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The orchestra of ideas: Using music to enhance the ‘fuzzy front end’ phase of product innovation

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ABSTRACT

By introducing music composition theory, we offer a new perspective from which to understand the ‘fuzzy front end’ (FFE) phase of product innovation with regard to both value outcomes and the innovation process. Focusing on ideas co-created by consumers, we draw on an ethnographic study to examine how young consumers tackled a real-life challenge to produce a digital product that would engage audiences in classical music. Working with two organizations, one a city symphony orchestra, the other a global technology corporation, this work bridges innovation and aesthetics and challenges the established mind-set of the science-art schism in business management. The findings contribute to innovation theory by introducing a hybrid model that structures FFE activities based around the composing process. We also illuminate how music can facilitate and ensure greater value for consumers as ‘the composers of ideas’. Managerial implications are suggested.

1. Introduction

The world of the arts and the world of science, and by implication, management science, have predominantly been viewed as opposites. Science, its ontology, methodologies and practices based on hard, cold data derived through ‘scientific’ means is generally regarded as belonging to the world of objective reason. The arts, on the other hand, are considered to be firmly rooted in the realm of subjectivity, emotions, and aesthetics. Yet this schism, when examined, is not quite so clear cut. For instance, the observational techniques needed to perform modern science came from the skills introduced by Renaissance artists in their attempts to mirror and reproduce nature in its most precise and accurate form (Douglas, 2004). Possibly one of the most celebrated boundary crossers, Leonardo da Vinci, despite producing two of the most famous paintings ever, the Mona Lisa and The Last Supper, was not confined to, or constrained by, the category of artist. On the contrary, he crossed the boundaries of science, art and nature, leaving thousands of pages of observations, sketches and blueprints that have subsequently been examined and studied by physicists, anatomists, botanists, mathematicians and engineers (Bulent, 2004). Despite this, history, and in particular ‘Enlightenment’ philosophy and the modernist drive towards science, rationality, objectivity and reason, has seen the expulsion of imagination and aesthetics from scientific enquiry (Daston, 1998; Luhmann, 2000). This in turn has resulted in the bifurcation and

polarization of science as the arbiter of analysis, and art as the process of synthesis. However, in reality, the scientist and the artist engage in both (Bulent, 2004; Douglas, 1989). As Smith (1970: 493) noted, the study of the interplay between art and science “is not only interesting, but is necessary for suggesting routes out of our present social confusion”.

Recent shifts in academic thought have sought to challenge such strict binary divisions within the field of management and marketing. This is evident with the emergence of critical schools within the disciplines, cross disciplinary research, the growth of interpretivist approaches and, a growing appreciation and understanding of what the arts can bring to bear on organizational performance at all levels (Darso, 2004). These interdictions may be seen in the spirit of late modernity’s increasing tendency towards de-differentiation - the erosion of “effacement and elision of established boundaries - high and low culture, education and training, politics and show-business - and the blurring of what were formally clear cult entities (philosophy and literature, author and reader, science and religion etc.)” (Brown, 1995: 197). But to suggest that there is some happy harmonious relationship whereby the arts and the natural sciences are today collaborators working together to determine the most rounded solutions to problems, both academic and practical, would be either misleading or wishful thinking. There are numerous initiatives such as the Wellcome Trust’s ‘Sciart’ program which sought to implement C.P. Snow’s notion of ‘Two

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Cultures’ to frame the interaction of artist and scientists as interdisciplinary collaborators (Yang, 2015). However, “communities of scientists and artists put considerable work into maintaining their disciplinary boundaries, and, ironically, so called art-and-science initiatives can be one of the most convenient devices to help accomplish this” (ibid.: 318). Essentially, the ‘inter’ becomes the illegitimate child of the established disciplines and the results fail to do justice to either disciplines.

The theme of this special issue is how arts can become sources of value creation for business. Drawing on data gathered from ethnographic research involving the innovation process of designing and developing an ‘arts meets science’ product, we extend this to ask what lessons can business learn from the arts? Our research, unlike many predefined and funded projects, is the result of two independent organizations, one a city symphony orchestra, the other a world leading technology corporation, voluntarily coming together to see how, by drawing upon their individual strengths, experience, aesthetic and technological expertise, they could develop a product that would encourage and engage young people in classical music. Critically, they wanted to ensure that the potential users they were aiming to attract were part of the process of innovation and design. Our findings suggest theoretical and methodological implications beyond the immediate context. These include developing new approaches to the notion of value in product innovation; revisiting creative activities in the early stage of idea development; and aiding consumers to leverage their creativity while co-creating values with businesses. We focus our discussion on one particular aspect of organizational activity - the fuzzy front end phase in product innovation; and in order to demonstrate our findings, we draw on music composition theory as an alternative framework for understanding the process.

2. Theoretical development

2.1. Fuzzy front end in product innovation

Since the 1950s, product innovation has been viewed as one of the most vital competencies of an organization (Moustaghfir & Schiuma, 2013). This has become increasingly important in the light of global competition, technological progress, and product complexity (Schiuma et al., 2012). The real key to product innovation success however, lies in the very first stage in which idea generation, idea screening, and concept development take place (Alam, 2006; Reid & De Brentani, 2004). This phase is defined as the ‘fuzzy front end’ (FFE) since it is characterized by ambiguity and a somewhat chaotic nature (Sanders & Stappers, 2008; Smith & Reinertsen, 1991). Low levels of formalization, unstructured procedures and high levels of uncertainty in FFE require businesses to generate various types of information from both internal and external alliances (Zahay, Griffin, & Fredericks, 2004). Recent FFE literature has seen a trend towards involving consumers in the process in order to reduce uncertainty in FFE, given that consumers are ultimately the final stakeholder and arbiter of products (Schweitzer, 2014). The role of consumers in FFE can also be found in early research which supported the idea that consumer involvement significantly improved product concepts and offered an effective contribution to developmental activities, including design activities (Harker, 2015; Sanders & Stappers, 2008). Other works focus on the motivation behind consumer engagement (Füller, 2006); issues in managing and facilitating consumers in generating ideas in FFE (Enkel, Kausch, & Gassmann, 2005); and consumer competences (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010; Tran, 2017). However, much of this work concentrates on how to attain the most creative ideas from consumers. Conversely, we contend that FFE can be designed to maximize values for consumers as, “innovation is about discovering innovative ways of co-creating value and defining new value propositions” (Mele, Colurcio, & Russo Spina, 2009: 14). This inspired us to re-interpret value creation in FFE where consumers “participate with their

own competencies to realize this potential value through the process of value co-creation” (ibid.: 16). As innovation is both an outcome and a process in itself (Vargo & Lusch, 2008), we re-examine FFE with regard to both value outcome and the value creation process.

Recent years have seen a radical shift from values as “tangible goods, with a fixed set of features and attributes” towards emotional bonds and the experience of “intangible services and experiences, with high knowledge content” (Romero & Molina, 2011: 452–453). Concurrently, the quality of the overall experience in the consumer journey has become the locus of value co-creation rather than traditional product-centric approaches (Pralhad & Ramaswamy, 2004). In the specific context of FFE, creative ideas can be enhanced by incorporating “as much as possible of the flow experience into the various domains” (Csikszentmihalyi, 1996: 10). Consumers participating in FFE can achieve flow experiences under conditions of deep involvement, freedom, self-control, attention, challenge, sense of mastery, competence and task enjoyment (Füller, 2006) in creative product concept generation, the key objective in FFE (Im, Montoya, & Workman, 2013).

The process of generating creative ideas in FFE has become a source of interest for both academics and practitioners (Boeddrich, 2004). Up to now, Amabile’s seminal work (1988) is still one of “the most influential creativity theories” from which “the most commonly used definition of creativity stems” (Shalley & Gilson, 2016: 3–4). The componential theory of creativity (Amabile, 2012) highlights three key components and their interaction in enhancing creativity. First, intrinsic motivation to do the task is positioned as the critical component (Shalley & Gilson, 2016). The second factor relates to domain relevant knowledge and skills, which include personal, educational, technical, and functional background used to generate and integrate knowledge. The last component is the skills in creative thinking, including adopting lenses and combining ways of thinking. While this model has, and continues to have significant influence in creative idea generation, our paper aims to offer a refinement of the model which places greater emphasis, not only on creative idea generation, but also on the importance of experiential values generated from the process.

2.2. The arts in fuzzy front end study

In response to the quest for delivering greater consumer experiential values, research supports the value of adopting arts based approaches to assist businesses to identify and build consumer value into new products and services. After all, the arts themselves are experiential and are “consumed primarily for intrinsic rewards - for the experience itself” (Boorsma, 2006: 79). They may be consumed for hedonistic fulfillment, and can be both entertaining and challenging, especially when they involve absorption, engagement, imagination and interpretation (Csikszentmihalyi, 1996). Therefore, when utilizing the arts in the innovation process, there is usually a strong focus on emotional, imaginary, and sensory stimulation in the use of products or services. Indeed, the arts can aestheticize the everyday-life of consumers. They can form tastes, transfer these tastes to everyday objects, and influence future product choices (Venkatesh & Meamber, 2008).

Business history reminds us that innovation is often introduced and fostered in the arts (Nissley, 2010). Among the four intersecting levels between the arts and business (Darso, 2004), the highest level in the strategic process is the creative contribution the arts can make in the innovation process (Styhre & Eriksson, 2008). Many innovation projects have even utilized artists for a period of time for the value they can bring with their ‘fresh-eyed’ approach to organization problems (Taylor & Ladkin, 2009). Essentially, creative individuals can see beyond the horizon of utility and introduce aesthetic skills and qualities (Styhre & Eriksson, 2008). They can also play a central role as co-producers by giving meaning to artifacts.

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