



Examining process management via the lens of exploitation and exploration: Reconceptualization and scale development



Stephen C.H. Ng^{a,*}, Johnny M. Rungtusanatham^{b,1}, Xiande Zhao^{c,2}, T.S. Lee^{a,3}

^a Department of Supply Chain Management, Hang Seng Management College, Hong Kong

^b Fisher College of Business, Faculty of Management Science, United States

^c Institute of Supply Chain Integration and Service Innovation, South China University of Technology, Department of Decision Sciences and Economics, China Europe International Business School, China

ARTICLE INFO

Article history:

Received 8 January 2014

Accepted 29 January 2015

Available online 7 February 2015

Keywords:

Process management

Exploitation

Exploration

Duality of change

Scale development

ABSTRACT

Does process management encompass both process exploitation and exploration? Conventional thought long has suggested that exploitation is the very nature of process management, but recent literature suggests a perspective broader in scope. Our review highlights three problems that plague process management research based on conventional thought, which also has suffered from insufficient theory building and empirical validation. Here, we emphasize the duality of change and re-conceptualize process management to provide a comprehensive definition via capability lens. Our view of process management illuminates that the two routes organizations can take to a glean process knowledge: process exploitation and process exploration, both of which are not only essential but complementary. Basing upon scale development using 330 responses from Chinese manufacturers in the Pearl River Delta, this hypothesis is supported. We find that the inclusion of process exploration provides process management a better prediction of different business performances. Our study also reveals that prevailing theories predicting the relationship between process exploitation and exploration find little support from the results.

© 2015 Elsevier B.V. All rights reserved.

1. Introduction

The functional roles of process exploitation and exploration in the scope of process management long have been mired in mixed perspectives and ambiguous evidence. Theoretical studies focusing on the notion and nature of process management are scant, nor have there been formal scale-development efforts with the process management as a typical focus. Our paper is an attempt to bridge this research need, propounding an alternative view of process management not meant to supplant current understanding, but to extend it by embarking on a formal scale development process as validation. We contend that process management should be defined more completely as *an integrated organizational capability that manifests itself through a set of mutually supportive routines and practices in order to exploit existing processes and explore new processes*. This proposed definition is congruent with

organizational learning theory (e.g., Dixon et al., 2007; March, 1991) because it portrays two roadmaps for organizations to acquire process knowledge. Organizations tend to pursue process exploitation, refining and extending existing process capabilities—but at the expense of process exploration. The former might more easily lead to higher returns (March, 1991), but the latter opens the door to innovative, alternative processes (cf., March, 1991). In this paper, we develop theoretical arguments to ground – and empirical evidence to substantiate – our proposed view.

A number of underlying causes have contributed to the slow theoretical advancement of process management. The existing literature often contextualizes it as one element of a broader framework, such as TQM and ISO 9000 (e.g., Flynn and Saladin, 2001; Wilson and Collier, 2000). Its advancement at the hands of practitioners, rather than academics (Silver, 2004; Smart et al., 2009), plays no small part, as does the absence of an unambiguous theoretical framework (Smart et al., 2009). Studies in recent decades are replete with evaluations of process management's performance impact (e.g., Anderson et al., 1995; Flynn and Saladin, 2001; Kim et al., 2012; Singh, 2012) and implementation contingencies (e.g., Linderman et al., 2010; Sila, 2007; Zhang et al., 2012), but efforts to rigorously theorize and empirically validate its nature and conceptual domain are markedly insufficient. In our review of 15 empirical studies, shown in Table 1, we find none

* Corresponding author. Tel.: +852 3963 5462; fax: +852 2632 5092.

E-mail addresses: stephennng@hsmc.edu.hk (S.C.H. Ng), Rungtusanatham.1@osu.edu (J.M. Rungtusanatham), xiande@ceibs.edu (X. Zhao), tslee@hsmc.edu.hk (T.S. Lee).

¹ Tel.: +1 614 292 0680; fax: +1 614 292 1272.

² Tel.: +86 21 2890 5160.

³ Tel.: +852 3963 5196; fax: +852 2632 5092.

Table 1

Process management: prior notions.

(A) Denotes content validity, (B) denotes unidimensionality, (C) denotes reliability, (D) denotes convergent validity, (E) denotes discriminant validity.

| Source (chronological ranking) | Definition | Orientation reflected by measurement items | No. of items | Scale development process result reported | | | | | Complete process? |
|--------------------------------------|---|--|--------------------|---|------------------------|-----|-----|-----|----------------------|
| | | | | (A) | (B) | (C) | (D) | (E) | |
| 1 Saraph, et al. (1989) | No specific definition is provided. | Control | 10 | ✓ Not rigorous | ✓ bidim ^a . | ✓ | ✓* | ✓* | Yes |
| 2 Choi and Eboch, 1998 | Management of process quality entails monitoring of work processes and improving operational variations | Control and incremental process improvement | 5 | ✓ Not rigorous | ✓ unidim ^b | ✓ | ✓ | ✓ | Yes |
| 3 Anderson et al. (1995) | Process management is the set of methodological and behavioral practices emphasizing the management of processes, or means of actions, rather than results. | Control | 5 | ✗ | ✓ unidim | ✓ | ✗ | ✗ | No |
| 4 Flynn et al. (1995) | No specific definition is provided. | Control | 14 | ✓ Not rigorous | ✓ unidim | ✓ | ✓* | ✓* | Yes |
| 5 Powell (1995) | Process management is to reduce waste and cycle time in all areas through cross-departmental process analysis. | Incremental process improvement | 5 | ✗ | ✗ | ✗ | ✗ | ✗ | No |
| 6 Samson and Terziowski (1999) | Process management is concerned with how the organization designs and introduces products and services, integrates production and delivery requirements and manages the performance of suppliers (Evans and Lindsay, 2008). | Control | 5 | ✓ Not rigorous | ✓ unidim | ✓ | ✗ | ✗ | No |
| 7 Ahire and Dreyfus (2000) | Process quality management is the tracking and improvement of manufacturing process quality. | Control and incremental process improvement | 7 | ✓ Not rigorous | ✓ unidim | ✓ | ✓ | ✓ | Yes |
| 8 Wilson and Collier (2000) | No specific definition is provided. | Control and incremental process improvement | 6 | ✗ | ✗ | ✗ | ✗ | ✗ | No |
| 9 Flynn and Saladin (2001) | No specific definition is provided. | Control | 12 | ✗ | ✓ unidim | ✓ | ✗ | ✗ | No |
| 10 Benner and Tushman (2002) | Process management entails three main practices: mapping processes, improving processes, and adhering to systems of improved processes. It aims at variation-reduction and efficiency-enhancement. | Control and incremental process improvement | 1 | ✗ | ✗ | ✗ | ✗ | ✗ | No |
| 11 Benner and Tushman (2003) | Process management entails three main practices: mapping processes, improving processes, and adhering to systems of improved processes. It aims at variation-reduction and efficiency-enhancement. | Control and incremental process improvement | 1 | ✗ | ✗ | ✗ | ✗ | ✗ | No |
| 12 Kaynak (2003) | No specific definition is provided. | Control | 10 | ✓ Not rigorous | ✓ unidim | ✓ | ✓ | ✓ | Yes |
| 13 Yeung et al. (2004) | Process management embraces both the practice of continuous process improvement and the implementation of process-control system. | Control and incremental process improvement | 6 | ✗ | ✓ bidim | ✗ | ✓ | ✓ | No |
| 14 Zhang et al. (2012) | Increase process control, increase process reliability, explore improvement of new products and processes, and dynamic change of the organization. | Control and improvement (no differentiation) | 6 | ✗ | ✓ | ✓ | ✓ | ✓ | No |
| 15 Kim et al. (2012) | Involves two key activities: repeating routines and enhancing routines. | Control and incremental process improvement | 3 | ✗ | ✓ | ✓ | ✓ | ✓ | No |

* Use construct validity instead.

^a "bidim." denotes bidimensional.^b "unidim." denotes unidimensional.

subjects process management to a rigorous theoretical and scale development process with full consideration given to formally assessing content validity, uni-dimensionality, reliability, convergent validity and discriminant validity. In particular, many of these studies do not focus on assessing content validity. As Silver (2004, 277) notes, "...many academics have only paid lip service to the process or system perspective, especially from a research perspective." Most critically, the dominant notion of process management as a solely incremental process improvement remains entrenched in the long-standing seminal work of Deming (1986) and Juran (1988), with notable suggestions otherwise (e.g., Minonne and Turner, 2012; Siriram, 2012; Sutcliffe et al., 2000). As Benner and Tushman (2003, 243) note, "[t]he founders of process management focused on incremental and exploitative innovation, rather than radical, architectural, or exploratory innovation".

Previous studies rather unsurprisingly, then, frame process management as process control practices and/or incremental process improvement (e.g., Flynn et al., 1995; Yeung et al., 2004). Spencer (1994) notes researchers tend to prioritize variation

reduction or control of individual processes, which has driven organizations' exclusive pursuit of process consistency, waste reduction and faster work flow (Spencer, 1994). Closely linking exploitation to process management, which has continued even in recent studies (e.g., Kim et al., 2012; Zhang et al., 2012), is not on its face incorrect. It does not, however, make room for research (e.g., Benner and Tushman, 2003; Sutcliffe et al., 2000) that finds the solely exploitation-oriented process management unsuitable for competing in dynamic environments where exploratory and experimental innovation is paramount.

At the outset, we highlight three problems that demonstrate the limitations of current notions of process management. We next examine prevailing perspectives on the relationship process exploitation and exploration and examine process management by extending its conceptual domain to include process exploration, establishing a newly framed definition. We subsequently develop and validate a pen-and-paper measurement instrument and delineate a formal scale development process for process management, testing the relationship between process exploitation and

Download English Version:

<https://daneshyari.com/en/article/5079777>

Download Persian Version:

<https://daneshyari.com/article/5079777>

[Daneshyari.com](https://daneshyari.com)