

Configurations and entrepreneurial orientation of young firms

Revisiting theoretical specification using crisp-set qualitative comparative analysis

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Abstract

Purpose – Extant literature highlights the inadequacy of using just four domains – leadership, strategy, structure, and environment – for identifying firms' configurations. The purpose of this paper is to answer the questions – what firm-level and external elements should be used to identify young firms' configurations? Which among these is the core element?

Design/methodology/approach – This paper relies on literatures on configuration approach and entrepreneurial orientation (EO) to build the assertions concerning the issue of theoretical specification used for generating young firms' configurations, and its core element. Crisp-set qualitative comparative analysis (CS-QCA) of the data collected from 70 young firms supports the arguments. Various robustness analyses reaffirm these assertions.

Findings – Literature review reveals that EO represents a firm's decision-making proclivity concerning new entry and proactive risk-taking. CS-QCA supports the assertions that: inclusion of EO improves the configurational explanation of young firms' performance; EO is the core element of young firms' configurations; and market orientation or social capital cannot substitute EO in configurational studies of young firms' performance. CS-QCA serves as a tool to support an alternative theoretical stance that questions the adequacy of extant domains used to identify configurations.

Originality/value – This paper theorizes for inclusion of EO as an additional domain for identifying young firms' configurations, and exploits novel capability of set theoretic methods of CS-QCA to explore the issues of model specification and conjunctural causation, and ascertain the core element of configurations.

Keywords Organizational theory, Fuzzy sets, Small firms, Qualitative methods, Contingency theory, Entrepreneurial orientation, High technology, Organizational configurations, Young firms, Crisp-set qualitative comparative analysis

Paper type Research paper

Introduction

Configuration means “multidimensional constellation of conceptually distinct characteristics that commonly occurs together” (Meyer *et al.*, 1993, p. 1175). Following Miller (1987) configuration studies have traditionally focussed on some combinations of leadership, strategy, structure, and environment (LSSE) domains while studying configurations of medium or large, established firms (Short *et al.*, 2008). This stream of configuration literature, however, faces criticism that it does not include some important firm-level determinants pointing to incompleteness in theoretical specifications – the



combination of firm-level and environment elements – used to identify firm-level configurations (Short *et al.*, 2008). For example, Snow *et al.* (2005, p. 432) highlight the absence of indicators of “organizational capability and managerial philosophy” with the traditional domains.

Efficacy of classification-based theorizing (including configuration approach (CA)) relies on richness of theoretical specification used by researchers (Doty and Glick, 1994; Doty *et al.*, 1993). Studies not including all the requisite determinants provide partial explication of the phenomenon under investigation, a trivial snapshot of causal linkages among predictors (Short *et al.*, 2008), and suffer from omitted variable bias (McGahan and Porter, 2002). It is thus pertinent to assess whether the use of LSSE domains leaves the theoretical framework used for identifying configurations ill-specified as pointed by Short *et al.* (2008), Snow *et al.* (2005), and Wiklund and Shepherd (2003). Accordingly, the first question addressed in this paper is whether the theoretical specification using LSSE domains for identifying firms’ configurations inadequate? If yes, does the inclusion of entrepreneurial orientation (EO) enrich the configurational explanation of young firms’ performance? Miller (1987) notes that configurational fit in organizations can mostly be attributed to a single dominant domain termed as “core element or orchestrating theme.” Fiss (2011) defines core element as the one that is most closely linked to other elements of the configuration as well as with the outcome. Apropos, the second question is: what is the core element or orchestrating theme of young firms’ configurations?

Configuration literature highlights that, since firms focus on different activities as they grow (Kazanjan, 1988), there may not be a single theoretical specification and core element applicable to configurations of all types – from small and young to large and mature – of firms (Miller, 1987). Drawing on EO literature (Covin and Slevin, 1989), this paper posits for addition of EO to enrich the configurational explication of young firms’ performance. CS-QCA (Ragin *et al.*, 2003) of the primary data collected from 70 young Indian firms support the assertions that better configurational explanation of young firms’ performance can be provided if EO is added with the extant LSSE domains, and EO is the orchestrating element of young firms’ configurations. Results remain unaltered across various robustness tests for CS-QCA suggested by Skaaning (2011). Rest of the draft is organized as follows. Second section introduces CA, identifies the gap, and suggests the remedy. Subsequent sections cover methods, analysis, results, and discussion.

Literature review

CA

Following Miller and Friesen (1977) and Mintzberg (1979) configuration scholars started using environmental and organizational elements simultaneously for studying firm’s performance (Meyer *et al.*, 1993). CA rests on the premise that causal attributes are interdependent, and collective “fit” among determinant domains determines firm’s performance (Fiss, 2011). This reliance on holism and collective fit, however, brings forth the challenges of separating causally relevant and spurious predictors, and identifying causal linkages among input domains that generate and shape configurations (Fiss, 2011). Please refer to Short *et al.* (2008) for the latest review of CA.

Issue of theoretical specification. Frank *et al.* (2007) and Snow *et al.* (2005) highlight that scholars mainly use some combination of environment-structure-strategy constructs, and neglect other important indicators like managerial capabilities and decision-making philosophy while exploring organizational configurations. Explanations based on partial models are incomplete at best and suffer from omitted

variable biases (McGahan and Porter, 2002). Lack of comprehensiveness in theoretical model, if exists as claimed by some researchers, is a serious issue especially for CA that aims to offer holistic explanations of phenomenon and underlying causal linkages. Doty *et al.* (1993) and Snow *et al.* (2005) concur that such classification-based research that employs partial theoretical specification restricts itself to providing descriptions of organization types, and is unable to fully explore what leads to desired outcomes. This makes Doty and Glick (1994, p. 230) comment that “most typological theories are inadequately developed because the causal processes operating within each type of organization are not fully specified.”

Woodside *et al.* (2012) suggest that research based on simple theories or partial explanatory model are good to generate understanding of phenomenon at the beginning. They add that researchers, however, must graduate to more comprehensive and sophisticated models with cumulative increase in the number of studies. Discussing the advantage of apt specification, Doty and Glick (1994, p. 230) argue that “when typologies are properly developed and fully specified, they are complex theories [...]” Snow *et al.* (2005) affirm that tackling this lack of comprehensiveness would not only improve the theoretical grounding of derived configurations but also facilitate the integration of strategy and organization literatures. Thus, analyzing the claims concerning the inadequacies of theoretical specification used to identify configurations assumes significance.

This paper subscribes to the view that specifying such theoretical models that have requisite levels of comprehensiveness for explaining all types of firms’ (irrespective of size, age, and industry) configurations simultaneously may not be plausible as explored below. Although Miller (1987) identified four key imperatives – LSSE – that guide the evolution of configurations, he noted that there may be “more imperatives,” and imperatives may change with firm’s evolution. Frank *et al.* (2007) found that prominence of entrepreneurial personality factors, from leadership domain, in configurations decline as new ventures move to post start-up phase. These results are also supported by a strong body of literature which highlights that firms emphasize different functions, activities, and processes to deal with different imperatives as they grow (Kazanjian, 1988; Reuber and Fischer, 1999). Accordingly, this paper focusses on young firms, in the post start-up phase, while answering the research questions. In the following paragraphs, inputs from EO literature are used to propose improvement in theoretical specification for identifying young firms’ configurations.

EO

EO refers to “the processes, practices, and decision making activities towards new entry” (Lumpkin and Dess, 1996, p. 136). Wiklund and Shepherd (2003, p. 1308) used EO as a “firm’s strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices.” Risk-taking, innovativeness, and proactiveness are three dimensions of EO (Covin and Slevin, 1989). Anchoring on resource-based view, Bello *et al.* (2015) and Wiklund and Shepherd (2003) used EO as an indicator of firm-level capability. Recent EO literature, for example, Covin and Lumpkin (2011) and Covin and Wales (2012), however, debates the true nature of EO as a disposition vs behavior, or unidimensional vs multidimensional construct, or formative vs reflective construct. Consistent with the original conceptualization and measure of EO by Covin and Slevin (1989) this paper treats EO as firm’s “unidimensional strategic orientation” (p. 79) that emanates from its founders-leaders beliefs and guidance, and is representative of its key decision-making proclivity.

Strategic leadership and dynamic capability. Dynamic capability refers to “the capacity of an organization to purposefully extend, create, or modify its resource base, enabling the firm to achieve evolutionary fitness through adaptation to and/or shaping of the external environment” (Kor and Mesko, 2013, p. 233). Drawing on the dynamic capability (Teece *et al.*, 1997) and managerial capital (Castanias and Helfat, 1991) literatures, Kor and Mesko (2013) find dynamic managerial capabilities as instrumental in achieving “fit” among firm’s internal factors and its external environment. This achievement of “fit” is what differentiates successful from unsuccessful firms per configuration theory. Kor and Mesko (2013) also note that managerial human capital (skills, knowledge, and experience), social capital (SC) (relationships and connections), and cognition (mental models and beliefs) collectively determine the dynamic managerial capabilities and managerial dominant logic which in turn gets “embedded in the firms routines and procedures” over firms’ evolution as elaborated below (p. 236).

Organizational evolution and EO. Tushman and Romanelli (1985) argued that founders-leaders’ characteristics – human capital, SC, and cognition – and initial decisions regarding core values and control processes set the “decision-making proclivity” in firms. This key strategic “decision-making proclivity, EO” (Wales *et al.*, 2013, p. 357) of new ventures which is initially based on founders-leaders’ characteristics evolves as a consequence of interactions among LSSE, constituent domains of configurations (Kor and Mesko, 2013; Yang and Wang, 2014). By enabling organizational context – culture, systems, and procedures – this key proclivity facilitates individual, team, and organizational learning in small and growing firms (Brettel and Rottenberger, 2013). As firms grow from entrepreneurial to post start-up phase, this collective managerial and organizational learning about making sense of the business and context, approaches to conduct business, and “ways of decision making” distil into guiding principles, which in turn influence firms strategic decisions (Lau and Bruton, 2011).

EO, key decision-making proclivity of a young firm, serving as orchestrating theme (Miller, 1996) helps it maintain congruence between strategic intent and operational choices (Atuahene-Gima and Ko, 2001); align strategy, structure, systems, and procedures; learn; and identify and pursue growth opportunities through its evolution from entrepreneurial to post start-up phase. Accordingly EO’s inclusion with the extant specification – LSSE – should provide more exhaustive configurational explanation of young firms’ performance.

Core element. The search for the core element of firms’ configuration in this paper is driven by Miller’s (1987, p. 686) argument that “most often a single dominant imperative will underlie, organize, and engender a configuration.” Fiss (2011) notes that this element is most closely linked to the outcome and other input domains. The discussion, so far, indicates that decision-making proclivity of a firm, strategic orientation (SO), is a likely candidate. In his meta-analytic study, Hakala (2010) defined SO as organizational “principles that direct and influence the activities of an organization and generate the behaviors intended to ensure the viability and performance of the firm” (p. 200). SO literature posits that founders-leaders’ dominant logic and philosophical underpinnings determine firms’ SO which nurtures its capabilities, and guides its practices, strategic choices, and actions (Narver and Slater, 1990).

The literature review of SO’s relationship with firm performance and LSSE domains also reaffirms that SO: is dependent upon founders-leaders’ perceptions and characteristics such as age, experience, cognition, SC, and risk aversion (Jaworski and Kohli, 1993); contributes to organizational design (including structure) and performance (Braunscheidel and Suresh, 2009); and drives firm’s dynamic capability

(Zhou and Li, 2010) and strategy (Lau and Bruton, 2011). Also there is substantive literature discussing mutual causality among strategy and structure (Galan and Sanchez-Bueno, 2009). This inter-linkage among domains, presented in Figure 1, reiterates the view that “study of organizational configurations embraces a variety of research streams” (Ketchen *et al.*, 1997, p. 224).

Figure 1 depicts that inclusion of a construct for decision-making proclivity, namely, SO in general and EO in particular for young firms with LSSE domains fills an important gap. It emphasizes that emanating from founders-leaders’ characteristics initially young firms’ orientation and consequently its capabilities enable a firm to ensure the fit among its strategies and structural choices in a changing external environment, and achieve superior performance.

Deriving from Miller (1987) and Fiss (2011), and observing that EO improves configurational explanation of young firms’ performance, and is highly related to firm performance (Rauch *et al.*, 2009), it is asserted that EO is the core element of young firm’s organizational configuration. The reverse causality, in some instances (Figure 1), arrived at by combining diverse literatures concerning multilateral relationships among input domains, reaffirms the long acknowledged theoretical issue that over a period of time micro-, meso-, and macro-variables may all influence each other, and an analytical issue that such multiple relationships are best represented by a system of simultaneous equations (Armour and Teece, 1978) or as attributes of a case, amenable to qualitative comparative analysis (QCA; Ragin, 1987).

Method

Context

Firms operating in high-tech sectors face dynamic and complex industry structure and display greater performance variance (Song *et al.*, 2008). On one hand there are firms like Ubona Technologies (an Indian company established in 2007) that grow at astonishing four digit rates (Deloitte Technology, 2011). On the other, reports suggest that while only about 60 percent of start-ups survive to age three, more than 90 percent

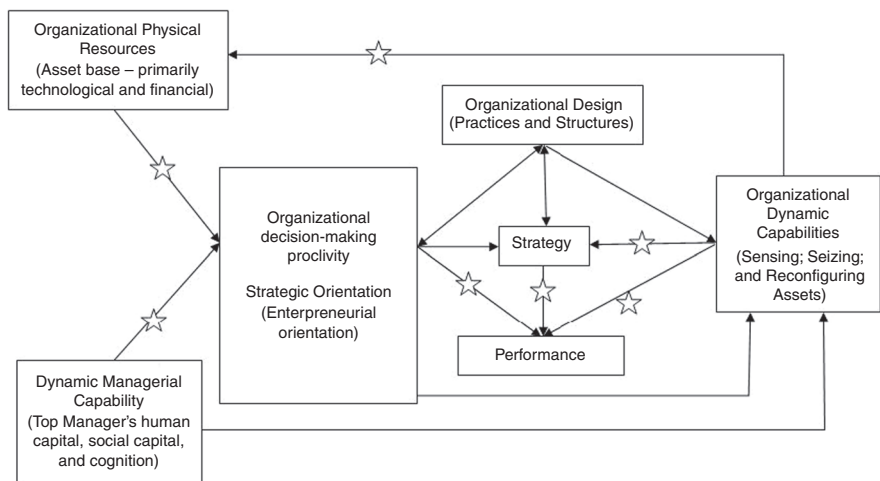


Figure 1.
Linkages among predictor domains, SO, and firm performance

Note: The arrows marked by star (☆) indicate a relationship moderated by environment

of start-ups fail to achieve projected rate of return on investment (Gage, 2012). Their socio-economic relevance and varied performance make young high-tech firms (YHTF) from emerging economies an intriguing phenomenon. Literature suggests that in dynamic environment of high-technology sectors managerial resourcefulness, organizational capabilities, and EO become especially important for young firms (Covin and Slevin, 1989). YHTF in emerging economies largely operate amidst worse institutional voids as compared to their western counterparts (Khanna and Palepu, 1997). These firms are, therefore, more likely to rely upon fit among firm-level and external factors for success making them suitable for this study.

Sample

Sampling unit for this study comprised of firms engaged in high-technology sectors, namely, computer software, information technology, and high-tech manufacturing that are between 3 and 12 years old (Song *et al.*, 2008). Sampling units were identified from sampling frame generated from companies' directories for firms located in National Capital Region of India. The questionnaire comprised of both seven-point Likert-scale items (1 = strongly disagree to 7 = strongly agree) and objective questions. The survey was pilot tested on five firms.

Out of 400 surveys sent, 70 usable responses were received. As the analysis included a maximum of nine conditions (independent variables) at a time, sample size of 70 is within the benchmark specification (for 90 percent confidence level) for crisp-set analysis (Marx *et al.*, 2013). Of 70, 28.6 percent responses came from manufacturing sector and 71.4 percent from services firms. The questionnaire was targeted at the top managers. The average experience of respondents with respective firms is 6.56 years.

The data were tested for non-response bias by comparing the last received ten responses with 60 early responses. The analysis revealed no differences in terms of firm age, size, location, and respondent's designation and demographic attributes. To avoid common method bias, following Podsakoff *et al.* (2003), paper and pencil test was administered, respondents were assured of anonymity, the research model being tested was not disclosed, and the questionnaire items were jumbled up. Harman's single factor test was also used. The exploratory factor analysis yields 21 components with eigenvalues greater than 1, and produces a nine-factor model that explains more than 70 percent of variance. No single factor accounted for more than 50 percent of variance, the highest being 37 percent.

Measures

Outcome (dependent variable). Outcome was defined as set of high-performing firm. As sample includes privately-held small and young firms, perceptual measure of performance was employed using Stam and Elfring's (2008) scale. It asked the CEOs to report their appraisal of their firm's performance *vis-a-vis* its competitors on parameters listed in Table I. Calculation of set membership is explained in analysis section.

Causes (independent variables). Overall nine causal attributes are used. Of these, three conditions – highly dynamic market environment, highly dynamic technological environment, and highly dynamic competitive environment – relate to environment domain. A firm's membership to these causal conditions is assessed by measuring market dynamism (MD), technological dynamism, and competitive intensity from Jaworski and Kohli's (1993) scale, respectively. A review of literature on start-up strategies (Song *et al.*, 2008) and interviews with the respondents highlighted that

Table I.
Items used to operationalize “conditions” and “outcome”

Outcome, and dimensions of conditions (Cronbach's α)	Items (measured using 7-point Likert scale, unless specified otherwise)
Holistic performance (0.85)	Performance (as compared to next best competitor) in the past three years in: sales growth, employment growth, gross profits, innovation in product and services and speed in developing new products and services
Market dynamism (0.78)	5 items of Jaworski and Kohli (1993) scale
Competitive intensity (0.77)	6 items of Jaworski and Kohli (1993) scale
Technological dynamism (0.79)	4 items of Jaworski and Kohli (1993) scale
Corporate development (0.71)	Form joint ventures with domestic business; form joint ventures with foreign businesses; and merge and acquire other businesses
New product development (0.73)	Placed emphasis on developing new products through allocation of substantial financial resources; developed a large variety of new product lines; and increased its overall commitment to develop and market new products
Formalization (0.84)	5 items of Jaworski and Kohli (1993) scale
Size (-)	Number of employees
Top managers' prior high-growth experience (-)	Number of top managers with at least one year experience in rapidly growing companies (> 25% annual growth in sales)
Entrepreneurial orientation (0.71)	9 items of Covin and Slevin (1989) scale
External integration (0.83)	9 items measuring customer and supplier integration from Braunscheidel and Suresh (2009) scale on EI
Internal integration (0.79)	6 items of Braunscheidel and Suresh (2009) scale on II
Market orientation (0.92)	9 items of Narver and Slater (1990) scale
Social capital (0.85)	7 items of Yli-Renko <i>et al.</i> (2002) scale

founder-leaders usually take two routes of firm growth. In one they focus inwards to perfect their product offerings to target larger areas/more customers (segments) on their own while in the other they look outside the firm for cooperation opportunities such as forming alliances, merger or joint ventures (Shan, 1990). Apropos, two conditions related to strategy domain are used, namely, strategic growth through new product development, and strategic growth through corporate development. These constructs are measured using new product development, and corporate development scales adapted from Miller (1988) and Lau and Bruton (2011), respectively.

As the range of age considered for classifying firms as young is wide, namely, 3-12 years, it was thought to be prudent to gauge the structural features of these firms using number of employees and level of formalization. Two conditions related to structure domain are used, namely, high formalization and large size. Formalization is measured using Jaworski and Kohli's (1993) scale, and size was measured as number of employees. Two conditions high managerial high-growth experience (HGE), and high EO related to leadership, and EO domains, respectively, are used. These constructs are measured using number of top managers' with HGE and Covin and Slevin's (1989) EO scales, respectively.

Analysis

Data analysis technique

Fiss (2011) compared various techniques for identifying organizational configuration and argued in favor of QCA. QCA is especially suited for the analysis of the configuration-performance link as it preserves the mutual interdependencies among

determinant domains of configurations during the analysis. Ragin (1987) positioned QCA midway between case-oriented and variable-oriented approaches. According to him, case-oriented research is concerned with how all the features of a case combine to lead toward a desired outcome whereas variable-oriented research is concerned with discerning the relationship among averages of few variables for a larger sample and the generalizability of findings (Ragin, 1987).

In QCA, cases/firms are considered as the configuration or set of attributes and can only be analyzed holistically as against “one variable at a time” (Miller, 1996, p. 505) approach of regression. QCA uses set theoretic methods and concepts of Boolean algebra for the analysis of social science statements in terms of set relations (Ragin, 1987). Other benefits of QCA include – systematic comparison of similarities and differences among cases; acknowledgment of conjunctural causation (the combination of causes as a whole lead to outcome); causal asymmetry (in some configurations presence of a condition and in others absence of the same condition may lead to outcome, depending upon what combination of conditions is sufficient to achieve outcome); equifinality (different firms starting from different positions and employing different combinations of causal conditions can achieve the same end-state); identification of necessary and sufficient conditions; and identification of core and peripheral conditions (Rihoux and Ragin, 2008). QCA is emerging as a key analytical approach in entrepreneurship and strategy research (Princ and Cater, 2015). Modern day QCA has many avatars, namely, Crisp-Set QCA, Fuzzy-Set QCA, and multi-value QCA (Rihoux and Ragin, 2008).

Crisp-set QCA

Among all variants of QCA, CS-QCA is employed in maximum empirical studies (Marx *et al.*, 2013). In CS-QCA each predictor is defined as a set representing “causal condition” and dependent variable as the “outcome” set. Each firm is assigned either full membership (a score of 1) or full non-membership (0) in these sets. After the calibration of cases’ raw scores on variables to represent each case’s membership in the sets of causal conditions and outcome, CS-QCA allows researchers to systematically compare the cases for association of different combinations of causal conditions with presence or absence of outcome. In CS-QCA researchers start with full description of each case (represented by its membership in all the causal conditions and outcome) and arrive at a parsimonious solution (simpler expression) that applies to the whole set of cases analyzed (Marx *et al.*, 2013).

To achieve this, CS-QCA employs truth tables and minimization procedures. Truth table is the table of all possible combinations of causal conditions. Each row is a distinct configuration and may or may not have a member firm. All firms with identical configuration are kept in a single row of the truth table. If there are no contradictory configurations in the truth table, it is minimized as follows. If two configurations leading to the same outcome differ in only one causal condition, then that causal condition is considered irrelevant and removed to create a parsimonious solution. The property of CS-QCA which makes it most apt for analyzing theoretical specification is that in CS-QCA, specification of an explanatory model “goes hand in hand with resolving contradictions primarily by identifying omitted causal variables” (Marx *et al.*, 2013, p. 36; also see Ragin, 1987, p. 113). Ragin (2005, p. 34) argue that “the resolution of contradictions not only refines the truth table [...] and also may expand and elaborate theory” (Marx *et al.*, 2013). It is this property of CS-QCA that the present paper relies upon to find support for the proposed assertions.

Marx and Dusa (2011, p. 106) suggest following steps for CS-QCA: (1) decide outcome and conditions; (2) decide the research population and select the cases; (3) convert the outcome and conditions into binary conditions; (4) code each case for each condition separately, then club cases that adhere to same configuration of conditions as row one by one leading to preparation of a truth table; (5) check truth table for contradictory configurations; (6) analyze the model, and interpret after deriving parsimonious and intermediate solutions. Step 1 is covered in measures section, and step 2 in context and sample sections. Steps 4-6, reported in results section, are achieved with the help of softwares – Tosmana and fsQCA (Cronqvist, 2011).

In the step 3, data are dichotomized. Table I shows that environment, strategy, structure, leadership, and EO are measured using 3, 2, 2, 1, and 1 indicators, respectively. External-integration (EI), internal-integration (II), market orientation (MO), and SC constructs are used for robustness analysis. For converting firms' raw scores into the dichotomies of 0s and 1s, the cut-offs (Table II) were decided using cut-off setter function of Tosmana software, and was also cross checked using cluster analysis (Rihoux and Ragin, 2008). All cut-offs divided the sample into two clusters. The values equal and below the cut-offs were assigned zero and values greater than the cut-off were assigned one. For example, outcome is labeled "high-performing firm." All firms with raw score above 5.01 on performance were member of this set and awarded "1," whereas those with score equal or less than 5.01 were awarded "0."

Results

To explore the theoretical specification, following Ragin *et al.* (2003) two models are formed. First model included eight indicators related to LSSE domains. The truth table (Table III) generated exhibits contradictory configurations. Then the analysis is repeated for the proposed model using nine indicators related to LSSE domains plus EO (Table IV).

Reading the truth table

Truth table (Table III) is derived by using eight conditions mentioned in the headings of first eight columns. The last column notes the number of firms belonging to each

Dimension	Minimum raw value	Maximum raw value	Original cut-off	Higher cut-off	Lower cut-off
Holiperf	3.4	6.6	5.01	5.33	4.69
MD	3.2	6.4	4.81	5.13	4.49
CI	3.33	6.5	4.92	5.24	4.60
TD	3.25	6.5	4.88	5.21	4.55
CD	3	7	5.01	5.41	4.61
PD	3.25	6.75	5.01	5.36	4.66
F	3	6.8	4.9	5.28	4.52
EE	5	65	35	41	29
TMX	0	7	3.5	4.2	2.8
EO	3.89	6.33	5.12	5.36	4.6
EI	3.44	6.44	4.94	5.24	4.64
II	3.17	6.67	4.92	5.27	4.57

Table II.

Raw values of constructs and cut-offs for dichotomization

Notes: Holiperf, holistic performance; MD, market dynamism; CI, competitive intensity; TD, technological dynamism; CD, corporate development strategy; PD, product development strategy; F, formalization; EE, number of employees; TMX, top managers with high-growth experience; EO, entrepreneurial orientation; EI, external integration; II, internal integration

MD	TD	CI	CD	PD	F	EE	TMX	Holiperf	Number of companies
1	1	1	0	1	1	0	1	1	1
0	0	0	0	0	0	0	0	C	9
0	1	1	0	0	0	0	0	1	1
1	1	0	0	0	0	0	0	0	1
0	1	1	0	0	0	0	1	1	1
0	0	0	0	0	0	1	0	0	1
1	1	1	0	1	1	0	0	1	2
0	1	1	0	1	0	0	0	0	1
0	0	0	0	1	0	0	0	0	1
1	1	1	0	1	0	0	0	1	1
1	1	1	1	1	0	0	0	1	1
1	1	1	1	1	1	0	0	C	41
1	0	0	1	0	0	0	0	0	1
1	1	1	1	0	1	0	0	1	3
0	1	1	1	1	1	1	0	1	1
0	1	0	1	0	0	0	0	0	1
1	1	1	1	1	1	1	0	1	1
1	1	1	1	0	1	1	0	1	1
0	1	0	1	1	0	0	0	0	1

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Table III.
Truth table for crisp-set analysis using traditional specification

MD	TD	CI	CD	PD	F	EE	TMX	EO	Holiperf	Number of companies
1	1	1	0	1	1	0	1	0	1	1
0	0	0	0	0	0	0	0	0	0	7
0	1	1	0	0	0	0	0	1	1	1
1	1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	1	1	2
0	1	1	0	0	0	0	1	0	1	1
0	0	0	0	0	0	1	0	0	0	1
1	1	1	0	1	1	0	0	1	1	2
0	1	1	0	1	0	0	0	0	0	1
0	0	0	0	1	0	0	0	0	0	1
1	1	1	0	1	0	0	0	1	1	1
1	1	1	1	1	0	0	0	1	1	1
1	1	1	1	1	1	0	0	1	1	40
1	0	0	1	0	0	0	0	0	0	1
1	1	1	1	0	1	0	0	1	1	3
0	1	1	1	1	1	1	0	1	1	1
0	1	0	1	0	0	0	0	0	0	1
1	1	1	1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	0	1	1	1
0	1	0	1	1	0	0	0	0	0	1
1	1	1	1	1	1	0	0	0	1	1

Table IV.
Truth table for crisp-set analysis using proposed specification

row/configuration. Values in the cells for columns one through eight tell whether that particular condition is present (1) or absent (0). The second last column, “holistic performance” reports: 0, if that configuration led to absence of outcome; 1, if it led to presence, and “C” (contradictory configuration), if some cases exhibit outcome and some the absence of outcome. For example, in the second row, all nine firms share same

configuration where all the input conditions are absent, however, there are some firms with high performance and some with its absence, leading to contradiction.

Truth table (Table IV) for the second model does not exhibit any contradictory configuration implying that inclusion of EO improves the configurational explanation of YHTF's performance. Further, the result of Boolean minimization of solution formulae from second model yields EO as a common condition between parsimonious and intermediate solution implying that it is the "core element."

Robustness of analysis is tested for alternative operationalization of constructs (Skaaning, 2011). EI and II mechanisms are used to operationalize structure construct in place of formalization and size (Braunscheidel and Suresh, 2009). Using new indicators, both the models are re-analyzed. Again when model includes indicators for LSSE domains only, the resultant truth table exhibits contradictory configurations. However, addition of EO resolves this contradictory configuration. Further, in second model, only EO emerged as the core element. Hence, the analysis is robust for operationalization of select domains.

To test the robustness with reference to cut-off points, 10 percent of the range value of each construct is added and subtracted to the construct's cut-off to create two alternative cut-offs. For example, original cut-off for MD is 4.8 (Table II). The range of MD is 3.2. So, two alternative cut-offs of 5.13 and 4.49 are derived for MD and labeled "MD with higher cut-off," and "MD with lower cut-off," respectively. Likewise alternative cut-offs is calculated for all nine indicators. Robustness analysis is limited to using only one indicator with modified cut-offs at a time along with remaining indicators with original cut-offs. Truth tables are rechecked, using only one indicator with modified cut-off at a time, for all 16 iterations of first-set model and 18 iterations of second set model. For example, in one iteration of second set model, "MD with higher cut-off," "technological dynamism," "competitive intensity," "product differentiation strategy," "corporate development strategy," "formalization," "size," "number of top managers with HE," and "EO" is used. Truth tables for all iterations of first set, which use eight conditions, exhibit contradictory configurations. Out of 18 such iterations of second set, in 16 the truth tables did not have contradictory configurations, and only EO emerged as the common core element. Two tests with modified EO cut-offs failed to provide contradictory configuration free truth table. This highlights that EO is a critical element for configuration specification. Hence, it can be inferred that the analysis mostly withstands the robustness of cut-off choices.

To test whether addition of an alternate 9th variable would lead to contradictory configuration free truth table SC (Yli-Renko *et al.*, 2002) and MO (Narver and Slater, 1990) were added, one at a time, in place of EO. Addition of neither SC nor MO led to contradictory configuration free truth table. Fuzzy-set QCA was used as alternative method to check whether EO emerges as core element. It also revealed EO as core element.

Discussion and conclusion

To further the universe of configurational theory, Short *et al.* (2008, p. 1069) suggested studying configurations of young firms as a prospective research area (Balodi and Prabhu, 2014). Conversations within CA, however, highlight the issue of adequacy of specifications or "variables used to identify configurations" (Ketchen *et al.*, 1997, p. 225), and inadequate attention paid to the orchestrating theme (Fiss, 2011). Issues that relate to ontology of the configurations, and question the notion and existence of "configurations" and "fit" are beyond the scope of this paper. If, however, one agrees that it is indeed the multiple conjunctural causation among the interacting input

domains, captured as configurations, which leads to the outcome then the importance of comprehensive theoretical specification cannot be ruled out. To explore this, present paper focussed on the issue of configurational explanation of YHTF's high performance. The results of the present study – inclusion of EO with LSSE improves the configurational explanation of YHTF's performance, and EO is the core element of young firms' configuration – complement the scholarly work of Short *et al.* (2008) by specifying which elements combination to employ, and paves the way for configuration scholars. The analysis demonstrates that if suitable firm-level and external indicators are used theoretically more insightful and practically meaningful configurational discoveries can be made.

Study of YHTF is an important research area. Past researchers have noted the importance of top managerial factors, organizational culture, and financial and technological resources for YHTFs performance. This paper shows that richer insights concerning intra-configurational mechanisms that result in high performance can be generated if adequate theoretical perspectives are used. Partial explanatory models with fewer variable as against appropriately specified models will be unable to present a coherent picture of how managerial capital contributes to the success of YHTFs by influencing dynamic managerial capabilities and firm's orientation. A large scale study using domains specified in this study – EO and LSSE – should be the next logical step to identify the most prominent and successful configurations that work for YHTFs.

Literature suggests that EO is not a trivial additional input especially in the case of post start-up firms. In the words of Miller (1996), it is a “theoretically interesting” and “relevant element.” As expected of an orchestrating theme, EO is very closely linked to other elements of organizational configuration and performance (Figure 1). During young phase, top managers begin to establish formal rules, and processes for activities as they move away from day to day operations (Mousa and Wales, 2012). The need to establish shared understanding – in terms of what the business is; what its core values are; which product-market areas to venture into, and how to grow – organically vs inorganically, or slowly vs rapidly – is paramount. What is acceptable level of risk-taking; how proactive various functions and employees can be; and how to approach new opportunities and ensure innovativeness despite resource constraints are key concerns that collectively determine firm's EO, and should be well-understood throughout the firm. Apt articulation and shared understanding of these basic questions outlines firm's EO which binds elements of a growing organization together. EO serves this unique purpose by establishing organization wide context for learning. As EO facilitates the linkages among input domains, its inclusion allows for richer organizational configurations of young firms.

This paper noted the debate on the nature of EO construct. Results of this paper are important as they show that going forward it will benefit both the configuration and EO literatures if they draw on each other. This way, EO researchers can try to explore EO as an outcome of configuration of managerial capital, dynamic managerial capabilities, and organizational practices. This can contribute specifically to the debate on multidimensionality of EO construct. Similarly, if configurations of other types of firms – mature firms from high-tech sectors, young or mature firms from non-high-tech sectors are explored, SO literature in general and EO literature in particular can provide relevant inputs.

In terms of limitations, first shortcoming of this study is the lack of objective yardstick characterizing post start-up young firms. For this the dominant notion in entrepreneurship research of treating firms between 3 and 12 years as young firms is

adopted. Although the paper tries to deal with this by including size as input domain. Future studies may nevertheless benefit by employing alternative ranges for age. Second, the study is limited to National Capital Region of India. This region covers majority of key towns of northern India, nevertheless, given the size of India, and it being just one country, results have limited generalizability. Third, as most of the firms in the sample are privately held, this paper relies on perceptual data. However, as QCA, a non-parametric method, is used the issues of result generalizability and sample selection do not cast major problem. Future research attempts shall, however, benefit by covering larger geographical area, sample size, and using secondary and objective data. A longitudinal study that focusses on fewer firms to unearth the evolution of organizational configuration and changes in its core elements over its lifecycle can also divulge interesting insights.

QCA has reignited researchers' interests in CA. This paper used CS-QCA to explore utility of combining multiple theoretical perspectives (EO and traditional configurational domains) in exploring a phenomenon (high performance of YHTFs). This paper demonstrates that the choice of theoretical perspectives used to identify configurations matters, and it is important for scholars to capture as many theoretical perspectives as required to holistically capture the phenomenon and underlying causal logics. Robustness checks reveal that the results are not sensitive to – operationalization of constructs; threshold cut-offs for deciding crisp-set membership before and after including EO in theoretical model; addition of alternative non-trivial ninth determinant; and the choice of method (crisp vs fuzzy-set QCA). The result of this study reiterate the configurational logic that it is the combination of multiple input domains that result in high performance of YHTFs. Specifically, to achieve high performance, founders-leaders of young firms, drawing on their managerial capital, need to draft firm's EO to channelize its dynamic capabilities that ultimately establish and drive the fit among firms' internal factors – competencies, strategies, and structure – *vis-à-vis* the external environment.

References

- Armour, H.O. and Teece, D.J. (1978), "Organizational structure and economic performance: a test of the multidivisional hypothesis", *The Bell Journal of Economics*, Vol. 9 No. 1, pp. 106-122.
- Atuahene-Gima, K. and Ko, A. (2001), "An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation", *Organization Science*, Vol. 12 No. 1, pp. 54-74.
- Balodi, K.C. and Prabhu, J. (2014), "Causal recipes for high performance: an exploratory comparative study of young high-technology firms from India and the UK", *International Journal of Entrepreneurial Behavior and Research*, Vol. 20 No. 6, pp. 542-561.
- Bello, D.C., Radulovich, L.P., Javalgi, R.R.G., Scherer, R.F. and Taylor, J. (2015), "Performance of professional service firms from emerging markets: role of innovative services and firm capabilities", *Journal of World Business*, available at: <http://dx.doi.org/10.1016/j.jwb.2015.11.004>
- Braunscheidel, M.J. and Suresh, N.C. (2009), "The organizational antecedents of a firm's supply chain agility for risk mitigation and response", *Journal of Operations Management*, Vol. 27 No. 2, pp. 119-140.
- Brettel, M.B. and Rottenberger, J.D. (2013), "Examining the link between entrepreneurial orientation and learning processes in small and medium-sized enterprises", *Journal of Small Business Management*. doi: 10.1111/jsbm.12002.

- Castanias, R.P. and Helfat, C.E. (1991), "Managerial resources and rents", *Journal of Management*, Vol. 17 No. 1, pp. 155-171.
- Covin, J.G. and Lumpkin, G.T. (2011), "Entrepreneurial orientation theory and research: reflections on a needed construct", *Entrepreneurship Theory and Practice*, Vol. 35 No. 5, pp. 855-872.
- Covin, J.G. and Slevin, D.P. (1989), "Strategic management of small firms in hostile and benign environments", *Strategic Management Journal*, Vol. 10 No. 1, pp. 75-87.
- Covin, J.G. and Wales, W.J. (2012), "The measurement of entrepreneurial orientation", *Entrepreneurship Theory and Practice*, Vol. 36 No. 4, pp. 677-702.
- Cronqvist, L. (2011), "Tosmana: tool for small-N analysis", Version 1. 3.2, University of Trier, Trier.
- Deloitte Technology (2011), "Deloitte Technology Fast 50", report, available at: www.DeloitteCom/Assets/Dcom-India/Local Assets/Documents/Winners Report_ 2011.pdf (accessed May 10, 2013).
- Doty, D.H. and Glick, W.H. (1994), "Typologies as a unique form of theory building: toward improved understanding and modelling", *Academy of Management Review*, Vol. 19 No. 2, pp. 230-251.
- Doty, D.H., Glick, W.H. and Huber, G.P. (1993), "Fit, equifinality, and organizational effectiveness: a test of two configurational theories", *Academy of Management Journal*, Vol. 36 No. 6, pp. 1196-1250.
- Fiss, P.C. (2011), "Building better causal theories: a fuzzy set approach to typologies in organization research", *Academy of Management Journal*, Vol. 54 No. 2, pp. 393-420.
- Frank, H., Lueger, M. and Korunka, C. (2007), "The significance of personality in business start-up intentions, start-up realization and business success", *Entrepreneurship & Regional Development*, Vol. 19 No. 3, pp. 227-251.
- Gage, D. (2012), "The venture capital secret: 3 out of 4 start-ups fail", *The Wall Street Journal*, available at: <http://online.wsj.com/article/SB10000872396390443720204578004980476429190.html> (accessed March 12, 2013).
- Galan, J.I. and Sanchez-Bueno, M.J. (2009), "The continuing validity of the strategy-structure nexus: new findings 1993-2003", *Strategic Management Journal*, Vol. 30 No. 11, pp. 1234-1243.
- Hakala, H. (2010), "Strategic orientations in management literature: three approaches to understanding the interaction between market, technology, entrepreneurial and learning orientations", *International Journal of Management Reviews*. doi: 10.1111/J.1468-2370.2020.00292.X.
- Jaworski, B.J. and Kohli, A.K. (1993), "Market orientation-antecedents and consequences", *Journal of Marketing*, Vol. 57 No. 3, pp. 53-70.
- Kazanjian, R.K. (1988), "Relation of dominant problems to stages of growth in technology-based new ventures", *Academy of Management Journal*, Vol. 31 No. 2, pp. 257-279.
- Ketchen, D.J. Jr, Combs, J.G., Russell, C.J., Shook, C., Dean, M.A., Runge, J., Lohrke, F.T., Naumann, S.E., Haptonstahl, D., Baker, R., Beckstein, B., Handler, C., Honig, H. and Lamoureaux, S. (1997), "Organizational configurations and performance: a meta-analysis", *Academy of Management Journal*, Vol. 40 No. 1, pp. 223-240.
- Khanna, T. and Palepu, K.G. (1997), "Why focused strategies may be wrong for emerging markets", *Harvard Business Review*, Vol. 75 No. 4, pp. 41-51.
- Kor, Y.Y. and Mesko, A. (2013), "Dynamic managerial capabilities: configuration and orchestration of top executive's capabilities and the firm's dominant logic", *Strategic Management Journal*, Vol. 34 No. 2, pp. 233-244.
- Lau, C.M. and Bruton, G.D. (2011), "Strategic orientations and strategies of high-technology ventures in two transition economies", *Journal of World Business*, Vol. 46 No. 3, pp. 371-380.

- Lumpkin, G.T. and Dess, G.G. (1996), "Clarifying the entrepreneurial orientation construct and linking it to performance", *Academy of Management Review*, Vol. 21 No. 1, pp. 135-172.
- McGahan, A. and Porter, M.E. (2002), "What do we know about variance in accounting profitability?", *Management Science*, Vol. 48 No. 7, pp. 1-18.
- Marx, A. and Dusa, A. (2011), "Crisp-Set Qualitative Comparative Analysis (CSQCA), contradictions and consistency benchmarks for model specification", *Methodological Innovations*, Vol. 6 No. 2, pp. 97-142.
- Marx, A., Cambré, B. and Rihoux, B. (2013), "Chapter 2 crisp-set qualitative comparative analysis in organizational studies", in Fiss, P.C., Cambré, B. and Marx, A. (Eds), *Configurational Theory and Methods in Organizational Research (Research in the Sociology of Organizations, Volume 38)*, Emerald Group Publishing Limited, pp. 23-47.
- Meyer, A.D., Tsui, A.S. and Hinings, C.R. (1993), "Configurational approaches to organizational analysis", *Academy of Management Journal*, Vol. 36 No. 6, pp. 1175-1195.
- Miller, D. (1987), "The genesis of configuration", *Academy of Management Review*, Vol. 12 No. 4, pp. 686-701.
- Miller, D. (1988), "Relating Porter's business strategies to environment and structure: analysis and performance implications", *Academy of Management Journal*, Vol. 31 No. 2, pp. 280-308.
- Miller, D. (1996), "Configurations revisited", *Strategic Management Journal*, Vol. 17 No. 7, pp. 505-512.
- Miller, D. and Friesen, P.H. (1977), "Strategy making in context: ten empirical archetypes", *Journal of Management Studies*, Vol. 14 No. 3, pp. 259-280.
- Mintzberg, H. (1979), *The Structuring of Organizations*, Prentice-Hall, New York, NY.
- Mousa, F.T. and Wales, W. (2012), "Founder effectiveness in leveraging entrepreneurial orientation", *Management Decision*, Vol. 50 No. 2, pp. 305-324.
- Narver, J.C. and Slater, S.F. (1990), "The effect of a market orientation on business profitability", *Journal of Marketing*, Vol. 54 No. 4, pp. 20-35.
- Podsakoff, P.M., Mackenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.
- Primc, K. and Čater, T. (2015), "Environmental proactivity and firm performance: a fuzzy-set analysis", *Management Decision*, Vol. 53 No. 3, pp. 648-667.
- Ragin, C.C. (1987), *The Comparative Method. Moving Beyond Qualitative and Quantitative Strategies*, University of California Press, Berkeley, CA.
- Ragin, C.C. (2005), "Core versus tangential assumptions in comparative research", *Studies in Comparative International Development*, Vol. 40 No. 1, pp. 33-38.
- Ragin, C.C., Shulman, D., Weinberg, A. and Gran, B. (2003), "Complexity, generality, and qualitative comparative analysis", *Field Methods*, Vol. 15 No. 4, pp. 323-340.
- Rauch, A., Wiklund, J., Lumpkin, G.T. and Frese, M. (2009), "Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future", *Entrepreneurship: Theory and Practice*, Vol. 33 No. 3, pp. 761-787.
- Reuber, A.R. and Fischer, E. (1999), "Understanding the consequences of founders' experience", *Journal of Small Business Management*, Vol. 37 No. 2, pp. 30-45.
- Rihoux, B. and Ragin, C.C. (2008), *Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques*, Sage Publications, Thousand Oaks, CA.
- Shan, W. (1990), "An empirical analysis of organizational strategies by entrepreneurial high-technology firms", *Strategic Management Journal*, Vol. 11 No. 2, pp. 129-139. doi: 10.1002/smj.4250110205.

- Short, J.C., Payne, T. and Ketchen, D. Jr (2008), "Research on organizational configurations: past accomplishments and future challenges", *Journal of Management*, Vol. 34 No. 6, pp. 1053-1079.
- Skaaning, S.E. (2011), "Assessing the robustness of crisp-set and fuzzy-set QCA results", *Sociological Methods & Research*, Vol. 40 No. 2, pp. 391-408.
- Snow, C.C., Miles, R.E. and Miles, G. (2005), "A configurational approach to the integration of strategy and organization research", *Strategic Organization*, Vol. 3 No. 4, pp. 431-439.
- Song, M., Podoyrnitsyna, K., Van Der Bij, H. and Halman, J.I.M. (2008), "Success factors in new ventures: a meta-analysis", *Journal of Product Innovation Management*, Vol. 25 No. 1, pp. 7-27.
- Stam, W. and Elfring, T. (2008), "Entrepreneurial orientation and new venture performance: the moderating role of intra- and extra-industry social capital", *Academy of Management Journal*, Vol. 51 No. 1, pp. 97-111.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-533.
- Tushman, M.L. and Romanelli, E. (1985), "Organizational evolution: a metamorphosis model of convergence and reorientation", in Cummings, L.L. and Staw, B.M. (Eds), *Research in Organizational Behavior*, Vol. 7, JAI Press, Greenwich, CT, pp. 171-222.
- Wales, W.J., Gupta, V.K. and Mousa, F.T. (2013), "Empirical research on entrepreneurial orientation: an assessment and suggestions for future research", *International Small Business Journal*, Vol. 31 No. 4, pp. 357-383.
- Wiklund, J. and Shepherd, D. (2003), "Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses", *Strategic Management Journal*, Vol. 24 No. 13, pp. 1307-1314.
- Woodside, A.G., Ko, E. and Huan, T.C. (2012), "The new logic in building isomorphic theory of management decision realities", *Management Decision*, Vol. 50 No. 5, pp. 765-777.
- Yang, L. and Wang, D. (2014), "The impacts of top management team characteristics on entrepreneurial strategic orientation: the moderating effects of industrial environment and corporate ownership", *Management Decision*, Vol. 52 No. 2, pp. 378-409.
- Yli-Renko, H., Autio, E. and Tontti, V. (2002), "Social capital, knowledge, and the international growth of technology-based new firms", *International Business Review*, Vol. 11 No. 3, pp. 279-304.
- Zhou, K.Z. and Li, C.B. (2010), "How strategic orientations influence the building of dynamic capability in emerging economies", *Journal of Business Research*, Vol. 63 No. 3, pp. 224-231.

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