

RESEARCH BRIEFS

CAN FIRMS BUILD AN INNOVATION-ORIENTATED CULTURE IN TURBULENT ENVIRONMENTS?

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RESEARCH PROBLEM

“Innovate or die” seems to be the catch phrase for all corporations today. Given that innovation is a life-and-death issue for product marketability and popularity, it is imperative that firms cultivate an innovation-oriented corporate culture conducive to sustaining product innovation over the long run.

How to create an innovation-oriented corporate culture was among the important research problems explored by Ruth Maria Stock, Bjoern Six, and Nicolas A. Zacharias (Technische Universität Darmstadt, Germany) in their recent study. Stock and her colleagues considered corporate culture as the critical element for either enhancing or inhibiting product innovation. In particular, they explored the effect of three aspects of corporate culture—values, norms, and artifacts—on product program innovativeness under market dynamism and technological turbulence. They also explored the role of innovation-oriented cultural artifacts on product innovation.

STUDY DESIGN AND METHOD

Stock and her colleagues surveyed companies that provide products and services to customers in a variety of different industries (e.g., electronics, machinery, software/IT, utilities). In the first stage of data collection, Stock and her colleagues sent personalized letters to 1,000 marketing managers with a request that they participate in the study. If they were willing to participate and were knowledgeable about the product program innovativeness in their firms, they received the Internet-based survey. Because of their closeness to the market, they were asked to evaluate competitors' market development strategies as well as how frequently competitors made significant changes to their product/service offerings. Marketing managers were also asked to evaluate customer preferences

with respect to product features and the quality-to-price relationship. In total, the response rate from this first stage of the data collection process was just under 28%.

Next, Stock and her colleagues invited the responding marketing managers to identify matched R&D managers in their companies. Overall, R&D managers in 216 companies were obtained in this second step. These R&D managers were asked to rate the innovation-oriented culture in the firm's new product development program. Because of their knowledge of technical advances in the market, R&D managers were also asked to rate how quickly technology in their industry was changing.

The key hypotheses focused on innovative corporate cultures. Specifically, Hypothesis 1 was about whether innovation-oriented cultural values positively affect innovation-oriented cultural artifacts through the mediating construct of innovation-oriented cultural norms. Cultural values are related to the commonly held view about what is acceptable, what is important, and what is right. As such, cultural values are intangible and abstract, thus providing an essential basis for norms such as shared social expectations and rules in the company. Innovation-oriented norms can therefore serve as anchors for the creation of innovation-oriented artifacts. Hypothesis 2 focused on whether innovation-oriented cultural norms positively affect product program innovativeness through the mediating construct of innovation-oriented cultural artifacts. Hypothesis 3 proposed that greater market dynamism weakens the relationship between innovation-oriented cultural artifacts and product program innovativeness. Conversely, Hypothesis 4 proposed that greater technological turbulence strengthens the relationship between innovation-oriented cultural artifacts and product program innovativeness. According to the contingency theory perspective (Morgan, 2007), the impact of an innovation-oriented culture on product program

innovativeness can differ across different environmental conditions. In particular, technological turbulence provides opportunities for the company to develop new products, whereas market dynamism reduces those opportunities. Specifically, frequent changes in customer preferences can divert the company's attention away from potentially rewarding opportunities. On the contrary, technological turbulence offers attractive and potentially rewarding opportunities for new products in response to the emergence of new technological procedures and solutions. These elements are likely to provide companies with new possibilities to expand their products' functional horizons (hence addressing the technical demands) and deliver new solutions with innovative value-adding products and services.

KEY FINDINGS

Stock and her colleagues found that innovation-oriented cultural values have a positive effect on innovation-oriented cultural artifacts through the mediation effect of innovation-oriented cultural norms. Innovation-oriented cultural norms have a positive effect on product program innovativeness through the mediation effect of innovation-oriented cultural artifacts. Therefore, values and norms must be transformed into specific artifacts to exert an influence on innovativeness.

For an example, consider 3M—where creating innovative technology for a changing world is the core mission underpinning all internal activities in the firm. Cultural values such as flexibility, creativity, and openness are encouraged by integrating those values into operating processes, thereby transforming symbols, stories, and myths into reality. 3M also promotes its innovation-oriented culture by sponsoring national and international awards that honor “innovation champions,” employees who have contributed significantly to the company. The Tata Group even grants awards to organizational members who come up with innovative ideas that are ultimately *unsuccessful*. This award was designed to encourage intelligent failures and courage as prerequisites for innovation success.

In short, innovation-oriented corporate cultures have a positive effect on product program innovativeness. In other words, values and norms must be transformed into specific artifacts before they can affect innovativeness and subsequently business performance. Furthermore, Stock and her colleagues explored the effect of market dynamism and technological turbulence on product innovation. Specifically, they looked at how different

kinds of environmental uncertainty (market dynamism and technological turbulence) affect the link between innovation-oriented culture and product program innovativeness. Stock and her colleagues found that market dynamism and technological turbulence have opposite moderating effects on the relationship between innovation-oriented cultural artifacts and innovativeness. Specifically, they found that market dynamism negatively affects the relationship between artifacts and product program innovativeness, while technological turbulence has a positive moderating effect.

In addition, they found that technological turbulence supports employees' motivation to innovate. In essence, the success of frequent technological innovations in turbulent markets reconfirms the importance placed on innovation in the company. Therefore, the relationship between innovation-oriented cultural artifacts and product program innovativeness is stronger in technologically turbulent markets. However, market dynamism is associated with frequent changes in competitors' offers and customer preferences. Under such conditions, the company's attention turns to market changes, which may harm the impact of innovation-oriented artifacts on employees' inspiration to work on new ideas and solutions. Consequently, the relationship between innovation-oriented cultural artifacts and product program innovativeness is weaker in dynamic markets. For example, Lenovo invests in rigorous market research to determine the predominant drivers of environmental changes stemming from customer preferences or technical advances. In Asian markets, however, customer preferences change rapidly and Lenovo puts more resources on marketing activities. However, in the more technologically turbulent North American market, Lenovo puts more resources into R & D activities to attract customers.

CONCLUSIONS AND IMPLICATIONS

Stock and her colleagues highlight how different layers of innovation-oriented corporate culture affect product program innovativeness and business performance under different environmental conditions. They untangle the complex relationships that bind corporate culture to innovativeness in a company's product program by distinguishing three layers in innovation-oriented corporate cultures. The results reveal that corporate culture exerts its influence mainly through cultural artifacts. Technological turbulence amplifies the link between innovation-oriented cultural artifacts and product program innovativeness, whereas market dynamism has a contrary effect.

These findings have important implications for understanding organizational culture and product program innovativeness under different types of environmental uncertainty. This study provides managers with deeper insights into how to construct an innovation-oriented corporate culture. Specifically, while managers may have recognized the impact of organizational culture on innovativeness, they may not understand how to shape its elusive and intangible nature (Zhu & Bargiela-Chiappini, 2013). More importantly, Stock and her colleagues' nuanced explanation of the mediating effects of culture has far reaching implications. Managers need to understand that values and norms do not immediately affect product program innovativeness and instead need to be transformed into innovation-oriented artifacts. For example, managers can circulate stories of innovation heroes, create informal discussion areas, and organize events that focus on innovation.

Finally, this research has practical implications for understanding how innovative-oriented cultures become particularly important in environments where technology is rapidly changing. In essence, corporations can become more competitive through continuous technological innovation to meet customers' needs, which is likely to result in a higher level of product program innovativeness.

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