



# Innovation culture and the performance of new product launches: A global study



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## ABSTRACT

We examine how innovation culture affects new product launch performance in a sample of entrepreneurial ventures ( $N = 334$ ). In order to examine the relation between innovation culture and new product launch performance, we embarked on a two-step process. First, we examined the factor structure of innovation culture—results confirmed nine-dimensions. Here, a grouped confirmatory factor analysis (CFA) examined cross-cultural differences between eastern and western cultures. Second, the dimensions of innovation culture were used to determine culture profiles across these 334 entrepreneurial ventures. We found two clear subpopulations of innovation culture and we link these two clusters to new product development (NPD) performance (i.e., new product sales and profits averaged over 5 years). In particular, a Latent Profile Analysis (LPA) suggested two profiles existed with respect to innovation culture—that is, ventures that ranked ‘high’ across all innovation culture dimensions versus ventures that ranked ‘low’ across all nine dimensions. Ventures scoring higher across all innovation culture dimensions had significantly higher new product profits and sales. In a series of robustness checks, a path model revealed no significant moderation by region (i.e., eastern vs. western countries) in the innovation culture to performance relationship. Implications as well as directions for future research are discussed.

## 1. Introduction

The ability to launch new products, and have those products perform well in the marketplace, is a central focus for nascent, emerging, and established entrepreneurial ventures (Kanter, 1985; Langerak et al., 2004; Mitchell et al., 2012). Accordingly, an array of academic research in the domain of entrepreneurship has explored the launching of new products and the predictors of success in the market. Extant research has typically focused on the external factors that are related to success such as environmental dynamism (Baron and Tang, 2011), economies, and industry (Minguzzi and Passaro, 2001).

In addition to the external factors that can facilitate the market success of new products, we know that internal elements of ventures—such as alertness, search activity, prior knowledge (e.g., Baron, 2006), entrepreneurial orientation (Dess and Lumpkin, 2005), organizational integration (Millson, 2015) and venture backing (Pierrakis and Saridakis, 2017)—may improve the ability to bring successful products to market. However, although this literature is expanding, there are multiple questions that remain unanswered with regards to the predictors of which ventures will bring new, successful, products to market. Overall, the quandary that is not yet resolved in the literature revolves around whether or not we can differentiate ventures that are more likely to bring

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successful new products to market versus those which are less likely.

To resolve this quandary, we suggest that one critical differentiating factor that can separate ventures is the construct of “innovation culture.” Drawing on extant work related to organizational culture (Barney, 1986), as well as research on innovation (McKinley et al., 2014), we define “innovation culture” as *the values, beliefs, assumptions, and symbols in an entrepreneurial venture that facilitate activities including, but not limited to, the pursuit of novel products, services, and/or production processes.* The present research uses this definition as a base from which we empirically: (a) conduct a confirmatory factor analysis (CFA) of the construct of innovation culture, (b) examine measurement invariance across eastern and western cultures, (c) develop the latent profiles of ventures using innovation culture as a differentiator, and (d) quantify the relation between innovation culture and NPD performance.

## 2. Innovation culture

It is widely recognized that an innovation culture is related to increased organizational performance (Büschgens et al., 2013; Cameron and Quinn, 2005; Dombrowski et al., 2007; O'Connor, 2008; Shahzad et al., 2017) and new product performance (Cooper and Kleinschmidt, 1995). Multiple measures and dimensions of an innovation culture have emerged (Aiman-Smith et al., 2005; Dobni, 2008; Dombrowski et al., 2007); however, there is inconsistency regarding the number and content of the dimensions across various measures of innovation culture. For example, Dobni (2008) empirically identified seven components of innovation culture while Dombrowski et al. (2007) found eight and Aiman-Smith et al. (2005) found nine dimensions.<sup>1</sup>

These inconsistencies have made it difficult to conceptualize innovation culture across ventures and isolate how these innovation culture dimensions relate to overall NPD performance. And, it has prevented a true, comprehensive test of Dombrowski et al. (2007) proposition that organizations high on each innovation culture dimension are likely to outperform those ranking lower. Our study aims to reduce this complexity by exploring data from a global sample of entrepreneurial ventures. We approach our work with these four exploratory research questions:

*Research Question 1:* What is the factor structure of the construct of innovation culture?

*Research Question 2:* How differentiated will ventures be with regards to innovation culture?

*Research Question 3:* What is the relation between innovation culture and NPD performance?

*Research Question 4:* Is innovation culture different across countries (i.e., eastern vs. western)?

## 3. Method

### 3.1. Participants and procedures

Individuals from 453 ventures were invited to participate in this study as a part of the Product Development and Management Association's (PDMA) 2012 Comparative Performance Assessment Survey (CPAS). The 2012 PDMA CPAS study was the fourth best practices study (BP4) sponsored by the PDMA (see Lee and Markham, 2016), which is an organization that conducts best practices research on NPD (Holahan et al., 2014; Markham and Lee, 2013). Both hard copy surveys and/or online surveys were distributed to contacts at these 453 ventures in 24 different countries<sup>2</sup>—individuals were asked to either complete the surveys personally or, if needed, retrieve answers from multiple key personnel at their ventures. Surveys were translated by native speakers through a professional translation service. We received 334 completed surveys (73.73% response rate).<sup>3</sup>

### 3.2. Measures<sup>4</sup>

Correlations, reliabilities, and descriptive statistics for the latent factors derived from the CFA (described below) are shown in Table 1—also, we show the correlations among the latent factors and performance (i.e., profit, sales) in Table 1. The CFA results are shown in Table 2.

#### 3.2.1. Independent variables

Items to measure innovation culture were selected based on their relation to the innovation culture dimensions identified by Dobni (2008), Dombrowski et al. (2007), and Aiman-Smith et al. (2005). For consistency, factor labels were taken from Dombrowski et al. (2007) as they provided the most easily interpretable factors. We contend that effective innovation strategies require all innovation culture dimensions. Similarly, Dombrowski et al. (2007) conclude that, “missing any of these cultural elements will hinder organizations’ innovation efforts” (p. 200). In sum, we view innovation culture as a gestalt construct where the whole of its

<sup>1</sup> For a succinct summary of these dimensions, see Appendix A.

<sup>2</sup> Western countries included: United States, Canada, Netherlands, United Kingdom, France, Belgium, Denmark, Germany, Ireland, Sweden, and Switzerland. Eastern countries included: South Korea, China, India, Malaysia, Hong Kong, Japan, and Taiwan. Other countries represented: Saudi Arabia, Brazil, Colombia, Ecuador, Mexico, and New Zealand. Surveys were gathered from North America (198 surveys), Asia (149), Europe (61), and others (45).

<sup>3</sup> The distribution of industries included: capital goods (97), chemicals and materials (74), industrial services (63), software and services (59), consumer services (51), technology hardware (62), health care (41), and fast-moving consumer goods (26). Firms used in the final analyses did not significantly differ in terms of their innovation culture scores from the total sample of 453 firms—i.e., some ventures returned partial data and we were able to compare scores.

<sup>4</sup> See Appendix B for all measures.

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