance of such alignment for organizational effectiveness is intuitive, little solid evidence exists about how to foster it. The purpose of the present study is to examine antecedents or processes that can be used to achieve alignment of subunits' day-to-day actions or operations with the overall goals of the organization as stated in its vision statement (consistent with Tosti & Jackson, 1994).

Each subunit represents a part of the organization's structure, and we examine the extent to which the goals of different parts of the structure are aligned with the organization's broad (or core) goals (and therefore with each other). Such alignment should increase organizational coordination, which is one of the essential elements of an organization. Organization theory provides several ways to coordinate the activities of subunits both vertically and horizontally. March and Simon (1993) classified types of coordination into two broad categories: planning and feedback, both of which emphasize the need for communication. Planning includes the setting of goals, and feedback provides information about how closely a unit approaches goal attainment. Coordination can be classified into still more specific types, however, including the use of the hierarchy of authority, rules and procedures, planning and goal setting, a (narrow) span of control, managing the environment, slack resources, self-contained tasks, vertical information systems, lateral relations, and even matrix organizations (Galbraith, 1977). The specific type of alignment examined in the present study is *goal* alignment, which is always embedded in taxonomies of organizational coordination.

Alignment of goals in different parts of the organization's structure may also be called structural alignment. Structural alignment 'facilitates the achievement of organizational goals' (Semler, 1997, p. 23); it means there is consistency among the organization's subunits regarding reward systems, goals, strategies, and objectives throughout the different parts of the organizational structure. All functions, for example, transportation (e.g. Silverman, Nickerson, & Freeman, 1997), compensation (McDermott, 1997), purchasing (e.g. Birou, Fawcett, & Magnan, 1997), sales (e.g. Monoky, 1997), and training (e.g. Montesino, 2002) need to be in alignment, and organizations should be aligned geographically or globally as well (e.g. Murtha, Lenway, & Bagozzi, 1998). Unfortunately, there is little empirical evidence about how to achieve alignment (Papp, 1999).

Alignment can be considered a sign of good coordination, and it relates to beneficial outcomes for the organization, including greater job satisfaction, organizational commitment, contextual performance, organizational effectiveness, and lower turnover (Goodman & Svyantek, 1999; Kalliath, Bluedorn, & Strube, 1999; Meglino, Ravlin, & Adkins, 1989; Ostroff, 1993; Vancouver, Millsap, & Peters, 1994; Vancouver & Schmitt, 1991; Vandenberghe, 1999). Knowing the antecedents of alignment would help managers improve it, thereby increasing the likelihood of favourable outcomes. Moreover, research that does exist on structural alignment mostly examines it at the individual-level of analysis. Examining a group or subunit level concept at the individual level of analysis may lead to invalid conclusions (Klein, Dansereau, & Hall, 1994).

Recruitment strategies, characteristics of applicants, and socialization processes have been proposed as antecedents of alignment (Kristof, 1996); in the present study we were interested in alignment processes of existing groups of people who are already in the organization, which eliminates recruitment strategies and applicant character-istics as potential antecedents in the study. Although recruitment strategies and characteristics of applicants are relevant to getting people into the organization, socialization (e.g. via training, supervision, and reward system processes) applies once they are employees of the organization. The above examples show that potential antece-dents of structural alignment can be applicable to individuals. Nevertheless, groups

or subunits are structural elements of an organization that need to be aligned. Our unit of analysis is therefore the subunit. Specifically, the present study examines three categories of potential antecedents of structural alignment: communication of goals and objectives; employee enhancement efforts made by the organization; and managerial effectiveness.

Antecedents for structural alignment

Three categories of antecedents were examined. The first category, communication about goals and objectives, refers to the extent to which the official goals of the overall organization and various subunits within the organization are made known to the employees. The second category, employee enhancement, refers to organizational efforts targeted at supporting and developing employees in order to attain the goals of the organization (e.g. either formal training or awarding job responsibilities). Finally, managerial effectiveness refers to the degree to which organizational leaders support the goals of the organization and manage their subordinates accordingly. Communication about goals and objectives, employee enhancement, and managerial effectiveness are hypothesized to impact the extent to which actions of the subunits of an organization are aligned with an organization's overall goals.

Communication about goals and objectives

Structural alignment of an organization depends in part on the extent to which the goals of the organization are made clear to employees in the various subunits. This helps the separate units throughout the organization's structure to align their own unit's goals and actions with those of the organization, which is a difficult task in large organizations, such as the one in the present study. Goals and actions of each department need to facilitate achievement of the overall goals of the organization.

Communication is one way to improve goal clarity; goals are likely to become aligned if they are communicated to the organization's structural parts or subunits. Communication is a precondition for alignment, because without knowing the overall goals, the subunits cannot set their own (aligned) goals, and without feedback about their goal progress, they have no reason to make corrections or adjustments in their work. Subunit alignment is likely to occur through the process of continuous feedback and adjustment, but communication is a precondition for that to occur. Baum, Locke, and Kirkpatrick (1998) found the presence of a vision influenced venture growth to the extent that the vision was communicated throughout the organization. In fact, communication has been referred to as the key factor in successful management by objectives (MBO) programs where the goals of the organization are the driving force of management (Leonard, 1986). If organizational goals are widely communicated to employees, structural alignment is more likely to occur, because each subunit of the organization is likely to have goals and efforts that are consistent with the overall goals and with each other.

> *Hypothesis 1:* Communication of goals and objectives will positively relate to structural alignment.

Employee enhancement

Employee enhancement also fosters structural alignment, albeit less directly than communicating the organization's goals. The actions of subunits in which individuals

are the beneficiaries of employee enhancement efforts are more likely to be aligned with the overall organization, because they have enhanced abilities to perform their prescribed functions more effectively. Employee enhancement refers to assisting employees in achieving the organization's objectives by providing them with opportunities to improve necessary skills, and improving or clarifying knowledge about their roles and goals, and allowing autonomy and involvement in decision-making processes, either in groups or as individuals.

Skill improvement is a part of employee enhancement. Employees' actions are more likely to be aligned to the overall organization because the skills emphasized in development are those that the organization believes to be important for achieving the overall goals of the organization. Role clarity also enhances subunit employees' abilities to complete their roles consistently with the organization's goals, by making sure task requirements are clear (the opposite is role ambiguity; e.g. Rizzo, House, & Lirtzman, 1970). Group participation helps employee enhancement by increasing both their knowledge and motivation regarding goals. Participation in decision-making is related to autonomy or empowerment, which are intrinsically motivating (Hackman & Oldham, 1980), and participation in a group helps to improve communication and knowledge, as well as bringing in socially based motivation to follow through on group goals. Empowerment refers to the extent to which employees or their units are allowed to be autonomous and involved in decision-making processes. According to Herrenkohl, Judson, and Heffner (1999), empowerment leads people to know what the goals of the organization are and to feel responsible for achieving those goals. If employees are empowered to decide how best to achieve organizational goals, they can improve the organizational processes (Herrenkohl *et al.*, 1999) and increase their own intrinsic motivation (Thomas & Velthouse, 1990) to reach the organization's goals.

In sum, the present study examines employee enhancement in terms of the extent to which the organization provides opportunities for skill development, the extent to which task requirements are made clear, the organization encourages subunit or group participation, and there is autonomy or the decentralization of decision-making. These factors are hypothesized to have beneficial effects on structural alignment of their unit's activities with the organization's goals.

> *Hypothesis 2:*   Employee enhancement will positively relate to structural alignment.

Managerial effectiveness

Leadership is also influential in developing alignment. Indeed, a major component of leaders' job responsibilities is to ensure that their units are operating in accordance with the organization's goals. The managers in the various locations of the organization's structure need to support the goals of the organization and manage their units accordingly. They are more likely to do this if their own managers exhibit effective leadership behaviours towards them.

Supervisor leadership refers to the relationship between the subordinate and the immediate supervisor. Hutchinson, Valentino, and Kirkner (1998), among others, found that leaders who were high in both interpersonal orientation and task orientation had the best effect on employee attitudes (also see meta-analysis by Judge, Piccolo, & Ilies, 2004). This implies that supervisors are more effective when they both provide task-oriented guidance to their subordinates so the subordinates know the expectations of their jobs and also demonstrate interpersonal support to their subordinates. If the supervisors are effective, the organization is more likely to be structurally

aligned, because the supervisors will guide their units' subordinates to perform in a manner that is congruent with the goals of the organization. Bobko and Colella (1994) proposed that performance standards communicated by respected authorities are more likely to be accepted. Although this appears to relate to the task-oriented dimension of leadership, the person-oriented dimension also comes into play, because subordinates may more willingly follow instructions of the supervisors if some degree of inter-personal support is displayed. Supervision is thus important in directing subunits' work towards organizational goals.

Upper management support of goals also encourages employees to be effective. The extent to which managers high in the organization's structure support and follow through with the organization's goals influences activities throughout the organization (Eden, 1992). For any intervention to be successful, including those directed by the organization's overall goals, it must have the support of top management (Burke, 1991). If management displays support for the organization's goals, the goals should be taken more seriously by all levels and consequently are more likely to be achieved. Therefore, management support is expected to increase the likelihood of structural alignment.

Alignment in the present study concerns alignment of subunits' goals and activities with the organization's overall goals in its vision statement. People at higher levels of the organization (its leaders) are closer to the point at which the goals were developed and are more likely even to have participated in the goals' development. They therefore should know more about and be more committed to the goals than anyone else in the organization. Their focus on the task includes focusing on the objectives and plans (e.g. continuous improvement initiatives in the current study). After all, to some extent, for higher level management, these are their own plans and initiatives. Regarding supportive supervisory behaviours, historically, many prominent leadership theories (e.g. transformational leadership theory, consideration and initiating structure theory; Bass, 1985; Judge *et al.*, 2004) argue that support or consideration of subordinates is part of a set of effective leadership behaviours. Support can help maintain trust, morale, and value congruence among subordinates (Jung & Avolio, 2000). These managerial effectiveness behaviours, task-orientation and social support, are important components of building strong cohesive teams for the purpose of achieving the organization's goals. Although these components may not be linked to all types of alignment or to alignment in all organizations, they should be linked to subunits' goal alignment in the present study.

In sum, managerial effectiveness has two components in the present study: supervisory leadership and upper management support. Supervisory leadership refers to the direct relationship between supervisor and subordinate, whereas upper management support refers to the actions of the organization's top executives. Taken together, managerial effectiveness is likely to positively influence structural alignment.

> *Hypothesis 3:* Managerial effectiveness will positively relate to structural alignment.

Outcomes of structural alignment: Satisfaction with the company

The main contribution of the present study is the examination of potential antecedents of structural alignment, described above, but outcomes of alignment are also important. Because structural alignment is a characteristic of the organization (rather than of the person or the individual job or position), its outcomes are likely to be responses to the whole organization. Employee responses in reference to the organization rather than to the job, pay, co-workers, or the supervisor, fit this requirement. Such reactions would

include organizational commitment, organizational satisfaction, or organizational turnover, for example. The present study examined satisfaction with the organization as the employee reaction to alignment. *Job* satisfaction is one of the most frequently studied attitudes in organizational psychology, and perhaps for that reason it has been frequently investigated in relation to some types of alignment (usually cultural alignment; Meglino *et al.*, 1989; Vancouver & Schmitt, 1991; Vancouver *et al.*, 1994). We argue, however that *organizational* satisfaction is a more appropriate criterion when the predictor (e.g. alignment in the organization) is an organizational phenomenon. In spite of this, organizational satisfaction has not been studied in the context of structural alignment. It seems to be a more likely outcome for alignment, because consistency in pursuing company-level goals should positively relate to the broader attitude of company satisfaction.

Employees usually react positively if they fit well with their organization (person–organization or P–O fit on values, e.g. Kristof, 1996; Verquer, Beehr, & Wagner, 2003). One reason is that a *lack* of fit or congruence leads to a state of psychological discomfort (as in cognitive dissonance; e.g. Elliot & Devine, 1994). Likewise, if employees view the actions and objectives of their subunit as incongruent with the goals of the larger organization, this can also create discomfort, especially because the employees are members of both the subunit and the organization. Such discomfort can manifest itself in negative moods and attitudes towards the situation. In the present study, the situation is the organization. Thus, cognitive dissonance is one psychological mechanism through which *mis*alignment can reduce satisfaction with the organization – and conversely a mechanism by which alignment can increase organizational satisfaction.

>   *Hypothesis 4:*   Structural alignment will positively relate to company satisfaction.

The present study hierarchically tests: (1) the extent to which three sets of variables at the subunit level, communication about goals and objectives, employee enhancement efforts, and managerial effectiveness, are related to structural alignment and (2) the extent to which structural alignment, in turn, is associated with individuals' satisfaction with the company.

Method

Procedure

This study utilized archival data collected via an organization-wide survey in an organization with a history of engagement in ISO and Six Sigma quality programs. The survey and the present study focused on the organization's alignment. The use of such data for research purposes is one example of practitioner-academic cooperation in scholarship, for which there are frequent calls (e.g. Amabile *et al.*, 2001; Hinkin, Holtom, & Klag, 2007; Pendry, Driscoll, & Field, 2007). The purpose was to identify necessary areas in which the organization should be aligned in order to enhance its effectiveness. Items were developed by an internal committee led by a team of external consultants from a consulting firm's organizational assessment division whose sole purpose was to develop company-wide surveys. The lead consultant travelled to several of the organization's major plants to review the proposed items and to ensure they were understood. Many of the final items were from the consulting firm's international survey, which is used by hundreds of companies worldwide. The authors of the present study include both academic and company personnel and were not part of the external

consulting firm. This study is the result of the frequently advocated research model of partnership between business and academia. It is therefore consistent with what Huff (2000) advocates as 'mode 1.5' research, using data derived primarily for a specific applied purpose but with conceptualization and analysis aimed at finding likely generalizations of the results.

Participation was voluntary and participants' responses were anonymous. Although the organization did not have records allowing the computation of a response rate, a contact at the organization estimated that the overall response rate was approximately 80%. Indices measuring potential antecedents of alignment were initially formed based on a content analysis of the survey items, which entailed examining the items to determine which of them could be grouped into rational categories. Item analyses and exploratory factor analyses were then computed to refine and to examine empirical characteristics of the indices. This procedure resulted in nine indices relevant to the present study.

Participants

Participants were employees of a large manufacturing company. Although the survey was administered to all of the multinational company's employees, only the US data were analysed in this study, so that we could test the model without the potential confounds of multiple national environments. We focused on individuals working together in subunits or 'facilities' (as the organization calls these groups of individuals). Individuals within each of these subunits work interdependently at one specific location on unit-specific tasks. Units are engaged in a variety of tasks ranging from mechanical and production to support and maintenance as well as clerical, administrative, and managerial functions. Subunits from all major domestic US locations and operational divisions of the organizations were included in the study. Subunits where fewer than five individuals responded were excluded from further analyses, resulting in a sample of 7,359 individuals in 329 facilities. The mean number of respondents per facility was 22 ($SD = 24.94$), the mode was 5 and median was 14. The largest unit had 182 individuals responding.

Participants were employed in several different occupations including production associates (49.6%), skilled/maintenance (14%), clerical/secretarial (3.2%), technician (5.1%), professional (13.2%), supervisory/operations coordinator (3.8%), and manager (4.5%). Six and six-tenths (6.6%) percent of the sample did not indicate their occupation. Other demographic information was not requested, in order to protect the anonymity of the employees. According to company records, however, 75% of the workforce from which we sampled is male, with an average age of 43 years ($SD = 10$ years).

Measures

Alignment

Schneider *et al.* (2003) argue that employees' reports of alignment are good indicators of alignment, and in the present study, alignment was measured by individuals' perceptions that their business unit operates in a way that is consistent with the organization's core messages or goals. The mean of participants' responses to three items ($\alpha = .81$) rated on a five-point scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *don't know/not applicable* was obtained. For each of these three items, participants were asked to indicate the

extent to which they agreed that the way their 'department operates on a day-to-day basis is consistent with' the core messages of the organization.

The three core messages were embedded in the first three items of the questionnaire in order to be sure the respondents knew them. These core messages were 'We will be the best-performing manufacturing company in the world as seen through the eyes of our customers and shareholders', 'We are dedicated to improving continuously in things that matter', and 'All of our associates will be known and respected worldwide for their achievements'. These statements are specific to: (1) an emphasis on customer-focused quality improvement; (2) in a manufacturing business; and (3) with multinational locations. The core values were part of this manufacturing firm's push to focus on continuous quality improvement through a customer focus, and they primarily came from the company's involvement in programs such as ISO and Six Sigma. The Competing Values Framework of organizational values (Cameron & Quinn, 1999; Quinn & Spreitzer, 1991) outlines a wide variety of values that an organization can espouse and try to enact, based on two dimensions: (1) flexibility and discretion versus stability and control and (2) internal focus and integration versus external focus and differentiation. The core value statements of the organization in the present study are externally oriented and tend towards flexibility. There are many other combinations of orientations that organizations can have, and so the core values statements of the company were not universal to all companies.

To obtain the group level score for alignment, the mean of the mean of the three responses per individual was obtained for each subunit. A greater score on the alignment measure indicated greater agreement that the department operated consistently with the firm's core values. These core messages were long-standing for the organization; they should all have been continuously on employees' radars regardless of which part of the organization one works in – if the unit is paying attention and cares. Units paying more attention to the corporate messages might very well be aware of and work on all of them, not just on some; units paying less attention to the corporate messages might work less on all of them. The good reliability ($\alpha = .81$, Table 1) is consistent with this interpretation.

Table 1. Descriptive statistics and intercorrelations based on subunit level of analysis

	Mean	SD	1	2	3	4
1. Alignment	3.60	0.44	.81			
2. Communication	3.56	0.55	.75	.88		
3. Enhancement	3.42	0.43	.84	.84	.75	
4. Managerial effectiveness	3.63	0.50	.76	.76	.89	.76
5. Company satisfaction[a]	3.51	0.86				

Note. Cronbach's αs are italicized on the diagonal. The α for employee enhancement is the average of the alphas of the four elements comprising it, because it was conceived as an index rather than a scale. All correlations are significant at $p < .01$.

[a] Mean and standard deviation for company satisfaction are based on individual level computations.

Antecedents of alignment

Three categories of antecedents of alignment were measured: communication about goals and objectives; employee enhancement; and managerial effectiveness.

Communication about goals and objectives was measured by taking the mean of the mean of participants' responses to four items ($\alpha = .88$) at the subunit level. The items were rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *do not know/not applicable*. These items were reverse coded for analysis and included 'My unit's business plan and major continuous improvement objectives have been clearly communicated to me', 'I receive useful information on how my Unit is performing relative to its business plan and major continuous improvement objectives', 'It has been clearly communicated to me how my department contributes to the achievement of my Unit's business plan and major continuous improvement objectives', and 'It has been clearly communicated to me how my department is performing relative to its goals and objectives'.

Employee enhancement was measured by averaging each individual's responses to four aspects of enhancement within each subunit: skill improvement; role clarity; group participation; and empowerment. These should all help to enhance employees by improving their skills and helping them to grow into more clear and important roles in the organization. They are not direct measures of how much the employee has become enhanced; rather they are factors that should result in him or her being enhanced. There is no compelling reason for them to necessarily co-occur in every organization, but they may do so. Thus the employee enhancement measure can be conceived as an index rather than a scale.

Skill improvement was measured by the mean of participants' responses to three items ($\alpha = .75$). Two items asked the respondent to rate 'The training and development you have received to help you do an effective job' and 'The preparation you have received in continuous improvement methods and techniques (e.g. problem solving skills)' using a five-point scale where 1 indicated *very good* and 5 indicated *very poor* with an additional option of *do not know/not applicable*. The final item ('I have a real opportunity to improve my skills in this company') was rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *do not know/not applicable*. All items were reverse coded so that higher scores indicated more favourable responses.

Role clarity was measured by the mean of participants' responses to four items ($\alpha = .79$). The items were rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *do not know/not applicable*. The role clarity items included 'The performance expectations for my job have been clearly communicated to me', 'I receive the information I need to do an effective job', 'I receive effective feedback on how well I do my job', and 'Where I work, there are clear procedures for getting the work done'. All items were reverse coded so that higher scores indicated more favourable responses.

Group participation was measured by the mean of participants' responses to four items ($\alpha = .76$). Two items were rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *do not know/not applicable*. These items included 'I am regularly involved in discussions of my department's progress and plans regarding continuous improvement' and 'Where I work, associates motivate each other to do a better job'. One item ('If I share my ideas about new and better ways of doing things, it is most likely to have . . .') was rated on a three-point scale, which we converted into a five-point scale, where 1 indicated *a positive effect on associates like me*, 3 indicated *little/no effect on associates like me*, and 5 indicated *a negative effect on associates like me*. The final item asked the respondent to rate the 'Teamwork between your department and other groups you

depend upon' using a five-point scale where 1 indicated *very good* and 5 indicated *very poor* with an additional option of *do not know/not applicable*. All items were reverse coded so that higher scores indicated more favourable responses.

Individual empowerment was measured by the mean of participants' responses to three items ($\alpha = .71$). These items were rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *do not know/not applicable*. These items were reverse coded. These items included 'I am encouraged to come up with new and better ways of doing things', 'I am encouraged to take calculated risks to improve the company's effectiveness', and 'I am permitted to make the decisions that I feel are necessary to do my job effectively'. All items were reverse coded so that higher scores indicated more favourable responses.

Managerial effectiveness was measured by taking the average of respondents' averages across two scales: supervisor leadership and upper management support, at the subunit level. The correlation between these two scales was .73. Supervisor leadership was measured by the mean of participants' responses to two items ($\alpha = .86$). Two items asked the respondents to rate their immediate supervisor/manager on 'Providing you with the support you need to do a quality job' and 'Treating you with respect as an individual' using a five-point scale where 1 indicated *very good* and 5 indicated *very poor* with an additional option of *do not know/not applicable*. These items were reverse coded for analysis so that higher scores indicated more favourable responses.

Management support of goals was measured by the mean of participants' responses to two items ($\alpha = .78$). These items were rated on a 5-point Likert scale where 1 indicated *strongly agree* and 5 indicated *strongly disagree* with an additional option of *don't know/not applicable*. These items were reverse coded for analysis. These items included, 'Where I work, management is willing to make reasonable investments to support continuous improvement' and 'Where I work, management generally follows through on its major plans and initiatives'. All items were reverse coded so that higher scores indicated more favourable responses.

Company satisfaction

Company satisfaction was measured by participants' responses to one item that asked participants to rate their own individual satisfaction with the company: 'Considering everything, how would you rate your overall satisfaction in the company at the present time?' Reliability could not be calculated for this measure, but studies have estimated that similar single-item measures of employee affect may have reliabilities near .70 (e.g. rating of teaching effectiveness by Wanous & Hudy, 2001; meta-analysis of one-item job satisfaction measures by Wanous, Reichers, & Hudy, 1997) and show evidence of predictive validity (e.g. Nagy, 2002; Shamir & Kark, 2004). This item was rated on a five-point scale where 1 indicated *very satisfied* and 5 indicated *very dissatisfied*. This item was reverse-coded so that higher scores indicated greater satisfaction.

Confirmatory factor analysis

We conducted a Confirmatory factor analysis (CFA) with all items, including the antecedent variables, the mediator (alignment) and the outcome (organizational satisfaction). For organizational satisfaction, we set the loading to 1 and the measurement error to 0. The model with five factors fitted well: $\chi^2(290) = 16,460.56$, $p < .001$,

RMSEA $= .069$, TLI $= .98$, CFI $= .98$, and SRMR $= .04$. All values for the approximate fit indices were above (below for lack of fit indices) the standards discussed by Hu and Bentler (1998). The one-factor model did not show equally good fit: $\chi^2(299) = 37,334.21$, $p < .001$, RMSEA $= .10$, TLI $= .95$, CFI $= .95$, and SRMR $= .055$. Although some indices were still acceptable (TLI, CFI), the model overall did not represent the data as well as the five-factorial model, as indicated by $\Delta\chi^2(9) = 20,873.65$, $p < .001$.

Results

Aggregation of scores

Alignment and the antecedents of alignment are subunit level constructs, while employees' satisfaction with the company is an individual-level concept (i.e. satisfaction is a characteristic of an individual person rather than of a unit). We therefore first examined aggregated scores for alignment and its expected antecedents. We calculated both within-subunit inter-rater agreement $r_{wg(J)}$ (James, Demaree, & Wolf, 1984) and two types of intra-class correlation coefficient: ICC(1) and ICC(2) (Shrout & Fleiss, 1979). Inter-rater agreement as measured by $r_{wg(J)}$ can vary between .00 and 1.00, with .00 indicating no agreement and 1.00 indicating perfect agreement. Values larger than .70 are normally seen as indicators of acceptable agreement. Following recommendations by James *et al.* (1984), we set all values of $r_{wg(J)}$ to zero where the observed variance exceeded the expected variance. This concerned five values for communication (1.5%), four values for managerial effectiveness (1.2%), and two values for structural alignment (0.6%). The average within-subunit inter-rater agreement values were all well above the recommended .70 criteria. The highest average agreement was found for enhancement (mean $r_{wg(J)} = .94$), followed by communication (mean $r_{wg(J)} = .80$), structural alignment (mean $r_{wg(J)} = .78$), and managerial effectiveness (mean $r_{wg(J)} = .77$). Therefore, the agreement levels within subunits justify aggregation of alignment and its antecedents at that level of analysis. In contrast, as expected, agreement was low for company satisfaction (mean $r_{wg(J)} = .55$), indicating that company satisfaction is indeed an individual level construct (cf. Klein *et al.*, 1994).

In addition, individuals might universally agree with these items, and therefore it needs to be shown whether the scores discriminate between units. The ICC(1) as a form of proportional consistency or inter-rater reliability (Bliese, 2000; James, Demaree, & Wolf, 1984) compares the variability within subunits with the variability between subunits. Values larger than .05 (Van de Vijver & Poortinga, 2002) indicate that aggregation is justified. ICC(2) provides an estimate of the reliability of group means, with larger values being more acceptable. In the present sample, the highest intra-class correlations were observed for communication and managerial effectiveness (ICC(1) $= .17$ and ICC(2) $= .82$ for both), followed by enhancement (ICC(1) $= .15$ and ICC(2) $= .80$). The lowest value was observed for structural alignment (ICC(1) $= .10$ and ICC(2) $= .71$). Therefore, these values indicate that the variation between subunits is substantial, the group means are reliable and that the agreement within subunits is acceptable, justifying the aggregation of scores to a subunit level. For the analyses presented below, alignment and its antecedents have been aggregated at a subunit level. Company satisfaction showed an ICC(1) of .12 and an ICC(2) of .75, but as reported above, it did not reach acceptable levels of agreement within units, therefore, in line with our conceptualization, we did not aggregate it to the subunit level.

Variable characteristics

Means, standard deviations, intercorrelations, and alpha reliabilities of alignment and its antecedents are shown in Table 1. The variables were all highly intercorrelated, ranging from $r = .76$ between managerial effectiveness and both alignment and communication to $r = .89$ between enhancement and managerial effectiveness. Company satisfaction mean and standard deviation is also presented in Table 1, but because the unit of analysis is different we cannot provide data on its correlations with the other variables.

Hypothesis testing

To test our hypotheses we conducted two different sets of analyses, multiple regression analysis at a subunit level and cross-level hierarchical linear modelling. First, we computed multiple regression analysis at a subunit level to test Hypotheses 1–3. Alignment was regressed on the three antecedent variables. Together, the proposed antecedents accounted for 72% of the variance in alignment ($R^2 = .72$, $p < .001$). Each of the three antecedents explained significant variance in alignment. Communication predicted unique variance in alignment ($\beta = 0.34$, $p < .001$), which is in support of our first hypothesis. Enhancement ($\beta = 0.41$, $p < .001$) also added unique variance in alignment, supporting our second hypothesis, and it had the strongest relationship to alignment. Finally, managerial effectiveness added significant and unique variance in alignment ($\beta = 0.15$, $p < .05$), supporting our third hypothesis (see Table 2, Analysis 1).

Table 2. Regression and cross-level analyses for Figure 1 paths

	Analysis 1: Subunit level Alignment	Analysis 2: Cross-level Company satisfaction	Analysis 3: Cross-level Company satisfaction
Predictors			
Communication	.34**	–	.02
Enhancement	.41**	–	.06
Managerial effectiveness	.15*	–	.30**
Alignment	–	.91**	.56**

Note. Analysis 1 reflects the relationship between the three predictor variables with alignment at the subunit level of analysis. Analysis 2 reflects the relationship between alignment (at the subunit level) and company satisfaction (at the individual level). Analysis 3 reflects the extent to which all subunit level variables relate with individuals' company satisfaction.
$*p < .05$; $**p < .01$.

Next, we investigated whether alignment is related to company satisfaction. Because alignment is a subunit level construct and satisfaction with the company is an individual level construct, a cross-level analysis is indicated (Klein *et al.*, 1994; Rousseau, 1985). We used hierarchical linear modelling with HLM 5 (Raudenbush, Bryk, Cheong, & Congdon, 2000) to test whether structural alignment at the subunit level predicts individuals' satisfaction with the company. This is similar to a regression with means as the outcome. The advantage of HLM over a simple regression using aggregated scores is that it takes into account the different sample sizes per unit as well as variability within units. Regressing company satisfaction on alignment, 90% of the variance in satisfaction means was accounted for by structural alignment (proportion of explained variance $= .90$, unstandardized coefficient $\beta = 0.91$, $p < .001$), providing support for Hypothesis 4 (see Table 2, Analysis 2).

The final analysis was a multi-level regression whereby company satisfaction was regressed on the three antecedent variables and alignment to determine if alignment predicted a significant amount of variance in company satisfaction beyond the antecedent variables. This tests the likelihood that alignment may be a mediating variable in the model. Together, the alignment antecedents and alignment predicted about 95% of the variance in company satisfaction (proportion of explained variance = .95), indicating that 95% of the true between-subunit variance in company satisfaction is accounted for by alignment and its antecedents.

The non-significant chi-squared ($\chi^2 = 322.87$; $df = 324$, *ns*) further indicates that no significant amount of variance in satisfaction was left to be explained. Alignment significantly predicted satisfaction (unstandardized coefficient = .56, $p < .001$), further supporting Hypothesis 4. In addition, although not predicted, managerial effectiveness had a significant direct effect on company satisfaction (unstandardized coefficient = .30, $p < .001$). Neither communication (unstandardized coefficient = .02, *ns*) nor enhancement (unstandardized coefficient = .06, *ns*) were significant direct predictors of satisfaction (see Table 2, Analysis 3).

In summary, we found support for our Hypotheses 1–3 because the antecedents significantly predicted alignment at a subunit level. We also found support for Hypothesis 4 because alignment significantly predicted satisfaction within subunits, even when controlling for purported antecedents of alignments. In addition, we found that managerial effectiveness at a subunits level directly predicted individuals' company satisfaction (see Figure 1).

Discussion

Alignment is often described conceptually and is strongly advocated, but it is rarely studied systematically and empirically, especially in regard to the processes that might help foster it. Furthermore, analyses of alignment have usually been conducted at the individual level, even though some forms of alignment, for example structural alignment, are inherently unit-level phenomena. Given that little is known about correlates of structural alignment (Papp, 1999) and little has been done by way of group or subunit level assessment, the purpose of the present study was to extend previous research by examining the factors that may lead to structural alignment between an organization's subunits and the organization as a whole at the level of analysis that is appropriate when studying structural alignment. The focus of the present study was on goal alignment among structural elements, which is more appropriately examined at the subunit level of analysis. The present study thus represents a rare empirical look at this popular topic, with a sample size large enough to warrant examination at the appropriate (subunit) level. A model with three potential antecedents and one outcome of structural alignment was investigated to extend our knowledge about its role for organizations.

Antecedents of structural alignment
An important contribution of the present study is the determination of potential antecedents of structural alignment at the subunit level. Three predictors were: (1) communication about goals and objectives; (2) employee enhancement; and (3) to a lesser extent, managerial effectiveness. Communication about the organization's goals
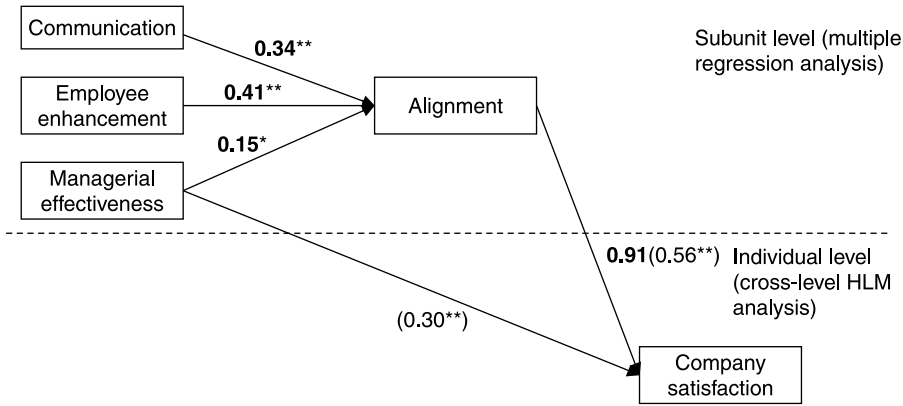
Figure 1. β coefficients for the relationships between predictors of alignment, alignment, and company satisfaction.

and objectives obviously helps to make the organization's goals known to its employees, and it is a precondition to their widespread adoption among subunits of the organization. Once a subunit adopts the goals of the organization, it is more likely to structure its daily procedures in a manner that is aligned with the overall goals of the organization.

Employee enhancement was also supported as a potential antecedent of alignment in the structural model. The organization's attempts at improving employees' skills can help them work in ways to ensure the company's goal attainment, and this demonstrates a company's interest in ensuring goal alignment. Opportunities to improve one's skills include training; clarification of performance goals, responsibilities and feedback; opportunities to engage in teamwork and discussion of group progress; as well as opportunities to step outside of one's boundaries to benefit the company. This could lead to structural alignment by helping the members of the various subunits act in ways that further the company's goals.

Finally, managerial effectiveness was also an important predictor of structural alignment in the model. Subunit actions are more likely to be aligned with the overall organization's goals if upper management is supportive of continuous improvement and follows through with stated goals, as well as giving respect to subordinates. Subunits with effective managers who support the organization's goals and who respect their subordinates are more likely to act consistently with the organization's goals, that is they are more likely to be structurally aligned.

Structural alignment and satisfaction with the company

The present study also extended previous research on the consequences of alignment by investigating the potential effect of structural alignment on company satisfaction. Although we are tempted to regard these results as tentative due the fact that the available measure of company satisfaction only consisted of one item, there is meta-analytic evidence that one-item measures of similar constructs (job satisfaction) can have

acceptable reliability (e.g. Wanous *et al.*, 1997). Structural alignment and its correlates did explain the majority of variance in individual employees' reports of their satisfaction with the organization as a whole. In other words, individuals' company satisfaction may be largely due to factors that demonstrate alignment. Employees who were most satisfied with the company came from subunits whose actions are aligned with the organization's overall goals. Indeed, alignment explained a large portion of variance in individuals' company satisfaction beyond that accounted for by alignment's proposed antecedents, indicating that alignment acts as a mediating variable. This supports the importance of structural alignment of subunits in employees' attitudes towards their organization overall.

Implications

Communication of the organization's goals and objectives, managerial effectiveness, and employee enhancement were important correlates of structural alignment in the model. Structural alignment, in-turn, was related to employees' satisfaction with the company overall. The model has important implications for organizations. In order to achieve goals, organizations must make a concerted effort to communicate, reinforce, and support their goals and objectives to their various subunits and ensure that everyone shares a common perspective. An organization's leaders must assume responsibility in supporting the organization's goals and ensuring that the subunits of the organization are operating in a manner that is congruent with those goals. The organization must afford all its employees opportunities for growth through feedback, training, encouraging decision-making, risk taking, and teamwork.

The study suggests that in order for an organization to reach its overall goals, it would be helpful to follow a systematic plan to *inform*, *direct*, *equip*, and *motivate* its employees towards those goals. Communication includes informing and directing, by letting employees know what the goals are and their own subunit's role in reaching those goals. In addition, communication in the present study included feedback about progress towards the goals, and such feedback is an element common to many motivation theories (e.g. intrinsic motivation, goal setting, and organizational behaviour management theories; Hackman & Oldham, 1980; Locke & Latham, 1990; Perlow, 2001). Thus it appears that understanding the elements of motivation theories can help a firm's management to develop communication practices relevant to achieving alignment.

Employee enhancement is a form of preparing or equipping employees to aid their subunits in reaching the organization's goals. In the present study, employee enhancement included training the employees in the skills necessary to implement continuous improvement goals as well as making procedures clear for them. Empowerment was also part of enhancement, including empowerment of both individuals and groups (group participation). Such participation and responsibility theoretically increase employees' sense of ownership of and commitment to the organization's goals, which is a motivating state (e.g. Hackman & Oldham, 1980; Locke & Latham, 1990). Organizations desiring to increase alignment of their structural subunits with the overall goals are advised to implement the kinds of employee enhancement in the present study.

Finally, managerial behaviours showing (1) support of and respect for employees and (2) investment in and commitment to the organization's vision or goals may motivate employees to accept and work towards the goals, helping to bring about alignment. Theoretically, these effects of managerial behaviours occur through the development of

employee trust, morale, and value congruence (e.g. Jung & Avolio, 2000). One way to implement this would be for managers themselves to develop transformational leadership behaviours (Bass, 1998).

Limitations

One potential limitation of the study was the nature of the organization's statements of its core values. As noted in the Method section, the values with which alignment was measured were specific to the focal organization. The core values statements contained keywords and phrases that the company's employees should recognize and understand with their further specific meanings (e.g. 'improving continuously' and 'through the eyes of our customers'). The employees were aware of the company's engagement in specific quality improvement programs using these key phrases and should therefore have been able to answer the alignment questions in regard to those specific organizational efforts and goals. Nevertheless, some other elements of the statements read very generally (e.g. 'best performing' and 'achievement') and therefore have a tone of simply being an effective company. In part, this is inherent in organizational goals. As March and Simon (1993) noted, goals at the highest level of the organization must necessarily be somewhat general, and it is the responsibility of each subunit to translate them into more specific (and aligned) subgoals appropriate for their unit. These could apply to any multinational manufacturing firm. Therefore, there could be a tendency for some of the employees to have answered the alignment questions as if they were asking simply whether or not the company was effective in the manner that any other company could be effective.

A second limitation of this study was the use of archival data. The purpose of the organization survey was to measure alignment and constructs that are supposed to be positively related to alignment. It might also have been beneficial for the purpose of theory development to include factors that should theoretically be negatively related and even unrelated to alignment. This would provide better information to organizations regarding the factors to emphasize in order to achieve structural alignment as well as the factors to avoid or ignore in order to prevent detrimental effects on alignment. It also would have allowed us to examine a more complete nomological net of variables in relation to structural alignment.

Another limitation of the use of archival data was that some of the measures for the study had to be developed *post hoc*. We had to rely on theoretical rationale and empirical evidence to ensure that the measures for the study assessed constructs of interest. Yet, the use of archival data is also a strength of the study. Obtaining such a large data set with a high response rate from many parts of one organization is a difficult but important undertaking for alignment researchers. Therefore, these archival data provided some confidence in the results and a foundation for future research on structural alignment. As noted earlier, this study represents the kind of organization-academic partnership often advocated for conducting research that is both theoretically and practically meaningful (e.g. Huff, 2000).

A fourth limitation is reliance on cross-sectional, self-report data. Covariation might be the result of true effects, but also might be the result of consistency artefacts due to single source data. We did our best to control for this by examining the significance of variation between subunits. Crampton and Wagner (1994) analysed over 11,000 correlations based on self-report measures published by organizational researchers between 1965 and 1990 and concluded that self-report measures do not have the broad

and comprehensively negative qualities as claimed by some critics (e.g. Avolino, Yammarino, & Bass, 1991; Williams, Cote, & Buckley, 1989). In particular, they showed that perceptions of visible and external events that could easily be verified were less susceptible to inflated correlations or biases. The present study focuses on perceptions of concrete processes, such as communication of goals, available training opportunities, or managerial support that can be observed by outsiders as well as insiders and can be relatively easily verified. Such an approach is less likely to be subject to cognitive biases or impression management. The weakness of cross-sectional, non-experimental methods remains, however; although the model tested is theoretically causal, the method does not allow strong causal inferences.

Our confirmatory analyses showed that, in spite of high overall correlations among the variables, the pattern of correlations were consistent with our theoretical expectations. A uniformly strong single-method effect cannot account for a pattern of stronger and weaker correlations. Furthermore, given that there was significant variance between subunits on the study variables, we feel confident that our findings are only minimally influenced by general tendencies to respond uniformly across questionnaire items. Clearly, high correlations might sway one to take caution in interpreting the data; it should be noted, however, that the correlations are based on the subunit level, which are usually higher than individual level correlations (cf. James, 1982).

Future research directions

The present study investigated perceptions of alignment in various subunits of one organization. A more difficult but important endeavour would be to examine differences in alignment between multiple organizations to determine the factors that differentiate among organizations on alignment and to determine, at the organizational level, whether or not the theoretical antecedents to alignment found among various subunits in a single organization have the same effects across organizations. Although the main contribution of the study was in regard to the proposed antecedents of alignment, one outcome variable was also examined. The present study supported the positive relationship between structural alignment and one outcome, company satisfaction, but future research should examine more outcomes.

Finally, even within the topic of structural alignment there are multiple facets and ways of measuring alignment. Interpreted in light of one alignment taxonomy (Buffet, Liakhovitski, & Carroll, 2002), for example, the present study conceptualized alignment as congruence between the day-to-day operations of various organizational levels and the organization's goals. The operations and procedures of each level were examined to determine if they were congruent with the organization's goals. We assessed structural alignment in a direct but subjective manner. That is, participants were asked to indicate the extent to which the operations of various organizational levels were consistent with the organization's goals (rather than asking about the operations and goals separately and then determining in some way if these two factors were aligned, e.g. via the use of difference scores). Future research should examine other facets and measures of structural alignment to determine if the relationships found in this study generalize across alignment facets and methods of measurement.

Structural alignment has long been believed to be an important factor for improvement of many elements of organizational effectiveness. For the first time, we now know that the organization's internal communications, use of employee enhancement programs, and general managerial effectiveness may be important preconditions for

establishing structural alignment. In short, (1) making sure employees know the goals, (2) giving them the opportunities to develop skills and knowledge to achieve those goals, and (3) supporting their efforts may be foundations of structural alignment strategies. Finally, we provide the much needed empirical evidence that demonstrates that when these components are present at the unit level, they may both help the organization achieve its goals and loop back to the individual contributors via company satisfaction.

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