

THE ROLE OF MARKETING LOGICS IN THE SELECTION OF INNOVATIONS

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ABSTRACT

The presented study utilizes data collected from an extensive real world concept selection process in new product development (NPD), to investigate whether department specific dominant logics and competences influence the selections made by a marketing department, and what might be driving this logic. The study specifically investigates the impact of the departmental viewpoint onto idea selection in the innovation process, by comparing the selections made by the marketing department (n=31) with those of R&D (n=25) and company executives (n=8). In the NPD project seven concepts were screened for continuation through an individual pairwise comparison, to test eight hypotheses all based on h_0 : *There is no difference between the innovations selected by marketing, R&D, and executive groups*. Through an analysis of the between-department variance h_0 was rejected ($F(12, 366) = 2.312$, $p < .001$), and the results from the eight following hypotheses lend support to extending the concept of dominant logics to the department level, providing some explanations for the large variance found in the evaluation of the three groups. The reported findings have important managerial implications, as they point to which type of logic, and thereby screening of ideas, can be achieved based on which departments are involved in the critical selection of ideas and concepts for continuation in NPD.

INTRODUCTION

In innovation projects, one of the most challenging and crucial elements is the continuous selection of which ideas and concepts to allow for continuation in new product development (NPD). This evaluation and selection, particularly in the early stages of NPD, are critical, difficult and complex tasks (Cooper & Brentani, 1984), making NPD one of the most important and complex decision areas in marketing (De Brentani & Dröge, 1985). This selection process includes some of the most challenging management decisions (De Brentani & Dröge, 1988), further complicated by uncertainty (de Brentani & Dröge 1985). But despite being such a crucial element in innovation processes, this selection process has not been the subject of much research (Reid and De Brentani, 2004; Onarheim & Christensen, 2012). We have previously investigated the use of alternative methods for concept selection elsewhere (Onarheim & Christensen 2012), and will in this paper investigate the role of different department specific dominant logics and competences in NPD concept selection. What drives innovation selection in a marketing dominant logic, and is this logic different of that of the R&D department and company executives? Life in organizations are filled with narratives of how marketing or R&D ‘only’ care about certain criteria (e.g., new technological gadgets, or market growth potential) when selecting and supporting internal organizational innovations. Do such stories have any merit, when put to the test? We set out to put such organizational narratives to the test in a case company within the area of disposable medical equipment.

BACKGROUND AND HYPOTHESES

What drives evaluation and selection in innovation processes? In this paper we investigate whether organizational departments differ in their choices when selecting

amongst competing new concepts in early stage product development, and thereby the impact of the departmental viewpoint onto concept selection in the innovation process. It is hypothesized that departments have a vested interest in supporting concepts they are competent in executing; in supporting concepts in alignment with their overall dominant logic; and in supporting concepts containing uncertainty only if their department is competent to take action to reduce that uncertainty.

We compared the selections made by employees from the marketing department with those from the R&D department, and a group of company executives. The underlying hypothesis for the study is that various departments hold specific, but distinct dominant logics and competences, which have implications for how factors such as technological maturity and user preferences spill over into innovation preference in innovation selection and decision making. Based on the above argumentation, we are testing eight different hypotheses, grouped in 4 different topics, all based on H_0 : *There is no difference between the innovations selected by marketing, R&D, and executive groups.*

Department competence and uncertainty reduction potential

As argued already by Schumpeter (1942), innovation by necessity implies creative destruction of what was before in the marketplace. Environmental technological change may be considered either competence enhancing or competence destroying at the firm level (Tuschman & Anderson, 1986). Departments differ, however, in their model of how technological innovation relates to department competences: any novel product or service implies both a fit to existing technical competences in the company and a different potential fit to existing marketing competences in the company. Since R&D competencies lie specifically in solving technical challenges over time thus extending and building new competences, the lack of organizational technical competence for a novel idea should not diminish the selection of that idea from an R&D standpoint. Conversely, however, ideas with a lack of fit to existing organizational marketing competences should lead to a decrease in preference from a marketing standpoint. Or, in other words: lack of technical competence is an opportunity to build competences (viewed from R&D); whereas lack of marketing competence is considered a problem with the concept (viewed from marketing). Executive managers may regard lack of technological competence as possessing more risk (e.g., due to competence acquiring costs and uncertainties it will be possible), thus rendering managers less prone to accept technical uncertainty relative to R&D. Thus two hypotheses are proposed: *H1a: Marketing (compared to R&D and executives) concept selection is positively affected by the concept containing company specific marketing competences. H1b: Executive (compared to R&D and marketing) concept selection is positively affected by the concept containing company specific technological competences.*

Departmental capabilities for taking action to reduce uncertainty differ depending on the type of uncertainty. Obviously a marketing department is better capable of analyzing and resolving issues related to markets and customers, while an R&D department is better capable of developing novel technology. We hypothesize that uncertain factors only influence innovation selection negatively if your department competences leave you incapable of handling or reducing the specific type of uncertainty. For example, low technological maturity should influence marketing innovation selection negatively, given marketing logics and competences do not allow for reducing this uncertainty through marketing actions. Conversely, R&D competences allow for improving technological maturity over time, and hence, R&D

should be less concerned with an innovation that currently has a low technological maturity, given that this is for R&D to resolve. Therefore, h2a predicts that *Marketing (compared to R&D) concept selection is positively affected by market growth potential*, and h2b predicts that *Marketing (compared to R&D) concept selection is positively affected if concept uncertainty lies in the market, given this type of uncertainty is for marketing to analyze and resolve*. Similarly, regarding technological uncertainty, two hypotheses are proposed, h3a: *Marketing (compared to R&D) concept selection is negatively affected by technological immaturity*, and h3b: *Marketing (compared to R&D) concept selection is negatively affected by technological investment size*.

Department dominant logics

The notion of dominant logics shared across managers in an organization is not new in the marketing and strategy literature. Prahalad (2004) have described this as being ‘embedded in standard operating procedures, shaping not only how the members of the organisation act but also how they think’ (p. 172), and an expression of the way in which managers conceptualize the business and decide on resource allocation (Prahalad & Bettis, 1986). Ensley and Pearce (2001) point to this as an expression of the agreement between the mental models of top managers. As such, dominant logics and mental models held by department decision makers may be crucial in deciding what concepts will be selected for continuation in NPD. Past research has documented that the dominant logic of marketing managers differ between organizations (e.g., Vargo & Lusch, 2004). As pointed out by Tollin and Jones (2009, p.524), there is a need to develop an understanding of the nature and impact of marketing logics in decision-making processes in innovation – and to what extent a marketing logic can be implemented across the marketing organization. Knowledge about the impact of such biases in the innovation process is of outmost importance; as such logics can have major and unknown effects on which decisions are made. No studies to our knowledge have examined how the between-department variance created by distinct dominant logics may be driving preferences in predictable directions in concept selection in the innovation process.

In the study and analysis we extend the notion of dominant logic to the departmental level, arguing that departments differ in their underlying logics. Such departmental dominant logics, in turn, may lead to predictable differences in concept screening selections. Although service-dominant logic has recently been proposed as a new type of logic in marketing (Vargo & Lusch, 2004), in the present medical organizational context we propose that the traditional marketing dominant logic as expressed for example by Kotler is still the dominant logic. Kotler (1972) stated that ‘marketing management seeks to determine the settings of the company’s marketing decision variables that will maximize the company’s objective(s) in the light of the expected behavior of noncontrollable demand variables.’ The *marketing mix* (price, promotion, place and product) were the variables that could be utilized to make optimal marketing decisions in order to influence sales. This traditional view on marketing logics as focusing on sales can be seen as in opposition with user-oriented design approaches (as practiced in many R&D departments, e.g. Veryzer & Borja de Mozota, 2005), where it is not the sale, but rather the actual product usage by customers, that remains the dominant focal point. Marketing dominant logics of the relation to users focus more on user decision making related to the point of purchase (and thus user preference), whereas R&D logic focus more on user benefits (and thus extended product usage beyond the point of purchase). Two hypotheses are proposed: (h4a)

R&D concept selection (compared to Marketing) is positively influenced by the expected benefit to user, while (h4b) Marketing (relative to R&D) is positively influenced by expected user preferences at the point of purchase.

METHODS

The study took place at a major international producer of disposable medical equipment, as part of a longitudinal front-end NPD project. The project started with an employee-driven innovation project where 93 employees from 11 departments participated in a series of workshops, resulting in 99 distinctive ideas (Onarheim, 2011). Subsequently, 35 employees and a small team of executives assessed these 99 ideas, resulting in 12 ideas selected for continuation in the NPD project (Onarheim & Christensen, 2012). These 12 ideas were finally turned into seven different product concepts, and each of these was to be evaluated for whether they should enter the formal company product development process. At this point all seven were detailed on a conceptual level, but not technically finalized. All concepts were presented in the same fashion, both in text and sketches, so the aesthetical appearance of each should appear as the same level of ‘finalizing’.

Prior to the study, a team of seven core project team members collaboratively rated each of the seven concepts for

- (h1a) specific company marketing competences
- (h1b) concept specific company technological competences
- (h2a) market growth potential
- (h2b) market uncertainty
- (h3a) technological maturity
- (h3b) estimated technological investment required
- (h4a) expected benefits to the user
- (h4b) expected user preference.

These measures served as the criteria for calculating whether and which background variables might explain the between department variance. Importantly, this procedure allowed for a measurement of *tacit* criteria applied in creating preference for particular ideas, without asking the subjects explicitly for which criteria they had applied in their ratings. The aim was to uncover how departmental competencies and logics actually impact organizational decision making on concept selection in NPD. This was further enforced by the use of pairwise comparison, where the concepts are systematically weighted against each other instead of just rated individually.

In the study, 31 company employees working with marketing, 25 employees working with R&D, and eight managers rated the seven ideas using pairwise comparisons – answering ‘*Which of the potential innovations do you consider the best one, from the perspective of a future user?*’, for a total of 21 measurements per individual, on a 7-point scale. In addition, the participants answered a short questionnaire on their level of company and product category experience, age and gender, which served as covariates in the below analyses. The rating was performed in a screen-based survey, with each pair of concepts presented side by side in a 15-inch screen format.

The *s*’th subject judgment/rating of concept “*i*” against concept “*j*” is called *y*_{*ij*s}. If *y*_{*ij*s} is zero it means that there is no difference of the two concepts, if *y*_{*ij*s} is larger than zero it means that concept “*j*” is preferred to concept “*i*” – and higher values indicate that concept “*j*” is preferred more to concept “*i*”. Conversely, if *y*_{*ij*s} is less than zero it means that concept “*i*” is preferred to concept “*j*”. The expected value of *y*_{*ij*s} is denoted $E(y_{ij}s) = \theta_{ij}$.

For each subject we want to estimate a metric preference scale i.e. a total ordering of the 7 concepts and furthermore a signed distance between every pair of concepts expressing how much the one concept is preferred to the other concept. Furthermore these distances should be additive in the sense that the preference of concept “i” over concept “j” equals the preference of concept “i” over concept “h” plus of concept “h” over concept “j” for any concept h.

To say the θ_{ijs} forms a metric preference scale is equivalent to say that there exists numbers, $\alpha_{1s}, \alpha_{2s}, \alpha_{3s}, \alpha_{4s}, \alpha_{5s}, \alpha_{6s}, \alpha_{7s}$, say, such that $\theta_{ijs} = \alpha_{js} - \alpha_{is}$. As there are 64 subjects giving each 21 ratings of pairs of concepts we have 21×64 observations. The observation can be considered as a point in a $(R^{21})^{64}$.

The assumption of the 21 observations for each subject forming a metric preference scale can be considered as a 6×64 dimensional subspace $\{\theta_{ijs} \mid \theta_{ijs} = \alpha_{js} - \alpha_{is}\}$. The estimation of the parameters can be performed by OLS. Further the mean values space can be reduced by letting the influence of the subject go through the employment group (marketing, R&D, executives), i.e. $\{\theta_{ijs} \mid \theta_{ijs} = \alpha_{jg(s)} - \alpha_{ig(s)}\}$, which is also a subspace. The expected values may be the same for all subjects, i.e. $\{\theta_{ijs} \mid \theta_{ijs} = \alpha_j - \alpha_i\}$. Finally the concepts may be identical, i.e. $\{\theta_{ijs} \mid \theta_{ijs} = 0\}$.

RESULTS

An analysis of the between-department variance revealed that the three groups differed significantly in their evaluation of whether the innovations should be turned into company projects, $F(12, 366) = 2.312, p < .001$, thereby rejecting h_0 . In order to test the subsequent hypotheses, and estimate whether and which of the background variables influenced the innovation preference ratings of the three groups, four analyses were run. All models contained subject gender, age, years experience in company, and years experience with the product category as covariates.

Hypotheses 1-3: Department competence and uncertainty reduction potential

The influence of innovation specific marketing competences on innovation preference differed significantly between groups ($F(2,354) = 9.711, p < .001$), while no significant difference could be detected for innovation specific technological competences. Follow-up t-tests supported h_{1a} , in that innovation specific *marketing* competences in the organization drove concept preferences up in the marketing group relative to the R&D group ($t = 4.136, p < .001$), and the management group ($t = 2.487, p < .02$), while the group of managers did not differ significantly from R&D.

The influence of market growth on innovation preference differed significantly between groups ($F(2,354) = 4.715, p < .01$), while no difference could be detected for market uncertainty. Follow-up t-tests revealed that market growth potential led to increased innovation preference for the marketing group relative to the R&D group ($t = 2.913, p < .01$), in support for h_{2a} while the management group did not differ significantly from the other groups.

The influence of technological maturity on innovation preference differed significantly between groups ($F(2,354) = 5.377, p < .01$), while no difference could be detected for technological investment. Follow-up t-tests revealed that innovation specific technological maturity led to lower R&D preference relative to marketing ($t = 2.443, p < .02$), and managers ($t = 2.718, p < .01$) in support of h_{3a} , while marketing and managers did not differ.

Hypothesis 4: Department dominant logic

The influence of user benefits on innovation preference differed significantly between groups ($F(2,354)=4.228, p<.02$), while no significant difference could be detected for user preferences. Follow-up t-tests revealed that user *benefits* effectively increased R&D innovation preferences relative to marketing ($t=2.227, p<.03$) and the executives ($t=2.358, p<.02$), while marketing and the executives group did not differ. While no significant difference was detected for user preference, follow-up t-tests revealed that the R&D group was borderline significantly lower than management ($t=1.877, p=.06$), and with a decreasing trend relative to the marketing group ($t=1.486, p=.14$). The results lend support to h4a, and partial support to h4b.

DISCUSSION

The results support that marketing, R&D and executives do bring with them their own department logics and considerations of competences when evaluating innovations, and these logics predictably spill over into innovation preferences when evaluating front-end innovation concepts. As for organizational competences, the results indicate that while marketing considers it important to support innovations with a high degree of fit to concept specific company marketing competences, managers and R&D are less concerned.

While user benefits and user preferences for concepts may sound like two sides of the same coin, the present results suggest, in alignment with the proposed hypotheses, that a marketing dominant logic is trending towards more concern for user preference, while an R&D logic is mainly concerned with user benefits. The present results lend some support to these hypotheses, speaking perhaps to the driving logic of where the focus lie in relation to user decision making: in the product purchase or the extended product use beyond purchase. Interestingly, in relation to benefits, and to some extent also preferences, managers seemed more in alignment with the marketing group than the R&D team in the present case.

Finally, in relation to market and technology uncertainty, marketing (relative to R&D) seemed to prefer a mature technology, and an innovation with high market growth potential, lending some support to the hypothesis, that high uncertainty in a particular factor only influences innovation selection negatively if your department competences leaves you incapable of acting to reduce this particular uncertainty.

The results lend support to extending the concept of dominant logics to different organizational units, and may further provide some explanations for the large variance found in innovation evaluation. The evaluation of innovations – especially at the front-end – is fraught with uncertainty, and consequently low decision reliability, making such decisions sometimes seem more based on idiosyncratic intuition than reason. Looking to the real world application of the findings, there are some immediate managerial implications that could be suggested from these findings. Firstly, as showed with h0 there is a significant difference of the selections made by the three groups, making it crucial for managers to carefully select ‘whom to ask’ in the screening processes in NPD – specifically focusing on the different answers that should be expected from various departments.

While our results by no means explain all of this individual variance in innovation decision making, it does point to marketing and R&D dominant logics and competences as two types of between-group variance driving concept preference in predictable (and some times opposing) directions in such decisions. Future research should examine further the explanatory power of such departmental dominant logics in organizational decision making on innovation and beyond.

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