

**INNOVATIVE ADAPTATION AND OPERATIONAL EFFICIENCY ON
SUSTAINABLE COMPETITIVE ADVANTAGE OF FOOD AND BEVERAGE FIRMS
IN KENYA**

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ABSTRACT: *The idea that an organization's members are the real source of its competitive advantage has long been acknowledged. The significance of human capital as a determinant of firm performance is gaining recognition in the strategic management literature, and the need for relating employee talent to a firm's competitive advantage is continuing to develop in the human resource management arena hence the drive to establish superior human capital to generate competitive advantage. Many firms have explicitly embraced competitive strategies to gain and maintain a lead in their industries. In all the competitive strategies firms have engaged in, human capital has been the driver of competition. This study endeavoured to empirically test the effects of human capital and especially in innovation and operational efficiency in according food and beverage firms the requisite competitive advantage in the very dynamic industry. The study sought to answer the following research question: What are the effects of human capital (in innovative adaptation and dynamic operational efficiency) on firms' ability to attain sustainable competitive advantage within the F & B companies in Kenya? This research entailed a descriptive study design. This study sought to do that among the F & B firms in Kenya. The study was concerned with describing the characteristics of a unique group of food and beverage firms and their competitiveness. From the study, 87 percent of respondents indicated concurrence on usefulness of human resources for SCA. Kenyan firms in the food and beverage industry therefore highly regard human capital as a major contributor to sustainable competitive advantage. The study established that internal processes largely rely on how capabilities are harnessed for competitive advantage.*

KEYWORDS: Innovation, Human Capital, Sustained Competitive Advantage

INTRODUCTION

The idea that an organization's members are the real source of its competitive advantage has long been acknowledged (Pfeffer, 1994). The significance of human capital as a determinant of firm performance is gaining recognition in the strategic management literature, and the need for relating employee talent to a firm's competitive advantage is continuing to develop in the human resource management arena hence the drive to establish superior human capital to generate

competitive advantage (Huselid, 1995). Highly motivated and talented employees can help a company achieve efficiency and innovative adaptation (Mahsud, Yukl, and Prussia, 2011). In explaining the flexible leadership theory, Yukl (1999) indicates that the theory explains how top executives influence organization-level processes that determine the firm's financial performance. Organizational effectiveness depends on three primary performance determinants which are human capital or talent, efficiency and process reliability and innovative adaptation or flexibility.

Human capital or resource is a critical component of sustainable competitive advantage of a firm. As Hatch and Dyer (2004) opined, human capital reflects the knowledge and skills embodied in people. Kor and Leblebici (2005) accepted the interpretation of human capital as knowledge, skills, health or values that, unlike physical and financial capital, cannot be separated from the person who own them (Becker and Gerhart (1996). It can also be viewed as the extent to which members of an organization have skills and motivation needed to work effectively (Yukl, 2008). Human capital contributes to competitive advantage as it is intangible, socially complex and difficult to imitate (Hatch and Dyer (2004). Studies indicate that human capital is an increasingly important determinant of firm performance (Becker and Gerhart, 1996). Among the major consumers of agricultural raw materials are middle and large industries that engage in value addition. Many of these industries are concentrated among the food and beverage category of processors for both the local and export market. Many firms have explicitly embraced competitive strategies to gain and maintain a lead in their industries. In all the competitive strategies firms have engaged in, human capital has been the driver of competition. This study endeavoured to empirically test the effects of human capital and especially in innovation and operational efficiency in according food and beverage firms the requisite competitive advantage in the very dynamic industry.

Statement of the problem

Studies have shown that competitiveness in the Kenyan manufacturing sector has been increasing over the years (Aosa, 1992; Waweru, 2008) and so have companies' efforts at adopting and exploiting appropriate strategies to gain competitive edge. Strategies and tactics that confer firms the requisite competitive advantage emanate from human resource capability to harness and configure other resources towards the organizational goal. Resource mobilization, configuration and utilization depend on innovative capabilities and efficiency of the players in the firm. Thus, although human capital is expected to improve efficiency and process reliability and develop innovative products and services, it is not expected to directly influence firm performance (Mahsud *et al.*, 2011) but through innovation and dynamic efficiency.

Effects of innovative adaptation and dynamic operational efficiency on sustainable competitive advantage have not been analyzed in the Kenyan food and beverage manufacturing sector before this study. Therefore, this study endeavoured to show how innovative adaptation and dynamic operational efficiency in the food and beverage manufacturing firms in Kenya accords sustainable competitive advantage. Specifically, the study sought to answer the following research question: What are the effects of human capital (in innovative adaptation and dynamic operational efficiency) on firms' ability to attain sustainable competitive advantage within the F & B companies in Kenya?"

REVIEW OF RELATED LITERATURE

Flexible Leadership Theory

Flexible leadership theory was formulated in response to the need for a more comprehensive theory of strategic leadership that integrates relevant ideas from several distinct literatures such as leadership, strategy, and human resource management (Yukl, 2008). The theory is conceptualized at the firm level and explains how top executives influence organization-level processes that determine a firm's performance. Flexible leadership theory uses ideas from several different literature including leadership, human resource management, strategic management, organizational theory and organizational change (Yukl and Lepsinger, 2005). It is a theory of strategic leadership that emphasizes the need to influence key determinants of financial performance for a company: efficiency, innovative adaptation and human capital. One form of influence with the theory is with management decisions about strategy, programmes, systems and organizational structure while another is the use of task, relations and change- oriented leadership behavior (Yukl, 2008). The FLT suggests that the influence of human capital on firm performance is indirect having its impact on factors that are proximal antecedents to firm performance like efficiency and innovative adaptation

Human Capital (Resource) for Sustainable Competitive Advantage

Human capital can be represented by the human resources or employee talent in an organization which includes the extent to which the members have the skills and the motivation to do the work effectively (Dess and Shaw, 2001). Barney (2001) suggests that human capital is grounded in individual talents, training, and experience. There is considerable evidence within strategic human resource management literature that employees with unique knowledge, skills and motivation levels are increasingly being viewed as valuable assets and a source of competitive advantage (Collins, 2001). Because it is an intangible asset involving employee competencies, attitudes, values, and commitment, human capital is more likely than tangible assets to provide a competitive advantage (Hitt & Ireland, 2002) through increased operational efficiency. The effect of human capital is indirect in part because the immediate result of employees with strong skills and motivation is that they will work faster and smarter, which will in turn lead to performance gains (Mahsud *et al.*, 2011). A committed and talented workforce may serve as a valuable, scarce, inimitable and difficult to substitute resource that can help firms implement an appropriate business strategy thus reducing the gulf between strategy formulation and implementation (Lee and Miller, 1999).

Ramirez and Hachiya (2006) demonstrated that regardless of a firm's technological character (whether a firm is high or low in technology), human capital influences firm productivity and market valuation positively. Lee and Miller (1999) found that an organization's commitment and development of its human capital resulted in enhanced firm productivity in terms of Return on Assets (ROA). In their study on differing effects of agent and founder chief executive officers of firms, Sounder, Simsek and Johnson (2012) established that CEO influence evolved differently between founders and agents and that founder CEOs can pursue market expansion more aggressively than agent CEOs because they take office with a combination of motivation, power, and the requisite knowledge that agent CEOs build over time. Theoretically, both agency theory and entrepreneurship research suggest that founders differ in fundamental ways from agents.

Whereas agent CEOs face concerns about job security but not loss of investment capital, owner CEOs bear financial risk but not threat of dismissal. This leads to fundamentally different incentives for pursuing major initiatives (Jensen and Meckling, 1976). Using variance decomposition to analyze the link between CEOs and firm performance, Mackey (2008) found that in certain settings, the CEO effect on corporate- parent performance is substantially more important than that of industry and firm effects and that CEOs can have substantial impact, as much as 29.2 percent of variance in a firm's performance.

On managerial capabilities, it has long been established that superior top management team is likely to generate higher rent for its organizations (Finkelstein & Hanbrick, 1996). Management team's superiority rests on managerial capabilities or skills that it possesses since attributes of a management team may satisfy the conditions for achieving and maintaining competitive advantage (Mahoney, 1995). Thus an organization needs to have a combination of capabilities such as technical, human, and conceptual skills (Katz, 1974) in order to build a superior management team. Adner and Helfat (2003) define managerial capabilities as 'the capabilities with which managers build, integrate and reconfigure organizational resources and competencies.' The three aspects underpinning dynamic managerial capabilities are managerial human capital, managerial social capital and managerial cognition. Dynamic managerial capabilities are driven by managerial cognition, which consists of the belief systems and mental models that managers use for decision making (Prahalad & Bettis, 1986) while managerial human capital includes skills and knowledge repertoire of managers which are shaped by their education and personal or professional experience (Castanias & Helfat, 2001). Managerial social capital involves manager's ability to access resources through relationships and connections (Adler & Kwon, 2002).

Innovative Adaptation and Firm Performance

Innovativeness is perceived as exploring something new that has not existed before hence it is a firm's strategic choice influenced by environmental opportunities (Porter, 1980; Barney, 1997) or an application of knowledge to produce new knowledge (Drucker, 1993). Within the flexible leadership theory propositions, innovative adaptation includes the ability of a company to adapt to changes in the external environment (Yukl, 2009) which has led to a shift in strategic emphasis beyond the sole efficient management of tangible assets to an additional emphasis on innovation resulting from effective usage of intangible assets like human and social capital (Mahsud *et al.*, 2011). The effect of efficiency on firm performance has been supported by Davis & Pett, (2002) as well as direct effect on innovative adaptation and firm performance (Cho and Pucik, 2005). The two determinants can have simultaneous, joint effects on firm performance (Yukl, 2009) and lead to competitive advantage.

Mahsud *et al.*, (2011) studied human capital, efficiency, and innovative adaptation as strategic determinants of firm performance. The study was based on Flexible Leadership Theory (FLT) predictions where the effects of human capital on firm performance were partially mediated by efficiency and innovative adaptation. Zhou & Li (2012) focused on how knowledge affects radical innovation in knowledge base, market knowledge acquisition, and internal knowledge sharing. The study delved into how knowledge base in its depth and breadth interacts with knowledge integration mechanisms (external market knowledge acquisition and internal

knowledge sharing) to affect radical innovation. The study found that effects of knowledge breadth and depth are contingent on market knowledge acquisition and knowledge sharing in opposite ways. A firm with a broad knowledge base is more likely to achieve radical innovation in the presence of internal knowledge sharing rather than market knowledge acquisition. A firm with deep knowledge base is more capable of developing radical innovation through market knowledge acquisition rather than knowledge sharing.

Innovation may be in product uniqueness, brand image, superior quality or in leading-edge products and services designed to fit the changing needs of customers. According to Damanpour and Evans (1984) there is a positive relationship between organizational innovation and performance while Nilakanta (1996) indicated a positive effect on organizational performance measured by Return on Assets (ROA). Furthermore, Cooper & Kleinschmidt, (1996) found that for new products or services to be successful in the market, they should carry superior quality- implying a positive mediation effect of quality on the relationship between innovativeness and market success. Through structural equation modeling, Cho and Pucik (2004) established that innovativeness mediates the relationship between quality and growth, while quality mediates innovativeness and profitability and innovativeness and quality both have a mediation effect on market value. Both profitability and growth have a mediation effect on market value.

Dynamic Operational efficiency (Dynamic Capabilities) and SCA

Dynamic capabilities are the ability to achieve new forms of competitive advantage where 'dynamic' refers to the capacity to renew competencies so as to achieve congruence with the changing business environment. The term 'capabilities' emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources and functional competencies to match the requirements of a changing environment (Teece, *et al.*, 1997). The competitive advantage of firms is seen as resting on distinctive processes (ways of coordinating and combining), shaped by the firm's (specific) asset position such as the firm's portfolio of difficult- to- trade knowledge assets, complementary assets and the environmental paths it has adopted or inherited. Eisenhardt and Martin (2000) posit that dynamic capabilities are a set of specific and identifiable processes such as product development, strategic decision making, and alliancing and are idiosyncratic in their details and path dependent in their emergence. In moderately dynamic markets, dynamic capabilities resemble the traditional conception of routines, in being detailed, analytical and stable processes with predictable outcomes. Private wealth creation in regimes of rapid technological change depends in large measure on honing internal technological, organizational and managerial processes inside the firm (Teece *et al.*, 1997). Dynamic capabilities actually consist of identifiable and specific routines that often have been the subject of extensive empirical research in their own right outside of the RBV. They include knowledge creation routines whereby managers and others build new thinking within the firm as well as exit routines that jettison resource combinations that no longer provide competitive advantage. Gruber, Heinemann, & Brettel, (2010) studied configuration of resources and capabilities and their performance implications on technology ventures. They endeavoured to bring out the crucial link between resources and value creation to explain how different resources and capabilities contribute to performance and clarify how firms combine different resources and capabilities to achieve superior performance outcomes. Using structural equation modeling and cluster analysis,

they showed that resources and capabilities contributed to performance in a functional area and resource-capability combinations led to superior performance. Perceptual performance data was used due to difficulty in collecting actual performance data from privately owned firms.

Conceptual framework

This study conceptualized a firm's resource of human capital or employee talent used creatively to generate new innovations in a dynamic and efficient manner to confer sustainable competitive advantage. Two models on multivariate analysis were formulated to test hypothesis on effects of these two aspects of human capital on firms' ability to generate SCA. The models and hypotheses were;

Model 1:

$$Y_i = \beta_0 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \mu_i$$

Where;

Y_i = is sustainable competitive

advantage in quantifiable form (Profit)

$\beta_0, \beta_8, \beta_9, \beta_{10}, \beta_{11}$ = regression coefficients

X_8 = CEO unique and innovative qualities

X_9 = Owner/proprietor unique innovative qualities

X_{10} = Top management innovative capabilities

X_{11} = Employee innovative capabilities

μ_i = error term

Model 2:

$$Y_i = \beta_0 + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \mu_i$$

Where;

Y_i = Sustainable competitive advantage

$\beta_0, \beta_7, \beta_8, \beta_9$ = regression coefficients

X_{12} = Efficient administrative system

X_{13} = Efficiency in production processes

X_{14} = Efficiency of customer service (communication, distribution and marketing)

μ_i = error term

Two hypotheses were formulated as shown here below;

H1: Innovative adaptation contributes positively to sustainable competitive advantage within F&B firms in Kenya.

H2: Dynamic operational efficiency contributes positively to sustainable competitive advantage within F & B firms in Kenya.

METHODOLOGY

Research Design

This research entailed a descriptive study design. Descriptive studies are undertaken for purposes of ascertaining and describing the characteristics of the variables of interest in a study and offering the researcher a profile or a description of relevant aspects of the phenomenon of interest from the individual, organization, industry or other perspectives (Sekaran, 2003). Descriptive research design is about what, where and how of a phenomenon (Cooper & Schidler, 2003). Descriptive design uses a set of scientific methods to collect raw data and create data structures that are used to describe the existing characteristics of a defined target population (Frankel & Wallen, 2000). This study sought to do that among the F & B firms in Kenya. The study was concerned with describing the characteristics of a unique group (Kothari, 2006) of food and beverage firms and their competitiveness.

Population of the study

The universe consisted of all the 138 food and beverage manufacturing firms in Kenya registered with the Kenya Association of Manufacturers (KAM) by 2011. KAM is the business member representative organization for manufacturing value-add sectors in Kenya. KAM promotes trade and investment, upholds standards, encourages the formulation, enactment and administration of sound policies that facilitate an enabling business environment, reduces the cost of doing business, and ensures Kenyan firms attain and maintain world class competitiveness (KAM Directory, 2011).

However, since 95 of the 138 (68.8 percent) of the companies were situated in Nairobi, Mombasa and their environs, this study targeted the firms in these two cities. For this purpose, the research isolated the food and beverage firms operating in the target area through purposive judgmental sampling. The companies were further classified into the following sub-sectors of the food and beverage sector: alcoholic beverages and spirits; bakers and millers; cocoa, chocolate and sugar confectionery; dairy products; juices/waters/carbonated soft drinks; slaughtering, preparation and preservation of meat; tobacco, and vegetable oils. KAM membership is divided into several sectors as shown on appendix II below.

Sampling Frame and sample size

This study targeted medium to large sized firms especially those that had been in operation for at least three years. The survey method was adopted in which all the 95 members were targeted by the census. Any of the top three executives among the Chief Executive/Chairman, Marketing/Finance manager, or the Human Resources Manager were targeted as respondents. This was consistent with the study by Zhou and Li (2012) who selected two key informants in each firm (one senior manager eg Chief Executive Officer, vice president, general manager and one middle level manager (marketing, sales, or R&D) and administered the questionnaires. The executives selected for this study were expected to be well conversant with the financial and strategic

position of their firms and the strategies employed for sustainable competitive advantage. Only one executive represented each company.

Data collection

This study used a standardized questionnaire to collect data. The questionnaire comprised both open and closed ended questions and sections for respondent opinion or concurrence on a 5-point Likert type scale. Close ended questions are useful in giving similar or standard and comparable responses from the target individuals while being limited to the scope of what is asked. Open ended questions enable researchers to collect additional data and information that could be used and which the researcher had not anticipated in the design of the questionnaire. These questions served to extract additional general company data which was a source of qualitative information for the descriptive study.

The questionnaire was developed and refined on the basis of several sources; field interviews with corporate level executives of two of the target firms, review of previous research content to inform choice of questionnaire items appropriate for the study and discussions of preliminary drafts of the questionnaire with scholars to assess their validity. Pre-testing the questionnaires for clarity and validity before actual administration to the respondents enabled the researcher to polish the instrument and refine it to focus on the items under study. Govindarajan (1988) found that such preliminary treatment of the questionnaire enabled him to get validity, clarity and relevance of results.

Study Variables

The dependent variable for this study was sustainable competitive advantage measured by indications of sustained firm profitability as well as turnover on a 5-point Likert scale according to respondent perceptions. Other construct indicators for dependent variable included Return on Investment (ROI), Return on Assets (ROA), Dividend yield, and percentage growth in market share. A weighted indicative value for each firm was then calculated as a mean. For an indicator to qualify as a measure of sustainable competitive advantage, it had to be high on the Likert scale and the trend of growth constant or increasing. Such an indicator was assumed to depict superior firm performance over its competitors. Profitability is the best indicator of sustainable competitive advantage or performance although for private and unlisted firms, this is a closely guarded company secret whose data is not normally obtainable. Therefore, this study used respondents' perceived indications on the parameters of sustainable competitive advantage outlined above. This was consistent with studies by Newbert (2008) in which the content chosen for analysis of the micro and nanotechnology sectors contained a high percent of privately owned firms for which secondary data was not available. Furthermore, the data was provided by single respondents who happened to be senior level executives or scientists arguably better positioned than anyone to assess firm's internal operations and performance hence more accurate data. Moreover, use of perceptual performance measures is preferred by respondents since objective measures such as profits or revenues are seen as confidential (Gruber, Heinemann and Bretel, 2010). Use of multi-dimension measures based on perceptual firm performance further facilitates comparison across firms and contexts such as across industries, time horizons and economic conditions (Song, Droge, Hanvanich and Calantone, 2005). Chandler and Hanks (1994) aver that

earlier studies have indicated perceptual performance measures tend to be highly correlated with objective indicators which support their validity.

The independent variables were effects of innovativeness and dynamic efficiencies of CEOs/Chairmen, top executives and employees that contributed to SCA

Data Analysis

Data was analyzed for descriptive statistics and tests of hypotheses. Most of the data collected on Likert type scale was ordinal. The data was tested for central tendency and dispersion after confirmation of normal distribution by appropriate tests of normality; the Kolmogorov-Smirnov and Shapiro- Wilk tests. Since the sample size was 32 (over the minimum 30 required for statistical analysis), regression analysis was carried out and interpretation of results of tests of hypotheses done using the F-test at 95 percent confidence interval.

Reliability, which is a measure of the extent to which results are consistent over-time and an accurate representation of the total population under study and which also tests if the results can be reproduced under similar methodology indicating that the instrument is reliable (Joppe, 2000) was evaluated. Cranbach alpha is used to measure reliability and ranges from 0 to 1. The acceptable value of Cranbach alpha is between 0.7 and 0.9 (Kline, 1999) while alpha coefficient of 0.5 is adequate to conclude internal consistency (Nunnally (1967). Reliability analysis provides information about the relationship between individual items in a scale and how the items relate or load on to the overall construct. In this study, constructs indicated a high level of internal consistency with coefficients of >0.7 . Constructs depicting CEO/Chairman competencies indicated a Cranbach alpha coefficient of 0.858 while those of top management competencies were 0.821 and employeeed competencies had an alpha of 0.9. Constructs depicting dynamic operational efficiency had an alpha of 0.869 .

Validity which tests the authenticity of cause-and- effect relationships (internal validity), and the generalization to the external environment (external validity) was also tested. Validity is concerned with whether the findings are really about what they appear to be about (Balta, 2008). Content validity was tested by discussions with experts during the questionnaire formulation stage to ensure that the measure included an adequate and representative set of items that tapped the content. To further ensure content validity, the questionnaire was pre-tested on a pilot basis on two company chief executives as respondents for comprehension, logic and relevance. The feedback obtained helped in adjusting and revising the instrument (questionnaire) before administering it to the wider respondents excluding the ones involved in the pre-testing. This was consistent with Dess and Davis (1984) findings that content validity of a questionnaire was enhanced through a review of its items by previous strategy researchers (Bourgeois, 1980) and pre-testing the research instrument in a field with firms not included in the sample which ascertained comprehensiveness and phrasing of the questionnaire items.

Construct validity was assessed by having respondents indicate the importance of some key competitive methods to their firms' overall strategy on a 5-point Likert scale with 1= not at all to 5 = very great extent which was consistent with Govindarajan (1988), Porter's (1980) and Dess and Davis's (1984) work. Construct validity was demonstrated by high correlations between the

items that comprised the constructs. The higher the inter-correlations, the more the items were found to be relating (converging) to the construct for which they were assumed to describe. Zhou and Li (2012) used confirmatory factor analysis to test for construct validity with all items loading significantly on their expected constructs ($p < 0.05$).

Convergent validity was tested using multiple correlations by calculating the average variance explained by the results and measuring constructs to find out whether they were measuring (converging) on the same constructs. Positive and significant correlations above 0.8 among pairs of item measures of the same construct indicate convergent validity of the constructs

Effects of Innovative Adaptation on SCA

Several parameters were used to constitute evaluation of the human resource component for the predictor variable. These parameters were education and professional qualifications of the organizations' Chief Executive Officer, their other competencies like innovation, industry, attitudes, persistence, entrepreneurial skills, determination and courage. Besides the Chief executives, competencies of the chairman including their adventurous nature, propensity to risk, moderation in approach to new ventures, positive attitude and drive, entrepreneurial nature, level and ability to consult others especially senior managers, and how meticulously they handled their work to detail were considered as constructs for predictor variable. In companies where the chairman doubled up as the chief executive officer, such chairmen were assessed for their role as CEOs only.

Further, to capture the parameters responsible for innovative adaptation of the top management, their academic/professional qualifications, consultations in decision making, team working, motivation of managers and delegation and responsibility were considered to constitute the dependent variable X_{10} . Employee competencies including their education/professional qualifications, innovation, consultation and team working, involvement in research and development, interactions and motivation constituted the predictor variable X_{11} . These variables $X_8 - X_{11}$ then formed the model on innovative adaptation which was tested through regression analysis on hypothesis H1.

Dynamic Operational Efficiency on Sustainable Competitive Advantage.

Human capital drives efficiency in resource use. To examine the effects of human capital in dynamic operational efficiency, selected parameters determining efficient administrative system, production processes and customer service were taken to constitute predictor variables X_{12} , X_{13} and X_{14} respectively. These were used to test hypothesis H2.

RESULTS AND DISCUSSIONS

Response rate

Out of the 95 targeted firms 32 responded which were 33.7 percent of the total targeted firms. This response rate was considered adequate because it was over 10 percent of the total population recommended by Kothari (2006) and yielded more than 30 valid responses which are considered critical for statistical analysis. The response rate was higher than that of Gruber *et al.*,

(2010) of 16 percent and comparable to that of other studies directed at top managers or business owners (Dennis, 2003). Onyango (2011) managed 30 firms among small and medium enterprises in the food sector from a sampling frame of 10,000 possible SMEs in Nairobi. Therefore, the response rate was small enough for in-depth exploration which was done through the detailed questionnaire and yet large enough (over 30) to allow for statistical analysis. Gay (1981) and Nolan (1994) point out that for correlation and descriptive studies, any justifiable number of subjects can be explored. Bork and Gall (1993) concur that when the target respondents are few and are the custodians of the necessary data, they could even be hand-picked because they are informative and possess the required characteristics provided a researcher specified the criteria for choosing the particular respondents which was done in this study.

Importance of Human Capital

From the survey 87 percent of respondents indicated concurrence on usefulness of human resources for SCA. Kenyan firms in the food and beverage industry therefore highly regard human capital as a major contributor to sustainable competitive advantage. Barney (1991) argued that human resource is valued not only for its role in implementing a given competitive scenario but for generating strategic capability and its potential to create firms which are more intelligent and flexible than their competitors over the long haul, firms which exhibit superior levels of coordination and cooperation (Grant, 1991). Human resource systems can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific, produce complex social relationships, are embedded in a firm's history and culture, and generate tacit organizational knowledge (Wright and McMahan, 1992). Human resource falls in the category of capabilities that integrates, reconfigures, gains and releases other resources to create market change (Eisenhardt and Martin, 2000).

Effects of human capital on SCA

In resource based view of the firm, human competences in terms of professionalism and personal attributes are inimitable determinants of sustainable competitive advantage. The objective of examining effects of innovation and dynamic operational efficiency of human resource was tackled through two hypotheses; H1 and H2 with the former dealing with innovative adaptation and the latter dealing with dynamic operational efficiency.

Results of tests of hypotheses: H1: There is a relationship between innovative adaptation of and sustainable competitive advantage.

Effects of Owner/chairman (X_9) with a P value of 0.004 < 0.05 was a strong predictor of the dependent variable while those of top management (X_{10}), ($P = 0.001 < 0.05$) were also strong and significant. Other independent variables were not significant meaning they were not strong predictors of the dependent variable. From the analytical results, it was apparent that in the food and beverage industry, the effects of the owner/chairman were significant in configuring resources for innovativeness for competitive advantage. This can be explained by the structure of ownership in this industry which is dominated by family or privately owned businesses. Save for a handful of multinationals (not more than 3), all firms in the industry were family businesses or individually owned. This means the owners had a domineering effect on the management and

overall strategy and resource use in their firms. These findings are consistent with strategic management scholars and strategists like He (2008) who argues that founder CEOs differ substantially from agent CEOs in the knowledge, values and attitudes they bring to bear in managing a firm. Founders have a greater ability to pursue market expansion from the beginning of their tenure because they already possess a combination of task knowledge, power, and credibility that agents must build over time (Souder, Simsek and Johnson, 2012). Founders therefore pursue market expansion strategies over time that are central to according firms sustainable competitive advantage and replicate firm's existing business model in new markets (Mishina, Pollock, and Porac, 2004). Furthermore, market expansion requires the CEO to possess appropriate knowledge about what is being replicated and how and when the replication should be done (Winter and Szulanski, 2001). Besides market expansion, founder CEOs are responsible for day to day management of their firms and orient the other top level managers towards a common goal. As Chief executives, they formulate a collective purpose that binds participants in an organization and decide the organization's course of action especially in the face of technological and environmental changes (Lawrence and Lorch, 1967). CEOs, whether founders or agents, are at the heart of innovation in a firm with scholars reporting a positive relation between innovation and performance (Damanpour and Evans, 1984). Innovation at product level leads to superior performance at firm level in terms of profit or growth (Cho and Pucik, 2004).

The other significant predictor variable in this model was on effects of top executive management competencies innovative capabilities on firm performance. The success of firms is not attributable to the Chief executive only. Top managers often collectively contribute to the overall firm performance in consolidating their competencies and harnessing the potential of firm resources towards chosen goals. This is consistent with the argument that dynamic capabilities of managers purposefully extend, create or modify resource base enabling the firm to achieve evolutionary fitness through adaptation to and/or shaping the external environment (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter, 2007). Managers do this by redefining the growth and opportunity boundaries of a firm and redesigning its competitive positioning in changing environments (Castanias & Helfat, 1991). To do this, managers require intuition and an understanding of capabilities in recognizing, measuring, and evaluating specific elements of managerial human capital, social capabilities and cognition. This goes beyond a demographics-based understanding of executive human capital to a skill-based, experience-based, relationship-based and cognition and value-based understanding of executive team capital (Bailey and Helfat, 2003).

Employee competencies are equally critical to firm success at innovation. Cooper & Kleinschmidt (1995; 1996) found a possible mediation effect of quality and relation between innovativeness and market success while Cho and Pucik (2005) reported an Employee- Customer – Profit (ECP) model establishing a chain of cause and effect running from employees innovative behavior to an improvement in customer satisfaction, then to superior firm performance confirming mediation effect of quality as a result of employee innovation actually occurs. These findings are consistent with Lee and Miller (1999) assertions that human capital is a key resource in an organization in which a talented and committed workforce may serve as a valuable, scarce, inimitable and difficult to substitute resources that can help firms implement an appropriate

business strategy hence reducing the gap between strategy formulation and implementation. This is further in line with growing acceptance of the role of human capital in strategic management circles in which it has been embraced as a key determinant of firm performance hence the need for relating employee talent to firm's competitive advantage (Mahsud, *et al*, 2011).

A company's human capital directly affects the extent to which it effectively engages in innovative adaptation. Yukl (2008) argues that, consistent with ambidextrous approach, flexible leadership theory predictions suggest that innovative adaptation and efficiency can have simultaneous and joint effects on firm performance. This has further been supported by empirical research by Gibson and Birkinshaw (2004) which proposed that a combination of discipline, support, and trust can be used to achieve alignment and adaptability simultaneously, which they called 'contextual ambidexterity' which improves performance. Firms have been found to operate effectively and innovatively at the same time (Gibson and Birkinshaw, 2004).

Dynamic operational efficiency H2: There is a relationship between dynamic operational efficiency (dynamic capabilities) and SCA

Results indicated that X_{12} (P value 0.561 >0.05) was not significant as a predictor of the dependent variable Y. X_{13} (P = 0.039 < 0.05) was a good predictor of Y. X_{14} (P =0.237 > 0.05) was not a significant predictor of the dependent variable Y. From the statistical findings, effects of efficient production processes were significant among other indicators of dynamic operational efficiencies. As Eisenhardt and Martin (2000) posits, dynamic capabilities are complicated, detailed, analytical processes that rely extensively on existing knowledge and linear execution to produce predictable outcomes in stable markets while in high velocity markets, they are simple, experiential, unstable processes that rely on quickly created new knowledge and iterative execution to produce adaptive but unpredictable outcomes. Since the function of these dynamic capabilities can be replicated across firms, their value for competitive advantage lies in the resource configuration that they create not in the capabilities themselves. They are however often used to build new resource configurations in the pursuit of temporary advantages (Eisenhardt and Martin, 2000).

In the food and beverage industry of Kenya, internal processes largely rely on how capabilities are harnessed for competitive advantage. This is consistent with Newbert (2008) elaboration that, of importance to firms seeking SCA is not the autonomous identification, exploitation of resources and capabilities that might not only contribute to their competitive position, but also the fit with their idiosyncratic business models. This is best done by avoiding the tendency to predetermine which resources and capabilities ought to be correlated with competitive advantage but identifying the characteristics of those resources and capabilities related to these ends. The results of this study clearly show that firms differed on how they dynamically configured aspects of their resource-capability combinations and their characteristics to win the battle of SCA. Newbert, (2008) posits that a characteristic of a resource-capability combination like its rarity or value are more valuable than the resource or capability or the combination thereof. Collis and Montgomery (1995) further argue that a firm's competitive advantage is a function not of the value, inimitability and non-sustitutability of its resources and capabilities (as indicated in the RBV logic) but also of its durability, appropriability and superiority.

Collinearity tests

Regression analysis was carried out through the step-wise method of SPSS to test for collinearity between the independent variables. Results of analysis did not show any collinearity as all tolerance factors were below 0.1 and variance inflation factors were less than 10. This is consistent with Senaji (2012) that tolerance values below 0.1 (VIF >10) indicate the presence of high collinearity implying the variable is a linear function of another variable in the same model. It is an excellent measure of the collinearity of the i^{th} independent variable with the other independent variables in the model. Tolerance for the i^{th} independent variable is 1 minus the proportion of variance it shares with the other independent variable in the analysis ($1 - R^2_i$). This represents the proportion of variance in the i^{th} independent variable that is not related to the other independent variables in the model. The variance inflation factor is the reciprocal of tolerance: $1/(1-R^2_i)$. The VIF has an intuitive interpretation in terms of the effects of R^2_i on the variance of the estimated regression coefficient for the i^{th} independent variable (O'Brien, 2007). Collinearity was assessed in model two between predictor variables for effects of firm resources on SCA. Collinearity was further tested for the model on effects of dynamic operational efficiency on sustainable competitive advantage. The high variance inflation factors for X_{13} and X_{14} of 47.298 and 43.018 respectively indicates there was high correlation between the constructs of these independent variables hence collinearity. Collinearity (or multicollinearity) is the undesirable situation where the correlations among the independent variables are strong. In some cases, multiple regression results may seem paradoxical. For instance, the model may fit the data well (high F-Test), even though none of the X variables has a statistically significant impact on explaining Y. This happens when two X variables are highly correlated; they both convey essentially the same information. When this happens, the X Variables are collinear and the results show multicollinearity. Multicollinearity misleadingly inflates the standard errors making some variables statistically insignificant while they should be otherwise significant. Formally, Variance Inflation Factors (VIF) measures how much the variance of the estimated coefficients are increased over the case of no correlation among the X variables. If no two X variables are correlated, then all the VIFs will be 1. If VIF for one of the variables is around or greater than 5, there is collinearity associated with that variable. If there are two or more variables that will have a VIF around or greater than 5, one of these variables must be removed from the regression model to address collinearity. This was consistent with the regression analysis for the model which indicated only X_{13} as a significant predictor of Y.

RESEARCH CONTRIBUTION TO KNOWLEDGE

This study considered innovative adaptation and dynamic operational efficiency as variables that measured human capital- a departure from variables conventionally used to measure it. The study focused on qualifications, consultations in decision making, team working, human motivation and delegation as study variables. The study further investigated the role of dynamic operational efficiency in creating sustained competitive advantage. The research found out that these factors investigated were strong predictors of sustained competitive advantage.

CONCLUSION AND RECOMMENDATIONS

The objective sought to find out how human capital particularly in its role of innovative adaptation and dynamic operational efficiency affected firms' attainment of SCA. The significant levels for owner/chairman and top management competencies from regression analysis showed that owners who double up as chief executives and top managers are critical to driving innovations in food and beverage companies. It was further found that most of the firms belonged to individuals or families in which the chairman or owner was also the Chief executive. Most family businesses often do not engage independent management resources retaining the overall strategic direction of the company hence the high influence of the chairman or owner. The significant effects of executive management are due to the role they play in innovation and strategy implementation. Being the drivers of strategy, they are the link between the top or owners of the company and the implementers of strategy. Industry respondents reported consultative innovative ventures driven by executive management with support from the chief executives or chairmen in large companies which was responsible for the success of the various brands, products or services offered by the firms. In companies that have rapid change in brands and products, innovation is driven by a market research and development component which are a very dynamic part of any competitive companies. Executive and management competencies at innovation are critical success factors to competitiveness in food and beverage companies in Kenya. Innovative adaptation is particularly important when firms pursue differentiation strategy (Myers and Harvey, 2001; Porter, 1985) providing a unique type of product or service for which customers are willing to pay a premium price.

On dynamic capabilities or efficiency, scholars have clearly indicated that resources and dynamic capabilities when manipulated or configured and utilized in appropriate ways (Barney, 1991; Eiesenhard and Martin, 2000; Makadok, 2001) confer competitiveness hence resources are necessary but not sufficient conditions for competitive advantage. The significant results of regression analysis for effects of efficiency in production processes though not the sole determinant of resource-capability combination for SCA, was a strong indication of the importance of efficient production process in managing quantity, quality and costs.

Production without efficient sales and other operational processes cannot drive companies to sustainable competitive advantage. Therefore, dynamic efficiencies in all aspects of company operations are critical success factors towards competitiveness. The indication of production processes as statistically significant further shows how firms need to pay attention to efficiency at the factory floor which is reflected through the value chain to consumption. Mahsud *et al.*, (2011) used sales growth as an indicator of innovative adaptation by measuring whether the firm would explore new possibilities of adapting to the environmental exigencies within a dynamic process with sustainable sales growth indicating that the firm was competitive. The findings are consistent with the Flexible Leadership Theory (FLT) predictions which suggest that the effects of human capital on firm performance are fully mediated by efficiency. However, the mediation effects of efficiency may be partial while human capital could have a direct effect on firm performance. For example, if an organization hires very talented employees but pursues a strategy that fails to leverage their talent or imposes bureaucratic restrictions that limit the extent to which their skills contribute to efficiency or innovation, then it fails at the strategy (Mahsud, *et*

al., 2011). Human capital should therefore be carefully handled and aligned to firm strategy to maximize on efficiency and innovation.

REFERENCES

- Adler, R. and Kwon, S. (2002). Social Capital: Prospects for a new Concept. *Academy of Management Review* 27(1): 17-40.
- Adner, R. & Helfat, C.E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal, October Special Issue 24: 1011-1025.*
- Aosa, E. (1992). An empirical investigation of aspects of strategy formulation and implementation within large, private manufacturing companies in Kenya. University of Strathclyde, Glasgow, Scotland, 1992. *Unpublished PhD thesis.*
- Bailey EE, Helfat CE. (2003). External management succession, human capital, and firm performance: an integrative analysis. *Managerial and Decision Economics* 24 (4): 347 – 369.
- Balta, M. E. (2008). *The Impact of Business Environment and Boards of Directors on Strategic Decision- Making: A case Study of Greek Listed Companies. Unpublished PhD Thesis, Brunei Business School.*
- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17:99-120.
- Barney, J.B. (1997). Gaining and sustaining competitive advantage. Addison-Wesley publishing Company, 1997, 570pp.
- Barney, J.B. (2001). Resource based theories of competitive advantage: A ten year retrospective on the resource based view. *Journal of Management*, 27, 643-650.
- Barney, J.B., Wright, M. and Ketchen, Jr. D.J. (2001). The Resource Based View of the Firm: Ten years after 1991. *Journal of Management*, 27:625-641.
- Becker, B & Gerhart, B. (1996). The impact of human resource management on organizational performance. *Journal of Applied Psychology*, 81, 472-479.
- Bork, W. R., Gall, J. P., & Gall, M. D. (1993). Applying educational research: A practical guide (3rd ed.). New York: Longman.
- Bourgeois, L.J. (1980). Performance and Consensus. *Strategic Management Journal*, 1980, 1, 227-284.
- Castinas, R.P. and Helfat, C.E. (1991). Managerial Resources and Rents. *Journal of Management* 17(1): 155-171.
- Castinas, R.P. and Helfat, C.E. (2001). The managerial rents model: theory and empirical analysis. *Journal of Management* 27:661-678.
- Chandler, G.N. and Hanks, S.H. (1994). Market attractiveness, Resource-Based Capabilities, Venture Strategy, and Venture Performance. *Journal of Business Venturing*, 9,(4), 331-349.
- Cho, H.J. and Pucik, V. (2004). Reliability and validity of the *Fortune* Reputation Survey: measuring innovativeness and quality. *Working Paper 2004-6, IMD.*

- Collins, J. (2001). Good to great: why some companies make the leap, others don't. New York, NY: HarperCollins.
- Collis, D.J. and Montgomery, C.A. (1995). Competing on resources: strategy in the 1990s. *Harvard Business Review* 73(4):118-128.
- Cooper, R.G. and Bretani, U.D. (1991). New industrial financial services: what distinguishes the winners. *Journal of Product Innovation Management* 8(2): 75-79.
- Cooper, R.G. and Kleinschmidt E.J. (1996). Winning businesses in product development: the critical success factors. *Research-technology management* 39(4): 18-29.
- Cooper, D.R and Schindler, P.S (2003): Business Research Methods. *Tata McGraw-Hill*, 8th Edition, New Delhi, India, p.49.
- Damanpour, F., Evan, W.M. (1984). Organizational innovation and performance: the problem of 'organizational lag.' *Administrative Science Quarterly* 29(3): 392-409.
- Davis, D.P. & Pett, L.T. (2002). Measuring organizational efficiency and effectiveness. *Journal of Management Research*, 2 (2), 87-97.
- Dennis, W.J. (2003). Raising response rates in mail surveys of small business owners: results of an experiment. *Journal of Small Business Management* 41: 278-295.
- Dess, G.G., and Davis, P.S. (1984). Porter's (1980) Generic Strategies as Determinants of Strategic Group Membership and Organizational Performance. *Academy of Management Journal*, 1984, Vol. 27, No. 3, 467-488.
- Dess, G.G. and Shaw, J.D. (2001). Voluntary turnover, social capital, and organizational performance. *Academy of Management Review*, 26, 446-456.
- Drucker, F.P.(1993). Post Capitalist Society. Harper-Collins: New York.
- Eisenhardt, K.M., and Martin, J.A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21:1105-1121.
- Finkelstein, S., Hambrick, D. (1996). Strategic Leadership: Top Executives and their effects on organizations. West Publishing Company, Minneapolis, St Paul.
- Frankel, J.R. & Wallen, N.E. (2000). How to design and evaluate research in education. 4th Edition. McGraw Hill. Boston.
- Gay, L.R. (1981). Educational Research: Competencies for Analysis and Application. Macmillan Publishing Company Inc.
- Gibson, B.C. and Birkinshaw, J. (2004). The antecedents, consequences and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47, 209-226.
- Govindarajan, V. (1988). A Contingency Approach to Strategy Implementation at the Business-Unit Level: Integrating Administrative Mechanisms with Strategy. *Academy of Management Journal*, 31: 1337-1356.
- Grant, R. M. (1991). The Resource Based Theory of Competitive Advantage: implications for strategy formulation. *California Management Review*, 33 (3), 114-135.
- Gruber, M., Heinemann, F. and Bretel, M. (2010). Configurations of resources and capabilities and their performance implications: an exploratory study on technology ventures. *Strategic Management Journal* 31: 1337-1356.
- Hatch, W.N. & Dyer, H. J. (2004). Human Capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal*, 25, 1155-1178.

- He, L. (2008). Do founders matter? A study of executive compensation, governance structure, and firm performance. *Journal of Business Venturing* 23(3):257-279.
- Helfat, C.E., Finkelstein, S., Mitchell, W., Peteraf, M.A., Singh, H., Teece, D.J., & Winter, S. G.(2007). *Dynamic capabilities: understanding strategic change in organizations*. New York; John Wiley.
- Hitt, A.M. & Ireland, D.R. (2002). The essence of strategic leadership: managing human and social capital. *Journal of Leadership and Organizational Studies*, 9, 3-14.
- Huselid, M.A. (1995). The impact of human resource management practices in turnover, productivity, and corporate financial performance. *Academy of Management Journal* 38 (3): 417-456.
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3(4):305-360.
- Joppe, M. (2000). *The Research Process*. from <http://www.ryerson.ca/~mjoppe/rp.htm>
- Katz, R.L. (1974). Skills and an effective administrator. *Harvard Business Review* 52(5): 90-102.
- Kline, P. ((1999). *The Handbook of Psychological testing*, 2nd Edition. London. Routledge.
- Kor, Y.Y. & Leblecibici, H. (2005). How do interdependencies among human-capital deployment, development and diversification strategies affect firms' financial performance? *Strategic Management Journal*, 26, 967-985.
- Kothari, C.R. (2006). *Research Methods: Methods and techniques*. 3rd Edition. New age international publishers.
- Lee, J., and Miller, D. (1999). People matter: commitment to employees, strategy and performance in Korean firms. *Strategic Management Journal*, 20,579-593.
- Lawrence, P., & Lorch, J. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly* 12:1-30.
- Mackey, A. (2008). Research notes and commentaries: The Effect of CEOs on firm performance. *Strategic Management Journal*, 29: 1357-1367.
- Mahsud, R., Yukl, G., and Prussia, G.E. (2011). Human Capital, Efficiency, and Innovative Adaptation as Strategic Determinants of Firm Performance. *Journal of Ledership and Organizational Studies* 18(2) 229.
- Mahoney, J.T. (1995).The management of resources and the resource of management. *Journal of Business Research*, 33: 91-101
- Mahsud, R., Yukl, G. and Prussia, G.E. (2012). Human Capital, Efficiency, and Innovative Adaptation as Strategic Determinants of Firm Performance. *Journal of Leadership & Organizational Studies*, 2011 18: 229.
- Makadok, R. (2001). Towards a synthesis of resource based and dynamic capability views of rent creation. *Strategic Management Journal*, 22: 387-402.
- Mishina, Y., Pollock, T.G., Porac, J.F. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal* 25(12):1179-1197.
- Myers, M.B. &Harvey, M. (2001). The value of pricing control in export channels: A governance

- perspective, *Journal of International Marketing*, 9(4), 1, 29.
- Newbert, S.L. (2008). Value, rareness, competitive advantage, and performance: a conceptual-level empirical investigation of the resource based view of the firm. *Strategic Management Journal* 29:745-768.
- Nilakanta, S. (1996). Organizations' Innovativeness: Exploring the relationship between organization determinants of Innovation, types of innovation and measures of organizational performance. *Omega International Journal of Management Science*, Vol. 24. No. 6 PP. 631-647.
- Nunnally, J.C. (1967). *Psychometric Theory*, New York: McGraw- Hill.
- Onyango, A.M. (2011). Determinants of competitive performance of Kenyan small and medium enterprises in food processing: a study of selected firms from Nairobi. *Unpublished PhD thesis, Kenyatta University, 2011*.
- Pfeffer, J. (1994). *Competitive Advantage through People: Unleashing the Power of the Workforce*. Harvard Business School Press: Boston, MA.
- Porter, M.E. (1980). *Competitive Strategy: Techniques for analyzing industries and competitors*. 1980, New York. The Free Press.
- Porter, M.E. (1985). *Competitive Advantage*. New York. Free Press.
- Prahalad, C.K. and Bettis, R.A. (1986). The dominant logic: a new linkage between diversity performance. *Strategic Management Journal* 7(6): 485-501.
- Ramirez, P.G. & Hachiya, T. (2006). How do firm specific organizational capital and other intangibles affect sales, value and productivity? Evidence from Japanese firm-level data. *International Journal of Innovation and Technology Management*, 3, 265-282.
- Rumelt, R.P., Schendel, D., Teece, D. (1994). *Fundamental Issues in Strategy*. Harvard University Press: Cambridge, M.A.
- Sekaran, Uma (2003). *Research Methods for Business: A skill Building Approach*. Fourth Edition, John Wiley & Sons, Inc.
- Senaji, T.A.(2012). Knowledge management infrastructure capability, motivation and organizational effectiveness among mobile telecommunication service firms in Kenya. *Unpublished PhD thesis, Kenya Methodist University, Nairobi*.
- Souder, D., Simsek, Z., and Johnson, S.G. (2012). The differing effects of agent and founder CEOs on the firm's market expansion. *Strategic Management Journal*, 33: 23-41.
- Song, M., Droge, C., Hanvanich, S., and Calantone, R. (2005). Marketing and technology resource complementarity: an analysis of their interaction effect in two environmental contexts. *Strategic Management Journal* 26(3): 259-276.
- Teece, D.J., Pisano, G., and Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, Vol. 18: 7, 509-533.
- Wiggins, R.R. and Ruefli, T.W (2002). Sustained Competitive Advantage: Temporal Dynamics and the Incidence and Persistence of Superior Economic Performance. *Organizational Science*, Vol. 3, 1 pp 81-105.
- Yukl, G. (2009). Leading organizational learning: A reflection on theory and research. *Leadership Quarterly*, 20, 49-53.

Yukl, G., and Lepsinger, R. (2005). Why integrating the leading and managing roles is essential for organizational effectiveness. *Organizational dynamics*, 34, 4, 361-375.

Zhou, K.Z & Li, X.B. (2012). Research notes and commentaries: How knowledge affects radical innovation: knowledge base, market knowledge acquisition, and internal knowledge sharing. *Strategic Management Journal* 33: 1090-1102.