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THE EQUIFINALITY OF SUCCESS IN THE OPERATIONAL EXCELLENCE MARKET DISCIPLINE

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ABSTRACT

Differentiation in positioning or operations is an impo1ant element is creating and sustaining a competitive advantage. Firm should understand the boundaries and constraints associated with strategic differentiation. This paper examines how successful finns with similar strategies can differentiate through workforce practices. Management paths to success can vary, given an understanding the various imperatives under which business leaders work.

INTRODUCTION

In their quest for sustainable competitive advantage, managers may look to organizational alignment as a distinct source of advantage. Firms seek to align their external brand, i.e., strategic focus, with their internal operating practices/assets (Arthur 1992; Barney 1991; Becker and Huselid 1998; Hitt et al. 2001). Firms can find different ways to align their assets and still ensure competitive success.

Equifinality is defined as a condition wherein a system can reach the same final state from differing initial conditions and by a variety of paths (Katz and Kahn 1978). Wal-Mart and Costco are respectively the first and fifth leading retailers in the United States. Both offer their customers best cost value gained through operationally excellent business processes such as state-of-the art information systems and innovative distribution channels (Bramel and Smichi-Levi 1997). Yet they have not taken the same path in providing customer value. They represent equifinality as defined above. Wal-Mart has chosen to employ a large, part-time workforce and provide little in terms of employee benefits. Costco, on the other hand, is known for its more employee-friendly corporate human resource policies, as seen in higher wages, more full time positions, and competitive benefits packages (Westover 2007; Greenhouse 2005). This comparison is illustrative of the notion that firms can take different paths to success within a framework directed at a similar value proposition.

With the Wall-Mart/Costco comparison in mind, it should be noted that no commercial enterprise will consistently achieve above average performance unless it is able to create and sustain a competitive advantage in its markets. Competitive advantage comes from the firm's ability to consistently create and deliver value to its customers (Chan et al. 2004; Deshpande and Farley 2004; Quinn et al. 1988; Roberts 2004). For a fh111 to sustain a market advantage over time, it must have consistent access to the resources it needs to maintain and improve its market position. In other words, it must generate profits at levels sufficient to ensure continued access to capital: financial, physical, and human. Creating and sustaining a competitive advantage and doing so at an acceptable profit level are the fundamental objectives of strategic management.

Configuration: Examples of strongly aligned firms, in addition to Wal-Mai1 and Costco, are a part of our current business lore. Southwest Airlines aligns its low fare offerings with lean operations. Yet it keeps its customers happy by having them cheerfully engage in self-service practices, such as canying their own bags. Dell Computers uses highly efficient logistical and customer service systems to enhance operating profits. Like Southwest Airlines, it aligns its best cost practices with a service system that gives customers the opportunity to order a computer that meets their specific needs. Starbucks wants friendly, engaged servers to greet its customers. To hire and retain the right people, it aligns the values of its employees in te1ms of work schedule and job satisfaction with the customer desire for a comfortable, friendly place to enjoy a cup of coffee.

Contemporary business authorities understand the value that alignment provides to firms and the costs of non-alignment. They are urging managers to align the assets of their finns into a systemic business design that focuses on the synthesis of diverse organization attributes. Or as noted by Lei and Slocum (2005: 31), organizations "constitute configurations of mutually supporting parts that are organized around stable themes or strategies. These themes or strategies may be derived from leaders' v1s10ns, the influence of powerful departments/divisions, or the state of the industry. Once a stable theme or strategy emerges, a whole infrastructure emerges to support it." These alignments then over time drive the organization's interactions with its key stakeholders. Alternatively, as noted by Meyer et al. (1993: 1175), an alignment configuration may be defined as "any multidimensional constellation of conceptually distance characteristics that common occur together." Miller and Mintzberg (1983: 57), stated that alignments "can be defined as commonly occurring cluster of attributes ... that are internally consistent, such that the presence of some attributes can lead to the reliable prediction of others." In other words, organizations function as complex systems comprised of interdependent sub-components that are best understood when studied holistically (Ackoff 1981; Katz and Kahn 1978; Miller and Friesen 1984). Configuration theories focus on the realized *pattern* of multiple independent variables, how the variables interact longitudinally, and how the pattern is related to the dependent variable of interest.

Business writers present many strategic and operationally-based alignment models with the goal of assisting managers in building functional alignments within their businesses. The most popular of the strategic alignment models include systems theory (Ackoff 1981), socio-technical systems (Trist et al. 1965), and the Seven S model (Peters and Wate1man 1980). Frequently referenced operational-alignment models include Six Sigma, The Balanced Score Card, and Total Quality Management.

Slywotzky et al. (1998) note that over the past fifteen years billions of dollars in market value have migrated from old business designs to new ones. For these authors, winning in the market place is a result of defining and implementing a unique business design or configuration that opens a new cycle of value growth. Finns such as Wal-Maii, Costco, Southwest Airlines, Dell Computers, and Starbucks have become de facto standards in their markets through the implementation of unique configurations that provide an undisputed competitive advantage.

The business designs presented by Slywotzky et al. (1998), integrate several "imperatives," i.e., factors that tend to both shape and restrict the varieties of configurations over time by organizing their elements into an enduring system, are resistant to change, and typically act as lead variables during organization transformation (Miller 1987; Miller and Friesen 1984). They provide long-term integrity, stability, and evolutionary momentum to an organization design. Unique configurations allow firms to avoid imitation and capture a lasting mind share of customers and investors. In this paradigm, the organizational configuration becomes the distinct point of strategic differentiation.

IMPERATIVES

For an alignment model to be strategic, it must serve as a means of gaining or sustaining competitive advantage for its user. For the purposes of this study, we chose to focus on the following imperatives: market approach, employee competencies (i.e., knowledge, abilities, and

organization culture,

personality traits), workforce management practices, and business processes as our imperatives. The centrality of these variables for organization success has been strongly advocated by Chan et al. (2004), Collins (2001), Collins and Porras (1994), Christensen (2003), Deshpande and Farley (2004), Huselid (1995), and Roberts (2004). In general, the research utilizing ever more complex combinations of organizational variables to explain firm performance has grown slowly over the past two decades (Capon et al. 1996; Chan et al. 2004). In fact, Chan et al. (2004), reported the citing of only eight studies from the ABI/NFORM database using three or more of the following variables: market orientation, organization culture, innovation, and organization climate. An important added feature to the literature explicating finn market performance from this study is the inclusion of multiple key imperatives in the general research model.

Market Strategy Imperative: The construct of market strategy is a central element in management practice focused on the marketing concept. The marketing concept notes that sustained competitive advantage results from identifying and satisfying customer needs more effectively than competitors (Day 1994; Kirca et al. 2005). Market strategy is presumed to contribute to long-tenn

competitive advantage and sustained profitability because it provides a firm with market-sensing and customer-orienting practices leading to market sensitivity (Levitt 1960; Hult and Ketchen 2001; Kirca et al. 2005; Porter 1980).

All firms have a strategy, ranging from one that is clearly defined to one that is vaguely understood within the firm. Inherent in a firm's strategy are its position in its market in relationship to competitors; its consistency in managing the strategy within the finn; its flexibility in adapting to market conditions when appropriate; its ability to provide a return on investment that allows the firm to progress; and its overall management effectiveness in its ability to align adequate resources and support to the strategic effort.

The market approach determines how best to add value for the film's customers. McNally and Speak (2002: 4) identify the meaning of brand as "perception or emotion, maintained by a buyer or a prospective buyer, describing the experience related to doing business with an organization or consuming its products and services." Largely, the brand should represent a company's unique assets. Otherwise, the firm may be considered as an industry follower or a commodity business. The firm must determine the means by which it chooses to create that perspective.

The competitive approaches used by organizations to achieve fit with the environment are the basis of all successful market straegies (Gilbert and Strebel 1988). There are a limited number of generic moves or strategies that a firm may pursue to achieve fit with its environment. In general, firms may achieve advantage by providing either higher perceived value and/or lower delivered costs than competitors; these competitive approaches form the basis for all successful market strategies. All remaining strategies are variants of these two basic formulas crafted for specific market segments (Gilbert and Strebel 1988; Porter 1980).

Treacy and Wiersema (1995) reformulated the two generic strategies of higher perceived value and lower delivered costs to form three generic market disciplines: operational excellence, product leadership, and customer intimacy. Firms provide the strongest offering in the marketplace by excelling in one specific dimension of value: operational excellence, produ".t leadership, or customer intimacy. At the same time, they must maintain a threshold of minimum standards on the other dimensions; performance in the other disciplines cannot slip to the point that the firm's attractiveness in the dominant value discipline is reduced in customers' eyes. The focus is on developing, utilizing, and improving a well-defined operating model year-over-year to generate superior value to customers that is unmatched in the industry.

An operationally excellent (i.e., *best cost)* firm provides products or services of reasonable quality at the lowest market price and with an ease of purchase. Wal-Mart and Costco closely fit this model. Emphasis is placed on a culture of high efficiency, standardized operations, limited product or service variation, central planning with tight control, rewards for efficiency and reduced waste, and a work design that leaves very few decisions to the discretion of non-exempt personnel. These finns are staffed by employees with strong efficiency and "follow-the-rules" competencies and values leading to a low cost of goods sold and a process of low cost delivered to customers. They excel at operations, plan execution, clearly stated performance metrics, and knowledge of what customers are willing to forgo in exchange for a lower price.

Product leadership firms (i.e., *best product* or service), on the other hand, live or die by their focus on innovation and brand marketing. These firms tend to operate in very dynamic markets that demand new or upgraded products/services or the movement of products/services to new markets, and sh01i time-to-market. Their structures tend to be loosely knit and constantly changing to adjust to market movements. Their work designs and cultures are flexible and encourage out-of-the-box thinking with a mindset driven by creativity for the future with employees possessing strong innovative capabilities.

Customer intimate firms excel in customer knowledge and solution development. Their objective is to tailor products and services to individual customers to give them exactly what they want. The focus is on the processes of customer understanding, solution development, solution implementation, and relationship management. They tend to use structures that delegate decision making as far down in the organization as possible in order to remain close to the customer and deliver superior service exceeding customer expectations. The work designs and cultures in these firms are geared around the provision of service to a set of selected and nurtured customers to ensure deep and long lasting customer relationships.

Organization Culture Imperative: As noted by Chan et al. (2004) and Gordon (1991), the combination of organization culture and human capital appropriate for a firm's industry provide organizations with the necessary capabilities to rejuvenate their resources in line with changing market conditions. Organization culture serves to allocate and leverage resources to achieve firm goals by directing rituals, employee behaviors, management systems, decisions and planning actions to focus on competitive goals (Barney 1985; Lado et al. 1992; Merron 1995).

Corporate culture is the pattern of shared beliefs and values that develop over time within an organization, is viewed as "correct," and is taught to newcomers as the appropriate way to behave in the organization. Successful companies, in general, exhibit strongly held cultures (Deal and Kennedy 1982; Lorsch 1985; Mitroff and Kilman 1984; Schein 1985; Weick 1985) that are appropriate to their industries and specific markets. A strong culture, as measured by the consistency of employee perceptions of company values, has been found to be related to a firm's ability to execute objectives and plans (Bowen and Ostroff 2004; Schwartz and Davis 1981), sho1-term company performance (Gordon and DiTomaso 1992) and long-term financial outcomes (Denison 1990). Hansen and Wemerfelt (1989) found that cultural variables accounted for about twice the variance in organizations' goal accomplishment as economic variables. These results are achieved, in part, because strong cultures offer direction for employees regarding the necessary skills and innovations that must be developed to support a firm's changing market strategy and guidance to managers for allocating finn resources given future competition (Bowen and Ostroff 2004; Hamel and Prahalad 1994).

Finally, organization culture possesses an inherent tacitness, complexity, and firm specificity that makes it very difficult to imitate by competitor organizations and so offers high potential for creating sustainable advantage (Barney 1985; Lippman and Rumelt 1982; Mueller 1996; Reed and DeFillippi 1990). Without the support of an appropriate culture, management systems and workforce practices would not function at their fullest potential (Chan et al. 2004).

Aligning organization culture (e.g., beliefs regarding customers, how to compete, etc.) with market strategy is an essential but often neglected practice. For example, the operational excellence market discipline calls for a culture that reflects logistical efficiencies. The product leader approach needs a problem solving culture while the customer intimacy discipline demands a customer-oriented culture. The firm's market strategy and culture should align to serve customer needs (Beatty et al. 2003; Treacy and Wiersema 1995). We focused on six cultural factors, infonnation sharing and conflict management, risk taking, focus on rewards, teaming, encourage competition, and results orientation, that fit with the Treacy and Wiersema (1995) market disciplines and are common in lists of cultural factors (Cummings & Worley 2009) to represent the organization culture imperative.

Employee Competency Imperative: Collins reminds managers that in a good-to-great organizational transformation, people are not your most important asset; the right people are (2001). The resource-based view perspective (RBV) posits employee competencies as a key intangible resource that drives a firm's market performance and competitive advantage (Barney 1991; Bierly and Chakabarti 1996; Collis and Montgomery 1995; King and Zeithaml 2001). The need for specific employee competencies emerges as a function both of a firm's particular market strategies and the industry in which the firm operates (Collis and Montgomery 1995; Hitt and Ireland 1985).

According to Dunnette (1976), there are four general types of competencies: aptitudes or broad patterns of behavior that reflect the cumulative influence of many experiences in daily living; abilities or specific behavior patterns that reflect the narrower effects of relatively standardized sets of experiences; skills or physical/motor aptitudes and abilities; and typical behavior competencies that deal with the usual behavior a person is likely to show in a given situation (including personality, values, interests, and motives).

There is growing realization that employee competency inimitability via causal ambiguity (having the two dimensions of linkage ambiguity and characteristic ambiguity) is the lynchpin of the RVBV perspective and is central to achieving sustained competitive advantage (Barney 1992; Dierickx and Cool 1989; Reed and DeFillippi 1990). Linkage ambiguity is the confusion that exists among managers regarding the impact of a workforce competency on the firm's competitive advantage. "Ambiguity as to what factors are responsible for superior (or inferior) performance acts as a powerful block on both imitation and factor mobility" (Lippman and Rumlet 1982: 420). As such, linkage ambiguity within a finn decreases the opportunity for competitors to mimic the target competency. Characteristic ambiguity, on the other hand, deals with characteristics of the competency itself that connect it to the finn's competitive advantage. Tacitness, the extent to which a competency is "intuitive, non-verbalized and yet unmticulated (Hedlund and Nonake 1993: 118) is one fonn of characteristic ambiguity (Barney 1992). Brown and Duguid (1991: 40) reported that organization value is created when knowledge is provided within "communities-of-practice" that "usually differ fundamentally from the ways organizations describe that work in manuals, training programs, organization charts, and job descriptions." Failure within a firm to recognize and act upon the value of workforce competencies may have serious repercussions, particularly in knowledge-based organizations, on a firm's capability to compete long-term in its markets (Arthur 1996; Cohen and Levinthal 1990; Prahalad m1d Hm1e1 1990).

Aligning employee expertise and organization culture with market approach is essential to a firm's competitive advantage. For example, the operational excellence market discipline calls for employee competencies and a culture that reflect efficiency. The product leader approach needs creators or innovators and a problem solving culture. The customer intimacy discipline demands good communications abilities combined with a customer-oriented culture. In other words, the firm's market strategy and culture should align with employee competencies and workforce management practices to serve customer needs (Beatty et al. 2003).

Workforce Practices Imperative: The past two decades have seen an explosion of research dealing with strategic human resource management (SHRM), i.e., the impact of valuable and rare human capital itself, the alignment of workforce practices into bundles, and alignment among a firm's market strategy, culture, and workforce practices to achieve market success (Barney 2001; Becker and Gerhart 1996; Becker and Huselid 2006; Combs et al. 2006; Delaney and Huselid 1996; Stajkovic and Luthans 2003; Wright et al. 2005). Workforce practices affect organization performance by increasing employees' knowledge, aptitudes, and abilities, by empowering employees to utilize their capabilities for the firm's benefit, by increasing employee motivation to contribute to the firm, and by impacting the firm's internal social stmctures to foster flexibility and coordination (Combs et al. 2006; Becker and Huselid 1998; Delery and Shaw 2001).

Combs et al. (2006) have identified via meta-analysis the workforce management practices that have the greatest impact on a fiffil's market performance. These include: incentive compensation, training, compensation level, participation, selectivity, internal promotion, HR planning, flexible work designs, perfoffilance appraisal, grievance handling procedures, teams, information sharing, and employment security arrangements. They found these practices affected both operational and financial performance measures and that the effects were stronger in manufacturing than service organizations.

The resource based view theory is also useful when dealing with workforce practices in that it suggests such practices contribute to competitive advantage by supporting the development of tacit competencies that are embedded in a firm's mission, operating culture and processes leading to competency inimitability (Delaney and Huselid 1996; Hit et al. 2001; Pfeffer 1994; Wright and McMahan 1992).

Research to date has shown that workforce practice bundles affect an organization's operational and financial perfonnance (Chan et al. 2004; Combs et al. 2006; Huselid 1995). The workforce practices identified by Combs et al. (2006) were used to represent the workforce practices imperative.

Business Process Imperative: All organizations are engaged in processes designed to obtain market intelligence, anticipate competitor actions, convert information into products/services, create dynamic strategies, and deliver the organization's output to customers (Day and Reibstein 1997; Galbraith 2002; Roberts 2004). As noted by McCormack (2001) and McCormack and Johnson (2001), the management of an enterprise means the management of its processes; organizations may improve their market performance by adopting a process point of view. Business processes represent the central functioning of an organization because companies consist primarily of processes and not products/services (Skrinjar et al. 2007). Business processes provide the conduit through which an organization's customer-oriented practices flow and they play a central function in shaping organization market performance (Ackoff 1981; Galbraith 2002; Hammer and Stanton 2001; McCormack 2001; McCormack and Johnson 2001; Skrinjar et al. 2007),

Childe et al. (1994: 24) defined a business process as a series of continuous actions or operations which are performed upon a commodity. It may also be regarded as a conduit along which a commodity flows. It is a horizontal flow of activities designed to accomplish a specific objective within the firm. They noted the three types of enterprise processes: managing (dealing with strategy, direction setting, planning, and controlling), operating (the logistics value chain from order entry to delivery strongly focused on customer satisfaction), and support (actions in support of the managing and operating processes) Finally, the alignment of processes into a unified whole is a source of competitive advantage (Kaplan and Norton 2006).

Synergized business processes together with a clear process-focused culture have been shown to exert a positive impact on finn performance, in particular leading to increased non-financial performance (Hammer and Stanton 2001; Kaplan and N01ion 1996; McCormack and Johnson 2001; Skrinjar et al. 2007). This impact is achieved via improved coordination and reduced conflict among organization units, i.e., breaking-down silos, reduced cycle times, and improved flexibility for organization change (McCormack and Johnson 2001; McCormack et al. 2003; Skrinjar et al. 2007).

Quinn and Rohrbaugh (1983) described a set of 17 items to measure these critical processes taken from Campbell's (1977) work dealing with organizational effectiveness. We expanded on this item set to develop the business process scale identified in the Appendix of Sheppeck and Militello (2008).

Equifinality: According to Katz and Kahn (1978: 30), equifinality is a condition wherein a system can reach the same final state from differing initial conditions and by a variety of paths. Within an open system organization, different configurations of variables may be emphasized leading to similar macro business models and market outcomes. An allied concept, "richness," was described by Weick (2007) as a sensemaking approach in organizations. He described richness as anything above the nonnal or usual in terms of asset possession. This means understanding the complexity of the environment and using a set of complicated sensing devices to register and interpret environment forces that affect the firm. Managers who don't possess and exercise a diverse set of theories, models, and assumptions regarding organization functioning are likely to use a "one size fits all" strategy with respect to customers and competitors. In other words, they would negate the equifinality process and fail to construct diverse but appropriate paths to market success.

The objective of this study is to determine empirically if a single configuration of organization practices, i.e., imperatives, exists within a diverse set of high performance firms clearly focused on the Treacy and Wiersema (1995) operational excellence market discipline or if multiple configurations will be found within the firms. Evidence that a single configuration accounts for all high performance organizations utilizing the operational excellence market discipline will strengthen the notion that a best practice approach to generic strategies is an appropriate line of attack (Porter 1980). On the other hand, evidence that multiple configurations exist within this market discipline would support the power of equifinality as a concept within strategic management. We believe this study contributes to the strategy literature due to its focus on a specific well known market approach and a comprehensive set of imperatives used across a heterogeneous sample of organizations. Our hypothesis for this study is that more than one configuration of imperatives will emerge that describes the synergy of the imperative factors in high performing organizations.

METHOD

Requests for participation were sent to 840 organizations taken from the Reference USA 2000 database in two separate waves three months apart. Those requested came from the following industries: healthcare, financial services, manufacturing, wholesale/retail, information technology, food processing, and services. A total of 120 firms were selected within each industry where sufficient information existed to identify a contact person and mailing infonnation. In addition, a call was made through the University of St. Thomas College of Business for local participants.

These two approaches yielded a convenience rather than a random sample, and thus introduced the possibility of selection error in the sample of firms (Cook and Campbell 1976). However, we believed this was the optimum approach for obtaining a large sample with a minimum of concern regarding internal validity issues. Additionally, we checked to ensure that in our resulting sample none of the firms were cmTently involved in major strategy or structure change initiatives at the time the data were collected, suggesting that the variables under study were in a state of equilibrium (James et al. 1982).

TABLE l : SAMPLE CHARACTERISTICS

Industry	Sample	2007 US Economic Census
Agriculture/Mining/Construction	5.3%	10.5%
Financial/Insurance/Real Estate	8.7%	12.2%
Manufacturing	18.8%	4.0%
Service	37.1%	46.9%
Transportation/Communication	12.0%	4.9%
Wholesale/Retail	13.5%	21.4%
Government/Non-Profit	4.3%	
Missing	0.2%	

Firm Size (# of Employees)	Sample
Less than 200	45.1%
200-499	18.3%
500-999	10.8%
1,000-4,999	12.3%
5,000-9,9999	5.3%
10,000+	8.2%

Participating firms were mailed a packet of five surveys: market strategy, culture, employee competencies, workforce management practices/senior management support for people, and strategic processes/organization market performance. The survey instructions requested that the contact person (the HR manager or director) distribute the surveys as follows: employee competencies and workforce practices to HR managers; culture and market perfonnance to senior executives; and market strategy to the marketing manager. In this manner we sought to have those managers most knowledgeable in each area respond on behalf of their firm.

Survey retm1ls would not allow us to verify exactly who completed the surveys within each firm. However, we know that a Human Resource department contact and a minimum of one other senior manager completed the surveys. Firms included in the final sample were located in Minnesota, Wisconsin, South Dakota, North Dakota, or New York. A total of 420 packets were received: 90 from the Reference USA database (11% response rate from that sample) and 330 from the local request. The firms added locally were chosen from a population of individuals taking advanced management courses within the University of St. Thomas MBA programs and were screened by senior faculty members. Table 1 shows a break-down of the sample organizations. Based on information from the 2002 census, the study sample was over-represented in the manufacturing, agriculture/mining/construction, and service industries and under-represented in the wholesale/retail and :finance/insurance/real estate industries.

The market strategy survey was comprised of 21 items suggested by Treacy and Wiersema (1995) measuring Operational Excellence, Product Leadership, and Customer Intimacy market disciplines. The culture survey contained 24 items across five topics: information sharing and conflict resolution, risk-taking, teaming, rewards focus, and encouragement of competition. Our intention was to look at items commonly used in culture measurement (Cummings and Worley 2009). The employee competency survey was comprised of 24 items suggested by Treacy and Wiersema (1995) and intended to reflect the competency requirements of the market disciplines: efficiency for Operational Excellence, creativity for Product Leadership, and customer- solution orientation for Customer Intimacy. The workforce management practices survey contained 64 items measuring the seven practice and senior management dimensions. These items came from the SHRM/CCH Incorporated report (1995) supplemented with items from Becker and Huselid (1998) and Huselid (1995). Finally, a total of 18 items dealing with strategic processes and market performance were developed based on Quinn and Rohrbaugh (1983), and supplemented by items dealing with resource acquisition (people and capital), position in the market, maintaining customers, and overall financial performance. The dimensions and items are shown in the Appendix of Sheppeck and Militello (2008).

ANALYSES

Before conducting our analysis we took measures to control for differences in response style among our respondent finns. Response style is commonly defined as the tendency to distort responses regardless of the content of the scale item, and has been a subject of research for decades (Couch and Keniston 1960; Hamilton 1968; O'Donovan 1965; Wells 1963). Some respondents tend to give favorable responses, regardless of the item; others negative, still others around the midpoint of the scale (Baumgartner and Steenkamp 2001; Greenleaf 1992b). In addition to being centered in a pru.ticular area of the scale, these response styles also tend to utilize only a narrow range of scale options; in contrast, other respondents may use a broader range of scale points (Greanleaf l 992a). Such differences in response style are problematic for many types of analysis, including when data are to be analyzed via clustering. It is unfortunately uncommon for response style to be addressed within management research (Thompson and Phua, 2005) but as long as self-report scale items are used the issue is very pe1tincnt (King and Bruner, 2000).

A common correction for these response styles is to standardize data within respondent prior to clustering (Soto et al. 2008; Ashton et al. 2004; McCrae et al. 2001; Ten Berge 1999). The resulting set of transformed responses has a mean of zero and a standard deviation of one for each respondent firm.

Because the focus of this paper is on understanding the broader strategic choices made by high performing firms within the Operational Excellence Value Discipline, we subset out data to include only those firms that were both above average on the Operational Excellence items and on the Market Performance items. Of the 420 firms in the total sample, 107 met this criterion.

These 107 high performing, operationally excellent firms were then analyzed via SPSS 14's Two-Step Clustering procedure (SPSS 2006). In the Two-Step Clustering procedure cases are first grouped into preclusters that are then used in place of the raw data in hierarchical clustering. The preclusters are formed by examining the similarity of the cases to each other, using a likelihood distance measure as the similarity criterion. In the second step, the preclusters are grouped to fonn a range of solutions, each solution having a specified value on the test statistic chosen. The solution with the lowest value on the test statistic is viewed as optimal. Thus the Two-Step procedure eliminates the arbitrariness that marks traditional clustering techniques.

In our analysis, we used the Akaike Information Criterion (AIC) to guide model selection. The AIC represents a relative measure of the information lost when a given model is used to describe data while assessing a penalty for free parameters. Thus it can be said to describe the tradeoff between precision and model complexity, identifying the model that best explains the data with a minimum of free parameters. Compared to the Schwarz Bayesian Information Criterion (BIC), the other test statistic available in the Two-Step procedure, the AIC assesses a less severe penalty on free parameters

RESULTS

When our 107 high performing, high operational excellence firms were analyzed using above described Two-Step procedure with the AIC criterion selected, two clusters of firms emerged. One of the clusters contained 56 firms, the other 51. Table 2 gives the centroids across all of our strategic measures for the two firms. We conducted t-tests of the centroid values on all scales between the two clusters; significant differences are noted in Table 2.

TABLE 2: CLUSTER RESULTS

	Cluster 1 N=56	Cluster 2 N=51
External Business Environment		
Environment	-0.95	-0.66
Employee Know-How		
Efficiency	0.04	0.45 **
Creativity	-0.82	-0.30 **
Customer/Solution Orientation	0.16	0.61**
Organization Culture		
Conflict Resolution & Information Sharing	0.05	0.42**
Risk-taking	-0.20	0.30**
Focus on Rewards	0.44	0.49
Teaming	0.56	0.71
Encourage Competition within Firm	-1.16	-0.64
Human Resource Management Practices		
Strategic Workforce Practices	-0.39	-1.05**
Performance Management	0.10	-0.66 **
Staffing	0.51	-0.22**
Training & Labor Costs	-0.40	-1.15**
High Commitment Work Design	0.10	-0.32**
Positive Employee Relations	0.05	-0.45 **
Pay for Performance	0.04	-0.47**
Senior Management Perspective		
Management Support-People	0.46	0.09**
Strategic Processes		
Strategic Processes	0.51	0.81 **
Market Performance		
Performance	1.22	1.37*
Value Disciplines		
Operational Excellence	0.72	0.70
Product Leadership	-0.38	0.11 **
Customer Intimacy	0.44	0.60

* $p < .05$ ** $p < .001$

Cluster 1 has significantly higher values across all seven human resource management practices and on senior management support for people. Cluster 2 has significantly higher values on the three employee know-how scales, on three of the five organization culture scales (conflict resolution and information sharing, risk-taking, and encouraging competition) and on strategic processes. Cluster 2 also scores signifcantly higher than Cluster 1 on product leadership and on market performance, though we remind the reader that each of the firms in both clusters scores higher on market performance than the average of all firms in our sample.

Thus, Cluster I encompasses firms who combine their successful focus on operational excellence with an emphasis on human resource management practices. Cluster 2 encompasses those firms that combine their successful focus on operational excellence with an emphasis on employee know-how and organization culture practices that encourage conflict resolution, information sharing, risk-taking and encouraging competition. In the discussion section we discuss why we believe firms in our data adopted these two orientations while pursuing the operational excellence value discipline.

DISCUSSION

In this paper we find that within a limited scope, firms can choose different ways of responding to the various management imperatives listed above. Our data shows that a common way for operationally excellent firms to differentiate is through the workforce practices imperative. This differentiation is demonstrated in the Wal*Mart versus Costco debate. (Neither of these firms was included in our study.) In Cluster 1· as seen above the successful operationally excellent firms use strong support for employees to further their operational goals. This is a cluster akin to the involvement paradigm which posits that strong employee participation leads to superior performance. The finns in Cluster 2 have not found it necessary to do the same. Rather, competitive advantage is demonstrated through translating the cost control business proposition into tighter controls of human resource expenditures. This cluster is akin to the classical paradigm of scientific management that posits routine processes to which employees strictly adhere. Both Cluster 1 and Cluster 2 firms demonstrate market success.

Our workforce practices imperatives are particularly relevant to this discussion. The alignment of workforce practices into bundles has become an important factor in achieving market success. While there are assumptions that one set of bundled practices may lead to better perfonnance than others, our study confirms that choices for successful implementation do exist. Incentive compensation, training, participation, selectivity, internal promotion, HR planning, flexible work designs, performance appraisal, grievance handling procedures, teams, infonnation sharing, and employment security arrangements are all important to the workforce practice bundle. How they are dealt with can differ from strategy to strategy and firm to firm.

Success relies on matching the human capital to each of the differing reward systems. For example, both Costco and Wall*Mart seek employees who fit their models. As a result, the Cluster 1 model might be more flexible. The Custer 2 model in turn might be more scalable and applicable to a broad set of locations. These two clusters are evident in the contemporary business environment because they represent clear choices of direction that are somewhat binary. It is difficult to find a hybrid of the two, understanding that hybrids probably do exist. Nonetheless, an operational excellence management platform as seen in Cluster 1 responds to the need for employees to have their voices heard. Firms that are willing to invest the time in participative programs sense a benefit in capitalizing on ideas generated by employees. The risk here is that participative programming can draw the firm away from the task of providing a best cost value proposition. Therefore the best cost value proposition must be focused on by the leadership of the finn to guide employee input. Any flexibility in approach must be placed in the context of the accepted value proposition. A management platform as seen in Cluster 2 leaves less to chance. The value proposition is set, communicated, and accepted. Deviations from the operational excellence mode of operations might appear to be too risky for both management and staff. Firms that work on tight margins and stress consistency safely choose Cluster 2 as an option.

Study Limitations: The findings of this study must be interpreted in light of several limitations. First, as noted earlier the convenience nature of the sample introduced a selection error that could affect both the internal and external validity of the study (Cook and Campbell 1976). Although there were 107 firms involved in the project, specific over and under-representation against the national population of firms limits the extent to which the mediating impact of strategic processes may be accepted and limits the generalizability of firms to which the findings may be applied. Second, the cross-sectional nature of the research design with a limited number of respondents for each firm, may introduce method bias that again would threaten the internal validity of the study and lead to overestimates of the size of the relationships among the study variables. Furthennore, we were unable to determine the extent to which respondents communicated with each other as they completed the surveys. Future research should attempt to obtain a nationally representative set of firms and to control how the survey instruments are completed within each organization.

CONCLUSION

The principle of equifinality holds that there are different ways to achieve the same ends. In terms of these two clusters, the ends are related to profitability and market position. Limited options are available despite the constraints applied to business practices by customers, regulators, financiers, and competitors. Choices of options are functions of leadership preferences, business conditions, and customer likes and dislikes. Managers should remember that there may not be one best way to do things and should continually see how and where differentiation can be applied while maintaining an aligned and focused business model.

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