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Communication and conflict between marketing and R&D during new product development projects

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Keywords

projects, marketing, between, conflict, communication, development, product, during, r

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Effective cross-functional working relationships (CFRs) between Marketing Managers and R&D Managers are a key factor in successful new product development (NPD). Empirical evidence suggests however, that this CFR is often problematic. This article adds to our knowledge about Marketing/R&D CFRs during NPD by examining the effects of three forms of communication (communication frequency, bidirectionality, and quality) on two forms of conflict (dysfunctional and functional conflict). A hypothesised model of Marketing/R&D CFRs is tested using a sample of 184 NPD projects conducted in Australia, using R&D Managers as key respondents reporting on their relationships with the relevant Marketing Manager. Our findings reveal that communication quality and bidirectional communication, have strong effects on both forms of conflict. Also, the managerial use of frequent communication is ineffective in reducing dysfunctional conflict during NPD projects.

Introduction

Since Ruekert and Walker's (1987a) landmark study, marketing's cross-functional relationships (CFRs) have become an important focus of academic research. Evidence of this can be seen in the large and growing literature examining marketing relationships, and integration with other departments (e.g., Dawes and Massey, 2005; Fisher, Maltz, and Jaworski, 1997; Workman, Homburg, and Gruner, 1998). The topic is also managerially important because increasingly, today's flatter organisations require personnel to secure cooperation from individuals in other departments over whom they have no hierarchical control (Williams, 2001).

CFRs are particularly important during new product development (NPD), because converting abstract ideas into tangible products involves interdependent specialists providing or exchanging resources, e.g., information, expertise, and money (Lawrence and Lorsch, 1967; Olson, Walker, and Ruekert, 1995), and CFRs facilitate these exchanges. Our focus here is Marketing/R&D CFRs because they are among the most critical during NPD, and the better these two functions are integrated, the greater the likelihood of successful NPD (cf. Maltz, Souder, and Kumar, 2001; Shaw and Shaw, 1998; Souder, 1981, 1988). Improving the success rate of NPD projects therefore has implications for portfolio management, medium to long-term cash flows, and even the long-term survival of the firm (Cooper, 1996; Crawford and DiBenedetto, 2003). Empirical evidence suggests however, that Marketing/R&D CFRs are often problematic (Shaw and Shaw, 1998), therefore improving these relationships is a critical managerial challenge.

Many factors can affect Marketing/R&D CFRs, and here we select our focal constructs by drawing on the "interaction approach" as our main theoretical framework. The interaction approach seeks to understand and explain the nature and pattern of interactions between personnel in different departments (e.g., Moenaert *et al.*, 1994; Ruekert and Walker, 1987a).

Managers with behavioural repertoires consistent with the interaction approach tend to encourage more interpersonal interaction and communication, and attempt to increase integration and decrease conflict via more meetings, greater cross-functional information flow, and documented information exchange (Kahn and Mentzer, 1998).

In our model we examine the effects of three communication behaviours (communication frequency, bidirectionality, and quality) on two forms of interpersonal conflict (dysfunctional and functional conflict). Our research makes a significant contribution to knowledge in this area, because the linkages between these constructs have not previously been tested in a model of Marketing/R&D CFRs. Our study uses a sample of 184 NPD projects to test a hypothesised model of these linkages.

A key argument we advance is that the very nature of NPD projects (e.g., group problem solving under conditions of high uncertainty) pose major coordination challenges. We believe that these difficulties can be mitigated via effective communication between NPD project members. We argue this because complex tasks create behavioural interdependence (Pfeffer and Salancik, 1978), and heighten the need for coordination (Jones, Hesterly, and Borgatti, 1997), and communication is a well-known coordination mechanism within firms (Rogers and Agarwala-Rogers, 1976)

Dependent Variables: Dysfunctional and Functional Conflict

A contemporary view within the literature is that conflict has multiple underlying dimensions. Its original conceptualization is the dysfunctional form (cf. Pondy, 1967). This form is associated with negative outcomes, e.g., distorting and withholding information to the detriment of others, hostility and distrust during interactions (Thomas, 1990; Zillman, 1988), opportunistic behavior (Barclay, 1991), information gatekeeping (Jaworski and Kohli, 1993), and the creation of obstacles to decision making (Ruekert and Walker, 1987b).

Dysfunctional conflict can reduce team performance because the associated tension and antagonism can distract people from their tasks (De Dreu and Weingart, 2003). Here we define the construct in the conventional sense, as being unhealthy, associated with dysfunctional behaviours, dissatisfaction, and poor individual and/or group performance.

In contrast, conflict also has a functional form (Amason, 1996), and the consultative interactions and useful give and take typical of functional conflict are believed to improve CFRs. Where functional conflict is present, people freely express opinions, and challenge others' ideas, beliefs, and assumptions (e.g., Baron, 1991; Cosier, 1978; Schwenk, 1989; Tjosvold, 1985). Functional conflict can therefore be considered an antidote to "groupthink" where feelings of solidarity and loyalty to a decision-making group override the imperative to logically and realistically evaluate all options (Filley, 1970). Accordingly, we define functional conflict as a constructive challenging of ideas, beliefs, and assumptions, and respect for others' viewpoints even when parties disagree.

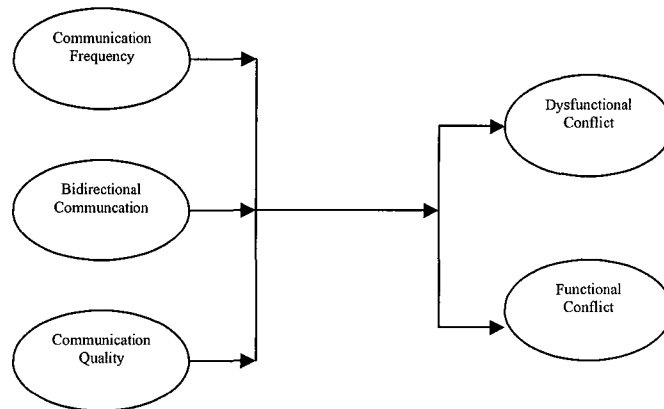
Explanatory Variables: Managerial Communication Behaviours

Moenaert and Souder (1990) view the NPD process as primarily informational, and Griffin and Hauser (1996) cite 19 studies supporting the view that information transfer is an antecedent to effective Marketing/R&D CFRs. Consistent with this, many formal NPD

systems (e.g., Stage Gate; Concurrent Engineering; Quality Function Deployment) emphasise cross-functional communication.

Several communication dimensions are known to affect CFRs during NPD, and here we examine communication frequency, bidirectionality, and quality of communication. We include communication frequency because it affects many types of relationship, including CFRs (e.g., Ruekert and Walker, 1987a). Communication frequency is defined as the intensity of information flow between managers via meetings, reports, and telephone conversations (Van de Ven and Ferry, 1980). Bidirectional communication is included because recent studies have established its importance in CFRs (e.g., Dawes and Massey, 2005; Fisher, Maltz, and Jaworski, 1997). Moreover, Wheelwright and Clark (1992) note that bidirectional communication is especially important during NPD. We define bidirectionality as the extent to which communication is a two-way process (Fisher, Maltz, and Jaworski, 1997). Last, we include communication quality because various studies (e.g., Gupta, Raj, and Wilemon, 1986; Gupta and Wilemon, 1988) found that the quality of communication provided by Marketing to R&D during NPD, influences the perceived competence of Marketing Managers. Communication quality may therefore influence interpersonal conflict during NPD projects. Consistent with Moenaert *et al.* (1992) communication quality is defined as how credible, understandable, relevant, and useful the information provided by the Marketing Manager was for the R&D Manager's task completion.

Figure 1: Hypothesised Model of Marketing/R&D Communication and Conflict during NPD



Hypotheses Development

In essence, we regard the three communication behaviours in our model as coordination attempts. More frequent communication should for example increase one's knowledge and understanding or a peer manager's issues and priorities. Similarly, bidirectional communication represents feedback in the CFR, allowing managers to clarify issues, and reach mutually agreed solutions. Further, high quality communication should lead to better solutions and decisions, and therefore be associated with positive cross-functional outcomes. In short, we believe that these three communication behaviours should reduce dysfunctional conflict, and stimulate functional conflict between Marketing Managers and R&D Managers during NPD projects. Accordingly we hypothesise:

H1: Greater (a) communication frequency, (b) bidirectional communication, and (c) communication quality will lead to lower dysfunctional conflict.

H2: Greater (a) communication frequency, (b) bidirectional communication, and (c) communication quality will lead to higher functional conflict.

Model Testing

Our hypothesized model is presented in Figure 1. PLS was used to estimate our model because our final sample size is relatively small ($n = 184$); we use both formative and reflective measures; we make no assumptions about multivariate normality; and our primary concern is prediction of our endogenous variables (Chin, 1998; Diamantopolous and Winklhofer, 2001; Fornell and Bookstein, 1982). In order to establish the stability and significance of our parameter estimates, we computed the t-values using 500 bootstrap samples. As shown in Table 1, four of the six hypotheses were supported. The R^2 for functional conflict is .398, suggesting that our model explains 39.8% of the variance in this endogenous variable. Similarly, the R^2 for dysfunctional conflict was .307. Together these results suggest that the model has reasonable predictive power.

Table 1: Path Coefficients Linking Communication to Interpersonal Conflict

Linkages in the Model	Hypoth. Sign	Std Betas	T-values
Comm. Frequency → Dysfunctional Conflict	H1 _a (-)	-.042	0.572
Bidirectional Comm. → Dysfunctional Conflict	H1 _b (-)	-.179	1.466
Comm. Quality → Dysfunctional Conflict	H1 _c (-)	-.390	3.344***
Comm. Frequency → Functional Conflict	H2 _a (+)	.136	1.991*
Bidirectional Comm. → Functional Conflict	H2 _b (+)	.352	3.978***
Comm. Quality → Functional Conflict	H2 _c (+)	.253	3.757***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ One-tailed tests.

Dysfunctional Conflict $R^2 = .307$ Functional Conflict $R^2 = .398$

As shown in Table 1, communication frequency had no effect on dysfunctional conflict (H1a), but had a positive effect on functional conflict (H2a) ($\beta = .136$; $p \leq .05$). Similarly, only one bidirectional communication hypothesis was significant (H2b), and bidirectionality is positively associated with functional conflict ($\beta = .352$; $p \leq .001$), but not associated with dysfunctional conflict. In contrast, both hypotheses concerning communication quality (H1c and H2c) were supported. Specifically, higher communication quality decreases dysfunctional conflict ($\beta = -.390$; $p \leq .001$), and increases functional conflict ($\beta = .253$; $p \leq .001$).

Discussion

Our study tests a model explaining the levels of dysfunctional conflict and functional conflict in the Marketing/R&D CFR, and reveals that the two communication variables with the most explanatory power were communication quality, and bidirectionality. Communication quality had a strong effect in reducing dysfunctional conflict, and the second strongest effect in stimulating functional conflict. High quality information is the basis for effective decision-making, and under conditions of uncertainty, such information helps managers evaluate all options, and challenge ideas and assumptions. Our findings therefore support the view that high quality communication can stimulate functional conflict, and lead to better decisions. Our findings also support the view that poor quality communication may frustrate peer managers, and lead to dysfunctional conflict with those providing that information (Robbins, 1990).

The results for bidirectional communication were mixed. It had the single strongest positive effect on functional conflict, but no effect on dysfunctional conflict, though the path coefficient was in the hypothesized direction. One possible explanation for this result may be found in social identity theory – “SIT” (e.g., Tajfel, 1978). It is possible that whilst bidirectional communication might help increase functional conflict by stimulating useful discussion, that fundamental differences between Marketing and R&D Managers may mitigate the effects of bidirectional communication on dysfunctional conflict. SIT predicts that conflict between managers of different departments is almost inevitable because of differences in social identities. Members of the Marketing department for example perceive themselves to be an “ingroup” and regard R&D as an “outgroup.” It may be that bidirectional communication alone cannot overcome the barrier to integration caused by differences in managers’ social identity.

Turning now to our findings regarding communication frequency, consistent with one prediction of interaction theory, we find that frequent communication positively affects functional conflict, but not dysfunctional conflict. Our findings therefore support Maltz (1996) and Menon *et al.* (1999), who found that frequent communication helps managers understand others’ language and jargon, and may therefore stimulate functional conflict. Our results however are inconsistent with Maltz and Kohli (1996), who found that low frequency communication may be functional, but at high frequencies may become dysfunctional.

An important theoretical implication of our findings concerns the wider applicability of our results. While our model was tested on Marketing/R&D CFRs, we believe that the issues examined are generalisable to other CFRs. We believe this because the constructs examined in our model are not unique to Marketing and R&D. Our results also have implications for senior managers wishing to improve Marketing/R&D CFRs. A key issue is that not all forms of communication are effective. Contrary to the interactionist perspective, mere frequency of communication will not reduce dysfunctional conflict, though it may increase functional conflict. Our results suggest that senior managers should encourage collaborative forms of communication such as bidirectionality, e.g., via regular, formal exchange of reports, or encouraging more face-to-face interaction. Marketing Managers could also be required to spend a certain percentage of their time in the R&D department.

Importantly, senior managers should ensure that the quality of information flowing between the two managers is high, because this can significantly reduce dysfunctional conflict, and increase functional conflict. A key task would be to identify each manager’s information needs, and establish mechanisms by which this information is exchanged regularly.

Limitations and Directions for Future Research

A limitation of our research is our use of cross-sectional rather than longitudinal data, to draw inferences about CFRs which develop over time. Another limitation is that our data are only from R&D Managers. Future research should use data from R&D Managers and Marketing Managers in the same firm. Also, while we adopt a multidimensional view of communication, a range of other communication variables may be salient, e.g., communication mode, content, and formality. Similarly, whilst this research is one of a very limited number of studies to measure and model functional conflict, as well as the commonly examined dysfunctional conflict, other forms of conflict also warrant investigation, e.g., task-oriented conflict, and people-oriented conflict (cf. Jehn, 1995; Sessa, 1996).

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