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CUSTOMER ORIENTATION AND ORGANIZATIONAL RESPONSIVENESS

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Abstract

One of the central issues in the strategic arena is: how can a firm maintain its independence and yet be responsive to its customers? Recent series of debates appeared centering on whether or not customer orientation leads to organizational rigidities, however, leaving the more fundamental question of what are the process by which customer orientation links to organizational rigidities untouched. To fill this important gap, this study conceptualizes and empirically tests a mediation model using a survey of 300 high technology firms in China. The authors find that customer orientation is positively to interpretation of environment as both opportunity and threat, which in turn lead to resource and routine rigidities. In particular, threat interpretation fully mediates the effects of customer orientation on resource rigidities while opportunity interpretation partially mediates the effect of customer orientation on routine rigidities.

CUSTOMER ORIENTATION AND ORGANIZATIONAL RESPONSIVENESS

Despite the fact that market orientation has become a pivotal construct that affects a firm's strategy and operation (Zhou et al. 2005), researchers have increasingly recognized the importance of customer-side value destruction and cautioned that being too customer focused can lead to inertia (e.g., Christensen & Bower, 1996; Hamel & Prahalad, 1994; Leonard-Barton, 1992). This line of reasoning maintains that customer orientation might lower the firm's innovative competence because customer oriented organizations might (1) miss the signals for innovation because of the tight-coupling with shortsighted customers (Danneels 2003), i.e., failure in cognitive responsiveness; (2) fail to embrace innovation even when they notice the signals because "customers place stringent limits on the strategies firms can and cannot pursue" (Christensen and Bower 1996), i.e., failure in behavioral responsiveness.

In this article, we argue that an important yet under-research issue in the literature is the role of customer orientation in organizational responsiveness. Responsiveness is a firm's propensity to act on intelligence that is generated and disseminated (Hult et al. 2005; Kohli and Jaworski 1990). Responsiveness is found to be related to market performance (Han et al. 1998; Homburg et al. 2007; Hult et al. 2005), new product success (Han et al. 1998), and adaptive capacity (Benner 2009; Zhou and C. B. Li 2010). Indeed, responsiveness is so important that Kohli & Jaworski(1990) suggests that "(A)n organization can generate intelligence and disseminate it internally; however, unless it responds to market needs, very little accomplished".

Extant literature in the fields of strategy and marketing suggests that customer orientation influence organizational performances through organizational responsiveness. For example, Sinkula(1994) and Slater and Narver(1995) suggest that the market-driven organization is well

positioned to anticipate the developing needs of customers and to respond to them through the addition of innovative products and service. This ability gives the market-orientation organization the advantage in the speed and effectiveness of its response to opportunities and threats. However, Christensen and Bower(1996) and Grewal and Tansuhaj(2001) find that customer orientation leads to negative firm performance under disruptive technological innovation and crisis. The reason, according to these authors, is customer orientation would “cause firms to lock into a standard mode of cognition and response” (Grewal and Tansuhaj 2001).

Hult et al., (2005) also found that market orientation’s performance effects were felt through responsiveness, i.e., the effects of market orientation are mediated by organizational responsiveness. They further pointed out that the association of MIP (market information processing) and responsiveness reinforce the need to “reorient” the market orientation debate. In answering the call by Hult et al., (2005), this study seeks to add more precision and insights to the work of these pioneering scholars. In this study, we offer one of the first studies that directly link customer orientation to organizational responsiveness. Specifically, we firstly develop a two-stage responsiveness model which includes *conceptual responsiveness* and *instrumental responsiveness*. Conceptual responsiveness is the cognitive process, while instrumental responsiveness is the behavioral process of responsiveness. Secondly, departing from recent academic advancement which suggests that resource and routine rigidities are fundamentally important action component towards a better understanding of customer orientation (e.g. Christensen and Bower 1996; Hunt and Morgan 1995), we differentiate instrumental responsiveness into (1) *motivational dimension, i.e., unwillingness to commit resource (resource rigidity)* and (2) *structure dimension, i.e., inability to change routines and process (routine rigidity)*. Drawing on cognitive theory, we propose that the antecedents of the motivational and structure dimensions of instrumental responsiveness are different. We test our hypothesis with 300 high technology firms in China.

Our results point to the complex and subtle links between customer orientation and customer responsiveness. More specifically, we find that customer orientation enhances conceptual responsiveness, while its effects on instrumental responsiveness are indirect. Our approach of conceptual and instrumental responsiveness is an important contribution, as pointed by several authors that market orientation has been neglecting conceptual responsiveness which may have an impact on instrumental responsiveness through decision-making confidence, commitment, and level of supports (Jaworski and Kohli 1996; Menon and Varadarajan 1992a; Moorman 1995). By studying how customer orientation translates into actions, our study offers a novel explanation of why similar market information inputs produce remarkably different strategy outcomes among firms. This study contributes to the ongoing debate about whether customer orientation leads to organizational inertia (Christensen and Bower 1996; Hamel and Prahalad 1994; Slater and Narver 1998), therefore has a potential to contribute to multiple literature streams including market orientation and organizational adaptation. On the managerial side, our study touches upon one of the central issues in the strategic arena: how can a firm maintain its independence and yet be responsive to its customers? (Danneels 2003).

Conceptual Framework

In times of increasing competition and continuously evolving customer needs, responsiveness to environmental change has become a vital success factor for firms (Homburg et al. 2007; White et al. 2003). From the dynamic capacities' perspective, responsiveness is critical for achieving long-term success, as put by Teece et al., (1997), “(W)inners in the global market place have been firms that can demonstrate timely responsiveness and rapid flexible product innovation, coupled with management capability to effectively coordinate and deploy internal and external competencies” (Teece et al. 1997). Similarly, marketing scholars assert that responsiveness is the key to sustainable

competitive advantage by allowing firms to go beyond identified needs to understand and satisfy customers' latent needs (Narver, Slater, & MacLachlan, 2004; Slater & Narver, 1998).

Organizational Responsiveness: Definition and Construct

Consistent with previous literature, this study conceptualizes organizational responsiveness as a firm's propensity to act based on market information generated (Hult et al. 2005; Kohli and Jaworski 1990). Taking the view of market information process, Kohli and Jaworski correspond organizational responsiveness to information utilization within the organization, which was composed of two sets of activities – response design (i.e., using market intelligence to develop plans) and response implementation (i.e., using market intelligence to execute such plans) (Jaworski and Kohli 1993, 1996; Kohli and Jaworski 1990). These authors also identified several concrete forms of organizational responsiveness including “selecting target markets, designing and offering products/services that cater to customers' current and anticipated needs, and producing, distributing, and promoting the products in a way that elicits favorable end-customer response” (Kohli and Jaworski 1990).

The view of information utilization differs from a cognitive approach, which has its foundation in a view that firms' action is shaped by how managers notice and make sense of their environments and translate those perspectives into strategic choice (Daft and Weick 1984; Dutton and Jackson 1987; Thomas et al. 1993). Cognitive theory is especially relevant to the study of organizational responsiveness to innovation. As pointed out by Kohli & Jaworski (1990), “(C)hanging market needs call for the introduction of innovative products and services to match the evolving needs. The introduction of new/modified offerings and programs, however, is inherently risky because the new offerings may fail”. Because of the high risk involved with innovation and resources required for responsiveness, an organization does not respond to every market change

detected, instead, the organizational responsiveness is facilitated by the mental models regarding how decisions should be carried out. Managerial cognition thus links a firm's actions to a changing environment by influencing what is noticed, how this information is interpreted, and why certain choices are made (Daft and Weick 1984; Kaplan 2008). According to this view, organizational responsiveness involves two sequential stages - market situation interpretation and actual responses (e.g., Chattopadhyay, Glick, & Huber, 2001; Dutton & Jackson, 1987; Thomas et al., 1993; White et al., 2003).

We distinguish our study of organizational responsiveness by combining these two approaches. Specifically, we conceive organizational responsiveness a two-stage information utilization process – conceptual responsiveness and instrumental responsiveness. Firstly, conceptual responsiveness refers to the process of producing general enlightenment from market information, and it can be considered as the managerial assumptions and mental models which shapes “managers’ orientation towards priorities, the manner in which they formulate problems, the range of solutions they convey, and the criteria of choice they apply” (Menon and Varadarajan 1992b; Moorman 1995). As pointed out by Cillo et al., (2010), during the conceptual responsiveness phase, market information “is mainly used indirectly to challenge traditional assumptions and long-held representations of the market, in order, for example, to discuss a firm’s existent strategy, to import ideas from other context, and to envision new approaches to the market”. Thus, conceptual responsiveness relates to information processing process through which information is given meaning and decision maker’s mental models of the market environment is shaped (Daft and Weick 1984; Menon and Varadarajan 1992a; Moorman 1995).

That managers act on a mental model of their environment has been widely recognized in both the management and marketing literature (e.g., Day & Nedungadi, 1994; Sinkula, 1994; Thomas et al., 1993). This stream of literature reveals that organizational action is evoked by the meaning

attached to the market information (Chattopadhyay et al. 2001; Dutton and Jackson 1987). Meaning is the result of “sensemaking” (Thomas et al. 1993), or categorizing (Dutton and Jackson 1987; Jackson and Dutton 1988). Following the cognitive studies, we focus on the categories of “threat” and “opportunity”, which are found to be the two most salient categories in managerial decision process (Chattopadhyay et al. 2001; Dutton and Jackson 1987; Jackson and Dutton 1988).

Secondly, cognition theory suggests that effective organizational action in response to environment changes often depends on the interpretation of the market information, thus an interpretation-action link (Daft and Weick 1984; Jackson and Dutton 1988; Thomas et al. 1993). While conceptual responsiveness is the cognitive process, instrumental responsiveness is the behavioral process of responsiveness. Instrumental responsiveness refers to direct application of market knowledge to match the evolving needs (Menon & Varadarajan, 1992a; Moorman, 1995). Instrumental responsiveness is the main focus in the market orientation literature, and it involves changes, which can range from small-scale forms such as changes in procedures, to larger-scale forms, such as product/service changes, and revision in strategy (Thomas et al., 1993; Jaworski & Kohli, 1996).

Note that by this view our conceptualization of responsiveness concurs with that of Moorman (1995) which shows responsiveness is facilitated by “providing information regarding how decisions should be carried out”. Our focus is different from that of Jaworski and Kohli (1993), which looks at whether and how quickly the firm responds to market information in the design and implementation of marketing strategies.

Customer Orientation and Organizational Responsiveness

In this study, customer orientation refers to continuous generation and utilization of market intelligence pertaining to current and future needs of present and potential customers. Note that we

include potential customers to guard against the hazards of firms being ‘customer-led’ (Hamel and Prahalad 1994). This definition of customer orientation implies a instrumental sense-and-respond logic where firms “continuously discover what each customer needs, and then quickly fulfilling those needs with customized products and services delivered with heretofore unavailable capabilities and speed” (Baradley & Nolan, 1998; c.f., Jayachandran, Hewett, & Kaufman, 2004).

In the literatures, there are two views as to the relationship between market orientation and organizational responsiveness. The first view, adopting from the market orientation literatures, treats responsiveness a component of a market orientation (Kohli and Jaworski 1990; Slater and Narver 1998). By describing customer orientation as the organization-wide generation, dissemination, and responsiveness to market intelligence, this line of market orientation literature implies that customer orientation firms are responsive to customers’ expressed needs and proactive to customers’ latent needs at the same time (Day, 1994; Narver, Slater, & MacLachlan, 2004; Slater & Narver, 1998). In other words, customer orientation organizations recognize changes in customer needs and invest necessary resources to develop appropriate new products or services to cater to customers’ changing needs effectively and quickly (Day 1994; Kohli and Jaworski 1990). Therefore, customer orientation organizations are motivated to commit resources and capable of routine adjustment for the potential markets.

The second view, adopting from the strategy literature, suggests that there is a tradeoff between existing market and potential market through organizational responsiveness (e.g., Christensen & Bower, 1996; Connor, 1999; Danneels, 2003). This view warns that a tight coupling with customers comes at the price of increased resource commitment and restricted vision within existing market, which may sacrifice a firm’s flexibility in pursuing emerging markets (Danneels 2003).

In brief, both views suggest that customer orientation is the antecedent of organizational responsiveness. Departing from our conceptualization of customer responsiveness, we suggest that conceptual responsiveness mediates between customer responsiveness and organizational instrumental responsiveness. In this view, we concur with the cognitive theory which posits that interpretation of environmental stimuli connects the set of beliefs and assumptions held common through the organization and the strategic responses (Daft and Weick 1984; Dutton and Jackson 1987; Johnson 1988; Thomas et al. 1993). Marketing theory coincides with this view of cognitive theory. For example, Atuahene-Gima (2005) finds that a managerial mental model has significant implications for firm's decision to develop product innovation competencies. Similarly, White et al., (2003) and Day (1994) suggest a mediating role of managerial mental model between strategy and organizational responsiveness. Despite the salience of managerial mental model, the market orientation literature tends to examine the role of market orientation on firm performance without considering how the manager's mental model affects the linkage (Atuahene-Gima 2005). By highlighting the previously overlooked role of conceptual responsiveness, our study enriches the market orientation literature.

Based on the previous discussion, we present our theoretical framework in Figure 1.

Theory Development

Customer Orientation – Instrumental Responsiveness

Following Gilbert (2005), we identify two most relevant instrumental (non)responsiveness dimensions: (1) resource rigidity, and (2) routine rigidity. Identified as the main sources of responsiveness failure, resource rigidity stems from an unwillingness to invest outside the current market, thus relates to the motivation to respond; while routine rigidity stems from an inability to change the patterns and logic that underlie those investment, thus relates to the structure of respond

(Christensen & Bower, 1996; Gilbert, 2005; Leonard-Barton, 1992). The forms of resource rigidity can be failure in allocation of financial resources, human resources and management attention, while the forms of routine rigidity can be failure to produce new knowledge, codes and procedures. From a normative standpoint, resource responsiveness involves changing views (what is going on and what should be done about it), while routine responsiveness involves establishing new cognitive frame and cultural/social norms (how things are done and what gets rewarded) (Kaplan and Henderson 2005; Kaplan 2008).

In the literatures, there are conflicting views as to the relationship between market orientation and organizational responsiveness. Largely based on anecdotal, the market orientation literature implies that customer orientation firms recognize changes in customer needs and invest necessary resources to develop appropriate new products or services to cater to customers' changing needs effectively and quickly (Day 1994; Kohli and Jaworski 1990). Therefore, customer orientation organizations are motivated to commit resources and capable of routine adjustment for the potential markets. Nevertheless, the strategic management view suggests that there is a tradeoff between existing market and potential market through organizational responsiveness (e.g., Christensen & Bower, 1996; Connor, 1999; Danneels, 2003). This view warns that a tight coupling with customers comes at the price of increased resource commitment and restricted vision within existing market, which may sacrifice a firm's flexibility in pursuing emerging markets. Recent studies in marketing also provide evidence that bears on this concern. For example, Zhou et al., (2005) finds that market orientation inhibits innovations that target emerging market segments, because a market orientation does not encourage a sufficient willingness to invest substantially in a market-based breakthrough innovation that have an unknown future. Grewal and Tansuhaj (2001) finds that a market orientation has an adverse effect on firm performance after a crisis because "(H)ighly attuned market orientation would cause firms to lock into a standard mode of cognition and response, thereby

building inertia instead of the creative thinking needed to manage crises” (Grewal and Tansuhaj 2001). Voss and Voss (2000) also finds that a market orientation has a negative impact on firm performance, possibly because market orientation fails to lead and educate customers in the professional theater industry.

We adopt the second view and propose that customer orientation leads to organizational rigidities. More specifically, we argue that customer oriented organizations are sensitive to environmental opportunities and threats, however, threat interpretation amplifies unwillingness to invest outside current market while opportunity interpretation decreases willingness to change routines. It is through this mechanism that customer orientation leads to organizational rigidities. Thus,

H1: Customer orientation is positively related to resource rigidity.

H2: Customer orientation is positively related to routine rigidity.

Customer Orientation – Conceptual Responsiveness

Cognitive theory argues that managers comprehend the external environment through a process of selective attention and simplification (Day, 1994; Dutton and Jackson, 1987). Faced with ambiguous conditions, managers employ a schema to categorize information and reduce the complexity of their surroundings; managers tend to give simple labels to issues in the environment, allowing them to interpret those issues before they formulate strategic responses (Thomas and McDaniel 1990; White et al. 2003). This process of managerial interpretation is conceptual responsiveness. The most important labels managers use to interpret the external environment are “threat” and “opportunity” (Dutton and Jackson 1987; Thomas and McDaniel 1990). We define a threat as the extent to which managers perceive an external environment as negative, where loss is likely and over which they have relatively little control. Opportunity refers to the extent to which

managers perceive an external environment as positive, where gain is likely and over which they have a fair amount of control. Although some scholars see perceived control as antecedent of managerial interpretation, our definitions follow those of Dutton and Jackson (1987) who recognize three inherent attributes: negative or positive emotional associations, loss or gain considerations, and a sense of controllability (Dutton and Jackson 1987).

Extant research has demonstrated that threat and opportunity interpretations are distinct, though related, constructs (Dutton and Jackson 1987). In situations that are highly ambiguous, managers are likely to experience both positive and negative emotions at the same time (White et al. 2003). Therefore, as per previous studies (e.g., White et al., 2003), we considered these constructs as separate, albeit related. We also conceptualize conceptual responsiveness as a firm-level construct following the notion of the organization as an interpretation system (Daft and Weick, 1984). Managers' perceptions of threat and opportunity may originate from many sources, such as firm performance, perceived environmental uncertainty (Thomas and McDaniel 1990; White et al. 2003), and organizational context (P. S. Barr and Glynn 2004; Gibson and Birkinshaw 2004). For present purposes, while controlling for several of these potential antecedents we are concerned specifically with the role of customer orientation.

Research on cognitive processes suggests that the identification process of events is a probabilistic process of matching the issue characteristics that is perceived to the salient characteristics of the specific instance that is stored in the cognitive schema (Gregoire et al. 2010; Jackson and Dutton 1988). Thus, managers identify threats and opportunities by comparing the characteristics of specific issues to their cognitive representations of threat and opportunity (Jackson & Dutton, 1988). More recently, some authors find that the diagnosis of threat relies more on considerations of superficial features, which "relate to the basic "parts" of a mental representation, along with their attributes and characteristics"; while the diagnosis of opportunity requires structural

alignment, which refers to “the links that unite different superficial features within a mental representation” (Gregoire et al., 2010).

We posit that a customer orientation is positively related to a firm’s interpretation of external environment as both an opportunity and a threat. Customer orientation refers to a firm’s understanding of both current and future customers’ needs and requirements (Narver and Slater 1990). At its most fundamental level, customer orientation is essentially about the extent to which a firm is committed to the systematic information collection of both the expressed and latent needs of their customers and the capabilities and plans of their competitors (Slater and Narver 1998). Information processing capacity of customer orientation leads to opportunity interpretation for several reasons. First, customer orientation suggests a broader and more in-depth understanding of customers’ problems, which increases the ability of the firm to make connections among disparate market information, ideas, and concepts. This process allows different ideas and concepts to be applied in unexpected ways to create new market opportunities (Prabhu et al. 2005). Thus, information processing capacity of customer orientation supports structural alignment in customer oriented organizations, which leads to opportunity interpretation.

Second, information processing of customer orientation enables managers to access and process information about strategic issues timely and efficiently. As Thomas and McDaniel (1990) finds, the capacity of information-processing structure is positively related to the extent to which a manager labels an issue as positive, potential gain and controllable. The reason might be that managers with greater information processing capacity experience less stress and anxiety because they “feel that they have surveyed and processed the needed information, leaving ‘no stone unturned’” (Thomas and McDaniel 1990). Thus, the information processing capacity of customer orientation supports the connection of opportunity attributes, which leads to opportunity interpretation.

Third, customer orientation also increases the perception of opportunity because it makes it more likely for managers to receive early wind of potential environmental developments and take advantage of them. For example, by understanding the customer domain, firms often create opportunities by tapping into customers' latent needs. Both deep and broad knowledge of current and future customers allow insights that can be used to rewrite industry rules and create new competitive spaces for the firm. Sanchez and Elola (1991) find that the customer orientation process is "the most frequent method of finding out whether or not there is a suitable market for the new product, which correlates with the preponderance of the market as a source of new ideas" (Sanchez and Elola 1991). We therefore argue that customer orientation increases managers' perception of environmental opportunity. Thus,

H3: Managers' customer orientation will be positively related to their interpretation of the market environment as an opportunity

Meanwhile, the information processing of market orientation may reveal new developments and trends that may be threatening to the firm. For example, the customer orientation process may uncover changing demand patterns and emerging demand trends that may pose threats to the firm's current business model, which leads the firm's interpretation of external environment as a threat. There are two reasons for this view. First, the information processing of customer orientation suggests that customer oriented organizations collect, distribute and store rich information about customer needs and the influence of technology, competition and other environmental forces (Day 1994). Thus, it is likely for customer oriented organizations to recall from the organizational memory corresponding superficial features of negative, potential loss and lack of control, which supports a threat interpretation. What's more, the presence of superior information capability enables customer oriented organizations to collect and distribute threatening information more timely, accurately and detailed, which enhances the threat perception.

Second, the cognitive study shows that managers are more inclined to identify threats than opportunities; a phenomenon also known as “threat bias” (Jackson and Dutton 1988). A Threat bias is the result of cognitive processes, and may be encouraged by the incentive and reward systems in organizations (Jackson and Dutton 1988). Indeed, researchers find that with a threat bias, managers tend to label ambiguous situation as threat (P. S. Barr and Glynn 2004; Jackson and Dutton 1988).

Third, our empirical setting, Chinese high-tech firms, also facilitates a threat perception. As pointed out, the high uncertainties and ambiguities associate with the environment supports a threat perception. In this respect, transitional economies such as China pose severe resource, management and other challenges for firms. Specifically, “(T)he relatively underdeveloped government, legal, and financial institutions in China lead to environmental turbulence as well as dysfunctional competition” (H. Li and Atuahene-Gima 2001). Both environmental turbulence and dysfunctional competition suggest reduction of control, leading to threat interpretation. Thus,

H4: Managers’ customer orientation will be positively related to their interpretation of the market environment as a threat

Conceptual Responsiveness – Instrumental Responsiveness

Attempts to understand organizational response to threats and opportunities have drawn on different bodies of research that lead to conflicting conclusions. For example, studies that follow threat-rigidity theory (Staw et al. 1981) suggest that threat interpretation increase organizational inertia by narrowing alternatives and focusing response on previous learned routines (Dutton and Jackson 1987; Staw et al. 1981), while that opportunity perception make salient the potential gains rather than the risks involved (March and Shapira 1987) therefore lead to actions that might otherwise be perceived as too risky (Thomas et al. 1993). Yet, the studies that associate with prospect theory (Kahneman & Tversky 1979) appear to contradict the above reasoning. The

prospect theory propose that individuals/organizations in favorable conditions are more risk-averse because they feel they have more to lose while the individuals/organizations in unfavorable environments are more risk-seeking since they feel they have little to lose. Accordingly, the prospect theory infers that opportunity interpretation increase organizational inertia while threat interpretation can unlock inertia by motivating change (Huff et al., 1992; Lant et al., 1992).

In an attempt to reconcile these two views, Chattopadhyay et al., (2001) examines each view with regard to the relevant dimensions of threat and opportunity. They find that in an ambiguous situation threat rigidity theory is strong in predicting threat response while prospect theory works well for opportunity response. As argued before, transitional market such as China represents highly ambiguous environment. Building on Chattopadhyay et al., (2001), we argue that threat interpretation amplifies unwillingness to invest outside current market while opportunity interpretation decreases willingness to change routine.

As Dutton & Jackson (1987) put it, threat involves a ‘negative situation in which loss is likely and over which one has relatively little control’ (Dutton and Jackson 1987), and the label ‘threat’ is associated with reduced-control, likely-loss and increased-anxiety and stress. We argue that the threat perception might lead to resource rigidity. First, as pointed out that the label ‘threat’ is associated with reduced-control, likely-loss and increased-anxiety and stress (Staw et al. 1981). Managers who perceive threats will seek responsiveness which reduces the negative emotional feeling. On one hand, with the purpose of increasing control, managers will focus on core business which they might be able to handle with confidence. On the other hand, managers are de-motivate to make investment outside familiar domains because the investment risk associates with unfamiliar domains amplifies the negative emotional feeling. Therefore, the firm facing threat interpretation tends to directed toward resuming business order (Dutton 1993; Hartman and Nelson 1996), which leads to resource rigidity.

Second, perceptions of threat also intensify concerns about efficiency, which are manifested in cost-cutting, budget-tightening, and the restriction of activities (Thomas et al. 1993). These efficiency concerns lower the firms' willingness to commit resources for emerging markets with uncertain future. On one hand, cost-cutting and budget-tightening results in a reduction in slack resource, which is found to be an important organizational factor for exploration activities (Staw et al. 1981). On the other hand, a fear of cannibalizing the existing 'rent' from the emerging market also refrain the firms from resource commitment. The cannibalization might come in two ways: sales cannibalization whereby the new innovation takes away sales from the existing products; and assets cannibalization where the values of investments tied with existing product are reduced (Aboulnasr et al. 2008). Both cannibalization effects echo the efficiency concerns, which decrease the incentive to resource commitment.

Taken together, we argue that the threat perception might lead to resource rigidity. Our argument is consistent with previous studies. For instance, Christensen and Bower (1996) finds that firms generally responded to the emergence of competitively threatening technologies by intensifying their investment to improve the conventional technologies used by their current customers; while Staw et al., found threat interpretation led to "increased centralization of authority, more extensive formalization, and standardization of procedures" (Staw et al. 1981). Thus,

H5: Threat interpretation is positively related to resource rigidity.

Compared to the negative emotion associated with threat, opportunities imply a 'positive situation in which *gain* is likely and over which one has a fair amount of *control*' (italic original) (Dutton and Jackson 1987). The label 'opportunity' is suggested to be linked with reduced-uncertainty, increased-confidence, increased-perception of the feasibility of accomplished desired results (Dutton 1992). We propose that opportunity interpretation could lead to routine rigidity for

several reasons. First, as suggested by prospect theory, managers in favorable conditions are more concerned with potential loss than with potential gain, and an opportunity interpretation can lead to inertia because managers are more risk-averse when they feel they have more to lose (Kahneman and Tversky 1979). Thus, the firm that experiencing an opportunity interpretation will not seek to break the routine limitation set by current customers. Instead, they will adopt the current routines in the new business setting --- “circulation of cognition” (Gavetti 2005) in essence.

Second, because of threat bias, issue-selling of opportunity interpretation to top management is found to be more difficult than issue-selling of threat interpretation (Dutton and Jackson 1987). For example, Dutton and Jackson (1987) observes that opportunities exploitation normally remains at the entrepreneurial or development groups. Also, some authors argue that the “positive gloss” of an opportunity interpretation - sense of possible gain and increased control - may lead to overly optimistic response and taking-for-granted stance towards the opportunity capitalization (e.g., Thomas et al., 1993). Therefore, in the opportunity interpretation the political supports from top management might be missing. As mentioned before, routine responsiveness routine involves establishing new cognitive frame and cultural/social norms (how things are done and what gets rewarded), which is unlikely to happen in the absence of supports from top management.

We found some supportive evidence for our argument. For example, in a longitudinal case study of CHEMAN's attempts to leverage fungible technology into potential new markets, Danneels (2007) finds that the inability to change processes of resource allocation and resource transformation inhibited technology leveraging despite the organization-wide recognition of “‘limitless’ opportunities” in the technology (Danneels 2007). Indeed, Chattopadhyay et al., (2001) posit that “organizations may take no response to likely gain opportunities, because this option is seen to be the most risk-averse”. Thus,

H6: Opportunity interpretation is positively related to routine rigidity.

Note that Gilbert (2005) finds that threat perception helps overcome resource rigidity but simultaneously amplifies routine rigidity in the face of discontinuous change. Despite the seeming contradiction between his findings and our hypotheses H5 and H6, note his findings apply only when there is an *imminent* threat (Gilbert 2005). In our case the condition of imminent threat is missing. In the initial response phase when the situation is close to our context, Gilbert (2005) observes that “But even as these incumbent organizations came to realize the risks incurred by depending so heavily on their traditional customers, they did not necessarily overcome their resource rigidity. Market position incentives to continue reinvesting in the core newspaper businesses remained strong”. This observation indeed agrees with our hypotheses that threat perception lead to resource rigidity.

RESEARCH METHODS

Sample and Data Collection

The study was conducted with a sample of 568 firms selected randomly from a directory of 2500 high technology firms provided by a consulting firm. China is an ideal context for this study. On one hand, China’s emerging market environment has been characterized as having an extremely complex and dynamic context in which firms confront not only the challenges of new (and often dysfunctional) competition, but also face collapsing capabilities (H. Li and Atuahene-Gima 2002). On the other hand, during its economic reform processes, China’s emerging economies “undergo deep structural transformation characterized by high structural uncertainty, escalating competitive pressure and unbalanced growth as a result of industrial policies and regulation. Such dynamics significantly shape managerial assumptions, criteria, and decision making” (Zhou and C. B. Li 2010). For these reasons, the Chinese market represents a fertile context to study the relationship

between customer orientation and organizational (non)responsiveness. What's more, most studies in customer orientation and performance linkage and customer orientation trap arguments have been made in context where marketing practice is well-developed and engrained. Our study in an emerging context like China, with relatively underdeveloped marketing expertise, has potentials to add new perspectives to the existing literatures.

We followed the traditional and well-accepted double-translation method in developing the research instrument. It was first prepared in English, translated into Chinese, and then back into English to evaluate the translation accuracy. We pretested the instrument during interviews with 17 managers who had at least three years of business experience in China to ensure the face validity of the constructs and clarity of the survey questions. The data were collected on site, and the instrument was hand-delivered to the informant by a trained interviewer and collected upon completion. To ensure the integrity of the data received, subsequent to the collection of the completed questionnaire we telephoned each informant to verify that he/she completed the questionnaire. We offered a summary of the research results to informants; this ensures conscientiousness among informants in providing the data without which the research findings would be meaningless to them.

Our data collection strategy followed the research design recommendations offered by Podsakoff et al., (2003) for reducing common method variance. We obtained the primary data of different constructs from different informants. The data for customer orientation and instrumental responsiveness were provided by the first respondent; these informants were predominantly from marketing (97%) and chief executive officers (CEOs) (3%). These informants had a mean industry experience of 11.22 years. The first respondent nominated a second knowledgeable informant to provide data on conceptual responsiveness and the moderating variables. The informants were: CEOs (45%), business development managers (35%), marketing managers (4%), and research and

development (R&D) managers (16%). The informants had a mean industry experience of 8.99 years. We assured informants of anonymity, that there were no wrong or correct answers, and offered a “don’t know” option. These assurances enhance the quality of data obtained from informants. Further, to allow statistical checks of the reliability of first informant’s responses, we also collected data from the second informant and vice versa.

We received usable questionnaires from 300 firms (600 questionnaires), for a response rate of 53%. Of the responding firms, 27 percent were in electronics and information technology industry, 20 percent were in computer and software industry, 16 percent were in optical mechanical and electric product industry, 13 percent were in new energy and materials industry, 11 percent were in chemical/pharmaceutical/biotech industry, 11 percent from telecommunication industry, and 2 percent were in industries classified as ‘other’, such as scientific instruments. We compared a sample of 150 participating firms with a sample of non-participating firms for which we had data on R&D expenses and the number of employees. Comparing the mean of R&D expense and the number of employees indicated no significant differences between the two groups. Further, a test of early respondents (197) and late respondents did not indicate significant differences in the measures of the study.

Measures

In the Appendix, we provide the measurement items, their sources, and validation assessments. We followed the suggestions by Miller, Cardinal, and Glick (1997) and restricted the recall time frame to three years or less to minimize the respondent burden with retrospective data collection.

Customer Orientation. We used the scale developed by Narver and Slater (1990). The items for customer orientation address the extent to which a firm is committed to understand the needs and requirements of its current and future customers.

Conceptual Responsiveness: threat and opportunity interpretation. We asked managers to focus on their interpretation of Chinese market environment. There is precedent (e.g., Thomas and McDaniel, 1990) as well as strong theory (Lefebvre, Mason, and Lefebvre, 1997: 861) supporting the use of such measures since managers behave in accordance with their perceptions rather than with an ostensibly objective environment. As indicated in the Appendix, we borrowed the measures from the recent work of White et al. (2003); however, we added an item reflecting the perceived degree of environmental control to each construct to reflect the Dutton and Jackson's (1987) definitions adopted in this study.

Instrumental Responsiveness: resource and routine rigidity. Our measures of both resource and routine rigidity are newly developed constructs informed by previous studies. Danneels (2007) shows that resource rigidity is caused due to failure to allocate and transform resource into specialized investment. Therefore, our measure of resource rigidity borrowed specialized investment construct from Chandy et al., (1998). To reflect the motivation of resource commitment, we retained the attitude and intention aspects of the specialized investment measurement. To measure routine rigidity, we borrowed the items for measuring structural control from Douglas and Judge (2001). This measurement of structural control is suitable for our study because it has a focus on procedure and routine change.

Technology uncertainty, customer uncertainty and response uncertainty. Technology uncertainty and customer uncertainty were measured with Jaworski and Kohli's (1993), which focus on the pace of technological change and customer changes in the industry. Response uncertainty were measured with Milliken (1990), which reflect the perceived organizational ability to respond effectively to environmental dynamics.

Control Variables: At the firm level, *firm size* is generally thought to induce organizational inertia and thus reduce the likelihood that an organization can undertake substantial responsiveness (Chattopadhyay et al. 2001). We control for firm size by using logarithm of the number of full time employees as an indicator of firm size. *Market position* and *sales growth* of a firm generates slack and thus reflects the availability of resources that may influence conceptual responsiveness and instrumental responsiveness (G. B. Voss et al. 2008; White et al. 2003). *Firm ownership* is a dummy variable, such that 1 indicates state owned firms and 0 represents other type, to control for potential confounds of the hypothese. To capture environmental dynamics which might affect how firms perceive and respond to the environmental events, we controlled for *technology*, *customer and organizational response uncertainties* (Jaworski and Kohli 1993). Finally, *industry dummy* was included in the models to control for the effects of industry characteristics.

Validation of Measures

We refined the measurements with STATA 12 as following. First, we ran exploratory factor analysis for each set of focal constructs on each of the informant, which resulted in factor solutions as theoretically expected respectively. Second, we submit all the items for confirmatory factor analysis. We identified items that possessed either low factor loading or high cross-loading in both informant datasets. After dropped these items, we obtained the CFA model for each of the informant. Third, we tested for the invariance of constructs' means between the two informants. For this test, paired t-test is chosen because it takes into account that the two groups are not independent. The paired t-test results showed that there is no statistically differences between the two informant groups (for all constructs, the corresponding two-tailed p-value is 1.00). The invariance test results, together with the similar pattern of CFA in the previous step, suggest to us the consistency between the two informant groups. Given these results, we finally combined the two datasets, with

conceptual responsiveness variables (i.e., opportunity interpretation and threat interpretation) from the second informant, and the other variables from the first informants.

After combine the datasets, we again performed confirmatory factor analysis (CFA) to assess the validity of the latent constructs. To ensure acceptable parameter estimate-to-observation ratios, we grouped measures of theoretically related constructs and run two submodels. This approach is well established in the literature (e.g., H. Li and Atuahene-Gima 2001; Moorman and Miner 1997). The first CFA grouped items measuring customer orientation, opportunity and threat interpretation. The second CFA analyzed measures of resource and routine uncertainties, customer, technology and response uncertainties.

The fit indices presented in the Appendix indicate that the models fit the data well in both samples. All item standardized loadings for each construct were significant ($p < .01$) and no major cross-loading emerged, which supports the unidimensionality of the constructs. To assess convergent validity, we obtained Cronbach's Alpha for each set of construct (.77 - .86), well surpassing the .70 threshold for the test of reliability. We further calculated composite reliability using procedures outlined by Fornell and Larcker (1981) (.76 - .86), and average variance extracted (AVE) was calculate using procedures outlined by Anderson and Gerbing (1982) (.46 - .68). Combining both results indicates acceptable convergent validities for the constructs. Finally, we tested for discriminant validity using correlation method and AVE method. Table 1 presents the descriptive and correlation matrix for the main variables. The highest correlation between any two constructs is found to be customer uncertainty and technology uncertainty (.53), indicating acceptable discriminant validity. We also tested discriminant validity following the approach recommended by Fornell and Larcker (1981), for each construct the square root of its AVE was greater than the highest correlation with any other construct. All constructs passed the discriminant validity test satisfactorily.

[Insert Table 1 about here]

ANALYSIS AND RESULTS

Our model involves testing of two mediation effects. We tested for mediating effect (H1-H6) following Baron and Kenny (1986)'s three steps: first, the predictor variable must affect dependent variable; second, the predictor variable must also affect mediator; finally, the mediator must affect the dependent variable. If these conditions all hold, then the mediating effect is found if the effect of the independent variable on the dependent variable is less or disappeared when the mediator is controlled (Baron and Kenny 1986). To assess the degree of collinearity, we estimated the variance inflation factors (VIF) and found that the VIFs are less than 2 for all the models, well below the recommended ceiling of 10 (Kleinbaum, Kupper, and Muller, 1988). We present the results in Table 2.

As Table 2 shows, customer orientation has a positive effect on both resource ($\beta=.13$, $p<.05$) and routine rigidity ($\beta=.28$, $p<.001$), in support of H1 and H2. Therefore, we established step 1. Customer orientation also found to positively associated with both opportunity ($\beta=.13$, $p<.05$) and threat interpretation ($\beta=.43$, $p<.001$), as predicted in H3 and H4. Thus, we established step 2. We then tested for the effect of customer orientation on resource rigidity controlling for threat interpretation. We found that threat interpretation positively affects resource rigidity ($\beta=.13$, $p<.05$), while customer orientation does not affect resource rigidity ($\beta=.07$, n.s.), thus, in support of H5 and full mediation effect established. Similarly, we tested for the effect of customer orientation on routine rigidity controlling for opportunity interpretation. We found that opportunity interpretation positively affects resource rigidity ($\beta=.20$, $p<.01$), while customer orientation still affects routine rigidity ($\beta=.25$, $p<.001$), thus, in support of H6 and partial mediation effect established.

DISCUSSION

APPENDIX

Measurement Items and Validity Assessment

Model 1: Model fit: RMSEA=0.074 CFI=0.947 TLI=0.930 SRMR=0.076		SFL^a
Customer orientation ^b (Narver and Slater, 1990) $\alpha=.85$, AVE= .46, CR=.86	1. We regularly meet customers to learn about their current and potential needs for new products. 2. We constantly monitor and reinforce our understanding of the current and future needs of customers. 3. We have a thorough knowledge about emerging customers and their needs. 4. Information about current and future customers is integrated in our plans and strategies. 5. We regularly use research techniques such as focus groups, surveys, and observations to gather customer information ⁱ . 6. We have developed effective relationships with customers to fully understand new technological development that affect customers' needs. 7. We systematically process and analyze customer information to fully understand their implications for our business.	.66 .78 .68 .65 .72 .60 .65
Threat interpretation ^c (White <i>et al.</i> , 2003) $\alpha=.86$, AVE=.68, CR=.86	Considering the Chinese market environment overall, to what extent would your firm: 1. Describe the environment overall as a threat. 2. See the overall environment as negative. 3. See the environment as having negative implications for the future of your firm. 4. See the overall environment as uncontrollable ⁱ	.78 .88 .81
Opportunity interpretation ^c (White <i>et al.</i> , 2003) $\alpha=.84$, AVE= .66, CR= .85	1. Describe the overall environment as providing opportunities. 2. Describe the market environment as something positive. 3. Feel the future looks promising for your firm, given the conditions in the environment. 4. See the general environment as controllable ⁱ	.82 .88 .74
Model 2: Model fit: RMSEA=0.068 CFI=0.917 TLI=0.899 SRMR=0.051		SFL^a
Resource rigidity ^b (Chandy <i>et al.</i> , 1998) $\alpha=.79$, AVE= .47, CR= .78	1. We possess a large amount of assets that will have little value outside the established technology. 2. Much of our technical expertise cannot be applied to the new technology. 3. We have to significantly reinvent this SBU to operate successfully in the new technology. 4. We have to retrain or lay off employees to operate successfully in the new technology.	.65 .81 .73
Routine rigidity ^b (Douglas and Judge, 2001) $\alpha=.77$, AVE= .52, CR= .76	1. Strong emphasis on always getting people to follow formally laid-down procedures. 2. Tight control of most operations by means of sophisticated information system ⁱ . 3. Strong emphasis of getting people to follow formal job descriptions. 4. Heavy dependence on formal relationships to get the job done. 5. Strong emphasis on following formal procedures even if they stand in the way of effectively getting work done ⁱ . 6. Strong tendency not to let the requirements of the situation define the proper job behavior ⁱ .	.69 .72 .75

Technology uncertainty ^b $\alpha=.85$, AVE=.55; CR=.86	Please indicate the extent to which each of the statements describes your firm's environment in the past 3 years.	
	1. The technology in our industry is changed quite rapidly.	.63
	2. It was very difficult to forecast technology developments in our industry	.69
	3. Technology environment was highly uncertain	.69
	4. Technological developments were highly unpredictable	.87
	5. Technologically, our industry was a very complex environment.	.80
Customer uncertainty ^b (Atuahene-Gima and Li, 2002) $\alpha=.84$, AVE=.55; CR=.83	1. Customer needs and product preferences changed quite rapidly.	.66
	2. Customer product demands and preferences were highly uncertain.	.73
	3. It was difficult to predict changes in customer needs and preferences.	.75
	4. Changes in customers' needs were quite unpredictable.	.83
Response uncertainty ^b (Milliken 1990) $\alpha=.86$, AVE=.61; CR=.86	1 We face great difficulty in weighting various strategic alternatives in responding to the changing conditions.	.71
	2 We were not at all confident that our strategic responses will be sufficient to meet the challenges posed by the environment	.86
	3 We were totally uncertain as to how effective our strategic responses to the environment would be	.75
	4 In general, we had few indications to tell us how useful and effective our strategic responses to the environmental condition were going to be	.80

^a SFL = standardized factor loading.

^b The scale format for each of these measures was 1="strongly disagree" and 7="strongly agree."

^c The scale format for each of these measures was 1="small extent" and 7="great extent."

ⁱ Items were dropped from the scale during the measure purification phase.

TABLE 1
Descriptive Statistics and Correlations of Main Variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1.Customer orientation	4.81	.99	1.00										
2.Threat interpretation	3.52	1.41	0.2901*	1.00									
3.Opportunity interpretation	5.17	1.06	0.2248*	-0.3617*	1.00								
4. Routine rigidity	4.93	.92	0.2831*	-0.0785	0.4289*	1.00							
5.Resource rigidity	4.21	1.11	0.0815	0.2339*	-0.0103	0.1713*	1.00						
6.Firm size	5.87	1.07	0.0836	0.0838	-0.0174	0.0178	0.1432	1.00					
7.Firm market position	5.80	1.54	0.1763*	-0.0557	0.2275*	0.2171*	0.0608	0.0116	1.00				
8.Firm sales growth	13.80	16.32	0.0260	0.0642	0.1017	0.1189	-0.0876	0.1210	0.0649	1.00			
9.Technology uncertainty	4.84	1.05	0.0083	-0.1591*	0.4094*	0.2402*	0.1442	-0.0948	0.0572	0.0423	1.00		
10.Customer uncertainty	4.82	1.06	0.1877*	-0.0674	0.3577*	0.1509	0.1219	-0.1506*	0.0468	-0.1155	0.5257*	1.00	
11.Respond uncertainty	3.88	1.16	0.2216*	0.4407*	-0.0703	-0.0387	0.1837*	-0.0245	-0.1118	0.0018	-0.0264	0.0103	1.00

TABLE 2
Regression Analysis

	(1) Resource Rigidity	(2) Routine Rigidity	(3) Opportunity Interpretation	(4) Threat Interpretation	(5) Resource Rigidity	(6) Routine Rigidity
<i>Predictor Variables</i>						
Customer orientation	0.128*	0.275***	0.129*	0.431***	0.0688	0.249***
Threat interpretation					0.128*	
Opportunity interpretation						0.201***
<i>Control Variables</i>						
Firm size	0.201**	-0.0171	-0.0329	0.0723	0.192**	-0.0105
Market position	0.0747	0.0897*	0.0884*	0.0335	0.0705	0.0719
Sales growth	-0.00685	0.00480	0.00542	0.00614	-0.00762	0.00371
Technology uncertainty	0.141	0.312***	0.385***	-0.305***	0.180*	0.235***
Customer uncertainty	0.0986	-0.0428	0.0651	0.121	0.0830	-0.0559
Response uncertainty	0.155*	-0.119*	-0.101	0.466***	0.0954	-0.0985*
_cons	0.261	2.210***	2.460***	-0.138	0.301	1.716**
<i>N</i>	228	233	233	232	228	233
adj. <i>R</i> ²	0.094	0.231	0.233	0.326	0.108	0.266
F	2.68**	5.98***	6.05***	8.97***	2.84***	6.62***

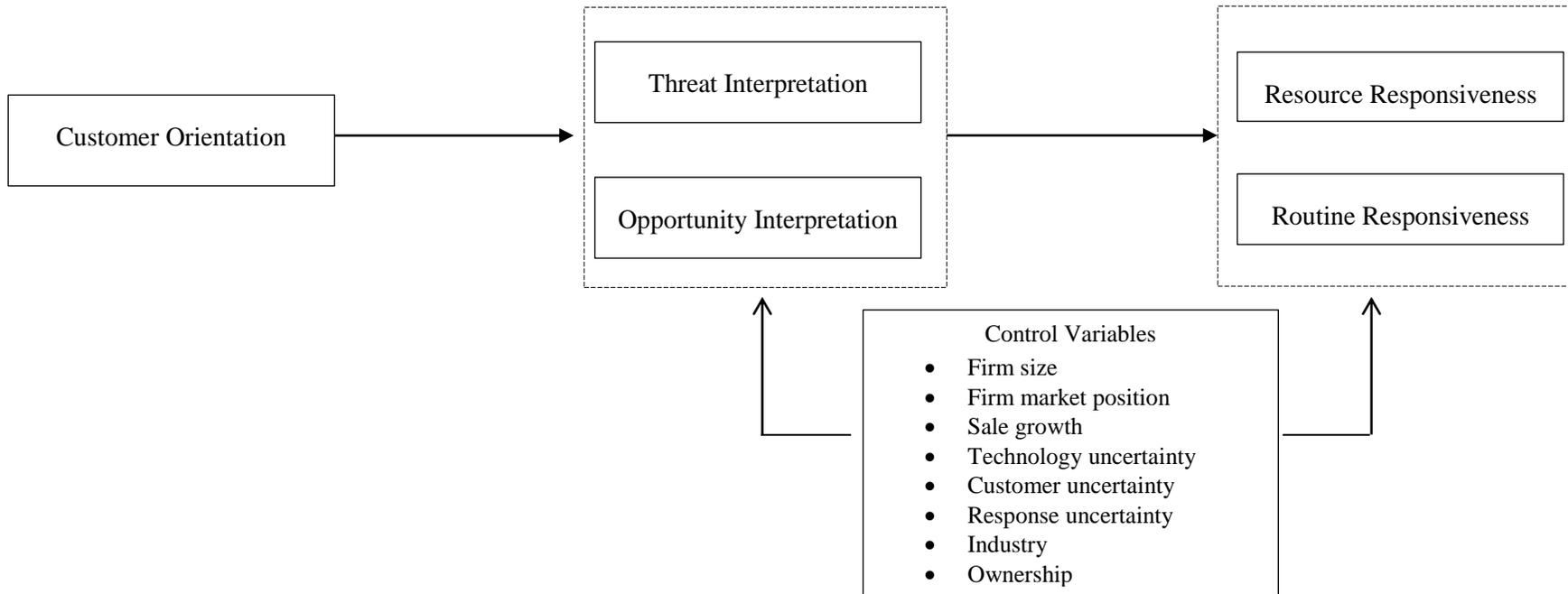
†p<.10, *p<.05, **p<.01, ***p<.001

Note:

1. Unstandardized regression coefficients (*t* statistics in parentheses) are reported.
2. Two tailed test for control variables and one tailed test for hypotheses.
3. Industry and ownership dummies were included in the regression, but omitted in the report.

FIGURE 1

CONCEPTUAL MODEL OF CUSTOMER ORIENTATION AND ORGANIZATIONAL RESPONSIVENESS



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