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Incumbent capability enhancement in response to radical innovations

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ABSTRACT

Schumpeterian market disequilibrium marked by entrepreneurial entry and incumbent exit has long held an important place in management literature. The extant literature has overwhelmingly championed the newcomer, despite incumbents' obvious advantages in resources, experience and market knowledge. The current research provides evidence for the effectiveness of the incumbent's strategy of capability enhancement (along an established technological trajectory) while responding to radical technological innovations. We develop a cognitive process model that integrates managerial cognition with capability development and deployment views, depicting the dynamics of the incumbent's capability enhancement process. We analyze the cognitive drivers of organizational actions in all stages (rigidity, triggering event, and capability renewal) and elucidate the role of top management cognition in the processes of detecting and correcting errors in a strategic course of action. We ground our model in the case of a cork-stopper industry veteran's decline as corks ceded ground to screw tops and other stoppers in the wine industry. How a major company fought back in response to the emergence of these, in the industry context, radical technological innovations, provides the basis for our narrative. The proposed theoretical model contributes to literature on technology management (with regard to incumbent strategies in response to radical innovation threats) as well as the role of cognition in strategy (providing an explanation of the cognitive underpinnings of capability development).

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1. Introduction

Hill and Rothaermel (2003) observe a persistent theme in the literature on technological innovation – the great struggle incumbents have when 'crossing the abyss created by a radical technological innovation.' Usually, the struggle leads to the incumbents' decline, 'while new entrants rise to market dominance by exploiting the new technology' (p.257). The demise brought about by radical technological innovations has long been seen as integral for industrial rejuvenation, the very essence of entrepreneurial dynamics and wealth creation (Kirchhoff, 1991; Schumpeter, 1941). Here, the term 'radical' technological innovation refers to a new technology that simultaneously is (a) a

preferred substitute for that already existing from the customer perspective (Arrow, 1962; Reinganum, 1983), (b) competence-destroying from the perspective of an incumbent's technical capabilities (Tushman & Anderson, 1986, and (c) able to cannibalize the incumbent's existing products (see, e.g., Wu, Wan, & Levinthal, 2014). The shock of the new does not always overwhelm the tradition of incumbency, however. Some incumbents can and do respond successfully to radical innovation in their industry (Ansari & Krop, 2012); in Weick (1993) terms, tools are not always dropped. In line with this reasoning, in the current paper we build an inductive theory from a critical case study of an established industry leader successfully adapting to radical technological innovation in its industry.

The focal industry is that of viniculture production, in particular the contribution of natural cork stoppers, which have been used by wine producers for sealing bottles for over two centuries. Starting in the 1990s, the role of the natural cork stoppers declined noticeably in the wine industry, in favour of alternative screw caps, made of plastic and aluminum. Within this context, we investigate how the cork industry veteran (the single largest cork stopper

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manufacturer in the world, *Corticeira Amorim* (COR), with over 30% global market share and annual production of 13 billion cork stoppers) fought back in response to the emergence of radical technological innovation.

Our study analyzes the cognitive influences behind the dynamic strategic responses of this company. The resulting inductively developed cognitive process model integrates managerial cognition with capability development and deployment views and depicts the dynamics of an incumbent's capability enhancement process at all stages (rigidity, triggering event, and capability renewal). Taking a cognitive view of capability enhancement drivers puts a particular emphasis on the role of top management cognition in the processes of detection and correction of errors in the course of action (Catino & Patriotta, 2013) with respect to the incumbent's technological strategy.

The study makes two distinct contributions. First, the model of emerging process contributes to the technological innovation management literature addressing incumbent challenges in responding to radical technological innovation through enhancing established capabilities associated with existing technology by a "racing" strategy (Adner & Snow, 2010). Such a strategy is intended to extend performance to the appropriate level. Second, to the seasoned observer of the strategy literature, it might appear as if it is only resources, competitive forces, or abstracted capabilities that drive strategy, but as Powell (2014) argues, this is a result of the 'creeping impersonalism' that has characterized the strategy field since its inception. We follow his advocacy of the need for a personalist rebalancing of strategy; thus, our research adds to the

small but important body of work on the role of managerial cognition. We address the processual dynamics of incumbent domain negligence prior to further capability development and deployment. While cognition, as "information processing, knowledge structure mapping and concept attainment" (Rialp-Criado, Galván-Sánchez, & Suárez-Ortega, 2010), is finding an increasingly important place in strategy, we know little about how incumbents avert potential disruption. The focus on managerial cognition is framed by engaging with the CEO of a family business as a key respondent. We integrate managerial cognition with the processual dynamics of incumbent capability enhancement, analyzing the cognitive drivers of organizational actions. The study reinforces the importance of personal managerial cognition in processes of external threat detection, analysis, and course correction.

The paper starts with a brief review of prior literature linking managerial cognition to incumbent firms' strategies when faced with radical innovation. Then, we discuss the focal context of a traditional industry (cork stoppers) exposed to a rising radical innovation (alternative stoppers). Next, we introduce the research method of a critical case study and qualitative analysis. The emerging findings in chronological themes are linked back to the prior literature (on managerial cognition and capability renewal), culminating in the process model of capability enhancement at the focal firm (Fig. 1). In the discussion we provide generalize the findings theoretically, while in the conclusion we summarize contributions and limitations of the study.

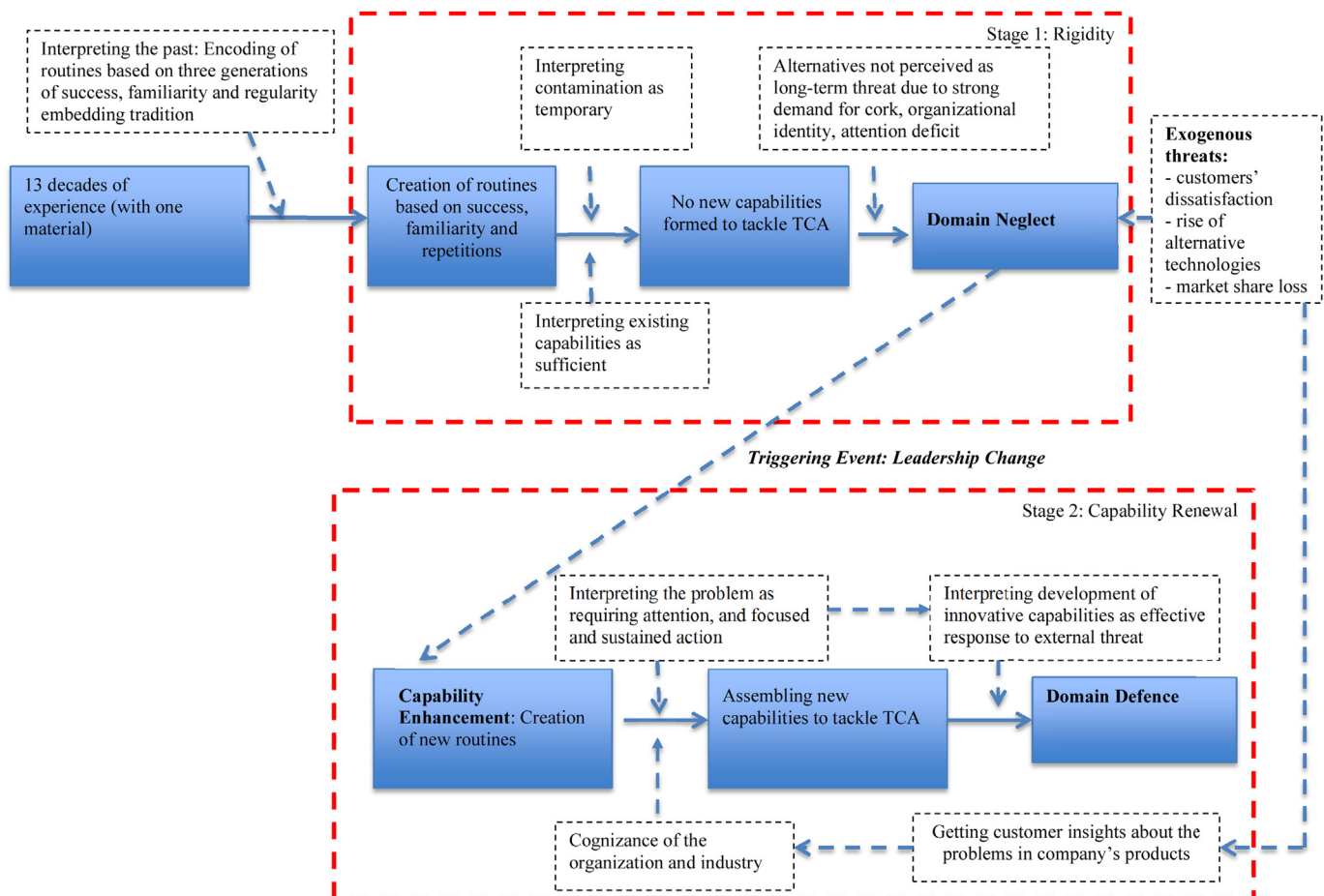


Fig. 1. The process model of capability enhancement at COR.

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