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RESOURCE INIMITABILITY: THE STRATEGIC RESOURCE CHARACTERISTIC FOR SUSTAINABLE COMPETITIVENESS IN UNIVERSITIES

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ABSTRACT: *This paper analyses the effect of resource inimitability on sustainable competitiveness of universities. The analysis is embedded on the Resource Based View model (RBV and the balanced scorecard model of performance). According to RBV of strategic Management, competitive advantage is closely related to companies' internal characteristics (value, rarity, inimitability and non-substitutability). The constructs of sustainable competitiveness were derived from the balanced scorecard (Financial; Teaching/Learning; Service/outreach; Scholarship/ Research and Workplace satisfaction). Although RBV is considered one of the most influential theories of strategic management, this paper unveils the empirical evidence of resource rarity on sustainable competitiveness in the service industry (universities). A sample of 262 was selected from 2 universities in Kenya (one private and one public). Using the regression analysis, findings revealed that the public university was superior in resource inimitability than the private university and also that resource inimitability contributes to sustainable competitiveness in universities.*

KEYWORDS: Resource Based View, Resource value; Rarity, Inimitability, Non-substitutability, Balanced scorecard

INTRODUCTION

The means by which some businesses achieve and sustain a competitive advantage over other firms is the central research focus of strategic management (McGee *et al*, 2005). During the late 1970s and the 1980s, the strategy literature emphasized the external environment of the firm. The focus was on the analysis of the industry attractiveness and the competition. The work of Harvard economist Michael Porter was very influential (Hafstrand, 2002).

Strategic analysis and choice continue to form the phase of the strategic management process in which business managers examine and choose a business strategy that allows their business to maintain or create sustainable competitive advantage. Their starting point is to evaluate and determine which competitive advantage provide the basis for distinguishing the firm in the customers' mind from other reasonable alternatives (Pearce and Robinson, 2007)

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In the late 1980s and early 1990s, the focus increasingly shifted towards the internal aspects of the firm (Hafstrand, 2002). Research has begun to recognize the use of resource –based capabilities in gaining and maintaining competitive advantage (chandler & Hanks, 1994; Long and Vickers-Koch, 1995; McGee & Finney, 1997). Tracing its roots from the traditional strategic management concept of distinctive competence e.g. (Selznik, 1957; Andrews, 1971), the resource-based view argues that competitive advantage results from firms a firms' resources and its capabilities. Resources include capital equipment, workers and management skills, reputation and brand names (Barney, 1991). Resources are the source of a firm's capabilities; and capabilities refer to a firm's ability to bring together and deploy them advantageously (Day, 1994). While resources are relatively tangible, capabilities are less readily assigned a monetary value, and are often deeply embedded in organizational routines and practices, thereby making them less subject to imitation by present or potential competitors (Dierkx & Cool, 1989).

Distinctive competencies (Selznik, 1957; lado, *et al,* 1992) refer to the unique skills and activities that a firm can do better than its competitors. When competition intensifies, the possession of these competencies should become increasingly important for the firm's continued success. These are the distinctive capabilities that support a market position that is valuable and difficult to imitate.

Institutions of higher education are also in competition and (Clarke, 1997) argues that if they are to compete more aggressively, they need to determine the areas of comparative competence on which to base successful resource-led strategies. In Kenya (Materu, 2007) Higher Education Institutions (HEIs) become more competitive as a result of increasing private sector participation, growing demand for accountability, limited public funding and the advent of borderless HEIs. Added to this is the growing trend in international ranking of universities.

Hypotheses
H_{o1} There is no difference in resource inimitability between private and public universities
H_{02} Resource inimitabilty has no effect on sustainable competitiveness of universities

THEORETICAL BACKGROUND

The resource-Based View Model
The resource-based view (RBV), as one of the most widely accepted theories of competitive advantage, focuses on relationships between company's internal resource characteristics and competitive advantage (Spanos and Lioukas, 2001). It is based on the assumption that companies within an industry are heterogeneous in terms of resources they control. Since resources may not be perfectly mobile, heterogeneity can be long lasting (Barney, 1991). According to Barney (1992, 1995) resources and capabilities include financial, physical, human and organizational assets that a company uses to develop, manufacture and deliver products and services to customers. Financial resources include debt, equity, retained earnings, etc. Physical resources include machines, manufacturing plants and buildings. Human resources relate to the skills, knowledge, ability to make judgments, risk-taking propensity and wisdom of individuals associated with the company. Organizational resources are history, connections, confidence, organizational structure, formal reporting structure, management control systems and compensation policies (Barney, 1992, 1995).

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Resources are inputs into a firm's production process (Barney 1991) that are either knowledge-based or property-based (Miller and Shamsie 1996). Amit & Schoemaker (1993) divide the construct "resource" into resources and capabilities. In this respect, resources are tradable and non-specific to the firm, while capabilities are firm-specific and are used to engage the resources within the firm, such as implicit processes to transfer knowledge within the firm (Makadok, 2001; Hoopes *et al*, 2003).

Makadok (2001) emphasizes the distinction between capabilities and resources by defining capabilities as "a special type of resource, specifically an organizationally embedded non-transferable firm-specific resource whose purpose is to improve the productivity of the other resources possessed by the firm". "Resources are stocks of available factors that are owned or controlled by the organization, and capabilities are an organization's capacity to deploy resources"(Amit & Schoemaker, 1993). Essentially, it is the bundling of the resources that builds capabilities (Sirmon *et al*, 2007)

Property-based resources typically refer to tangible input resources, whereas knowledge-based resources are the ways in which firms combine and transform these tangible inputs (Galunic and Rodan 1998). Knowledge-based resources may be particularly important for providing sustainable competitive advantage, because they are inherently difficult to imitate, thus facilitating sustainable differentiation (McEvily and Chakravarthy 2002). They also play an essential role in the firm's ability to be entrepreneurial (Galunic and Eisenhardt 1994) and to improve performance (McGrath *et al*, 1996). From the standpoint of resource acquisition, the initial resources involve different dimensions including capital (Bygrave 1992), human resources (Cooper 1981; Dollinger 1995), and physical resources (Dollinger 1995).

While the resource based view within the field of Strategic Management was named by Birger Wernerfelt in his article A Resource-Based View of the Firm (1984), the origins of the resource-based view can be traced back to earlier research. Retrospectively, elements can be found in works by Coase (1937), Selznick (1957), Penrose (1959), Stigler (1961), Chandler (1962) where emphasis is put on the importance of resources and its implications for firm performance (Rumelt, 1984; Conner, 1991; Mahoney and Pandian, 1992; Rugman and Verbeke, 2002). This paradigm shift from the narrow neoclassical focus to a broader rationale, and the coming closer of different academic fields (industrial organization economics and organizational economics being most prominent) was a particular important contribution (Conner, 1991; Mahoney and Pandian, 1992).

The Resource based view explains that a firm's sustainable competitive advantage is reached by virtue of unique resources being rare, valuable, inimitable, non-tradable, and non-substitutable, as well as firm-specific (Makadok 2001; Finney *et al*, 2004). These authors write about the fact that a firm may reach a sustainable competitive advantage through unique resources which it holds, and these resources cannot be easily bought, transferred, or copied, and simultaneously, they add value to a firm while being rare. It also highlights the fact that not all resources of a firm may contribute to a firm's sustainable competitive advantage. Varying performance between firms is a result of heterogeneity of assets (Helfat and Peteraf, 2003) and RBV is focused on the factors that cause these differences to prevail.

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Although the RBV is considered one of the most influential theories of strategic management (Powell, 2001; Priem and Butler, 2001; Newbert, 2008), its acceptance seems to be based more on the basis of logic and intuition than on the empirical evidence (Newbert, 2008). In most studies that examine the connection between company's resources and performance, resource heterogeneity approach is employed. By that approach, specific resource or capability is claimed to be valuable, rare, imperfectly imitable or non-substitutable, and then the amount of that resource or capability that a company owns is correlated with competitive advantage or performance (Newbert, 2007, 2008). This type of research provides evidence that a specific resource can help company to achieve competitive advantage, but does not verify the influence of resource characteristics (value, rareness, inimitability and non-substitutability) on competitive advantage (Newbert, 2008).

Results of studies using the resource heterogeneity approach suggest that company's asset influences market performance, but not profitability (Spanos and Lioukas, 2001), company-specific resources (corporate management capabilities, employee value-added and technological competence) enhance accounting-based and market-based measures of performance (Acquaah and Chi, 2007) and that relationships between resource sustainability, capability dynamism and resource orientation (RO) are significant (Chmielewski and Paladino, 2007). Wu (2010) divided resources in two groups, VRIN and non- VRIN, and concluded that groups are positively correlated to competitive advantage in low and medium volatility environments, but in high volatility environments, only VRIN resources have influence on competitive advantage.

The Balanced Scorecard for Higher education

The fundamental mission of research universities and their academic units and programs is the advancement of excellence in the creation, sharing and application of knowledge, typically described in terms of teaching, scholarships/ research and public service/ outreach (Ruben, 1999).

Fulfilling this mission requires a distinguished faculty, high level research activities, innovative and engaging teaching-learning processes, supporting technology and quality facilities, capable students, competent faculty and staff and legislative and public support. Ruben (1999) indicates that although historically less well appreciated, universities also requires excellence in communication and a service oriented culture, appropriate visibility and prominence within the state and beyond; and a welcoming physical environment; a friendly, supportive and respectful social environment; expectations of success; responsive, integrated, accessible and effective systems and services; and a sense of community.

Most specifically, fulfillment of this mission requires successful engagement with a number of constituency groups, and for each desired and potentially measureable outcomes can be identified: prospective students who are applying to a university/program as a preferred choice, informed about the qualities and benefits they can realize through attending; current students who are attending their university/program of choice with well defined expectation and high levels of satisfaction relative to all facets of their experience, feeling they are valued members of their university community with the potential and support to succeed. The research contract agencies and other organizations or individuals seeking new knowledge or the solutions to problems are another constituency whose desired outcome is to actively seek out the university and its scholars

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for assistance. Friends - who are proud to have a family member attending the university/program, supportive of the institution, recommending it to friends' and acquaintances; Alumni- who are actively supporting the university/program and its initiatives; Employers- seeking out university/program graduates as employees, promoting the university/program among their employees for continuing education; Colleagues at other institutions- viewing the university/unit as a source of intellectual and professional leadership and a desirable workplace; Governing boards- supportive of the institution and enthusiastic about the opportunity to contribute personally and professionally to its advancement; local community-viewing the institution as an asset to the community, actively supporting its development (Ruben, 199).

Another constituency includes the friends, interested individuals, donors, legislators and the general public-their desired outcome is valuing the university as an essential resource, supporting efforts to further advance excellence; faculty-pleased to serve on the faculty of a leading, well-supported institution/program, enjoying respect locally, nationally and internationally and lastly staff-regarding the institution/unit as a preferred workplace where innovation, continuing improvement and teamwork are valued, recommending the institution/unit to others (Ruben, 1991).

Resource Inimitability

If a valuable resource is controlled by only one firm it could be a source of a competitive advantage (Barney, 1991). This advantage could be sustainable if competitors are not able to duplicate this strategic asset perfectly (Peteraf, 1993; Barney, 1986b,). A central proposition in strategy is that firms sustain relative performance advantages only if their existing and potential rivals cannot imitate them (Nelson and Winter 1982, Dierickx and Cool 1989, Barney, 1991). Imitation means the purposeful endeavor to improve performance by copying the form and strategy of a superior rival. An imitation strategy is one of many ways two firms may become similar in appearance and performance . Imitation fails when either, it is physically impossible, legally prevented, economically unattractive, or the necessary knowledge is lacking.

Saloner et al. (2001) label barriers of the first three types "positional" and those of the last "capabilities based." The conditions leading to positional barriers e.g., switching costs, entry costs, scope and scale economies, and the likelihood of ex post retaliation (Porter 1980, Tirole 1988). Capabilities-based barriers is when imitation is hampered by a lack of knowledge, learning becomes a central issue. Capabilities-based advantage is sustained only if learning of both types that is, explorative learning in the active sense of learning from one's own experience (learning by doing), or absorptive in the passive sense of learning from external information.

Firms can only be imperfectly inimitable for one or a combination of three reasons: (a) the ability of a firm to obtain a resource is dependent upon unique historical conditions; (b) the link between the resources possessed by a firm and a firm's competitive advantage is casually ambiguous or (c) the resource generating a firms advantage is socially complex (Dierickx and Cool, 1989).

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Unique Historical Conditions and Inimitable Resources

The RBV approach to competitiveness asserts that not only are firms intrinsically historical and social entities, but that their ability to acquire and exploit some resource depends upon their place in time and space. Once this unique time in history passes, firms that do not have space-and-time dependent resources cannot obtain them and thus these resources are imperfectly imitable (Barney, 1991).

Resource-based theories are not alone in recognizing the importance of history as a determinant of firm performance and competitive advantage. Traditional strategy researcher (Learned *et al*., 1969) often cited the unique historical circumstances of a firm's founding, or the unique circumstances under which a new management team takes over a firm, as important determinants of a firm's long term performance. Economists (e.g. Arthur *et al*, 1987) also developed models of firm performance that rely heavily on unique historical events as determinants of subsequent actions. Employing path-dependent models of economic performance, Arthur *et al*. (1987) suggests that performance of a firm does not depend simply on the industry structure within which a firm finds itself at a particular point in time, but also on the path a firm followed through history to arrive where it is. If a firm obtains valuable and rare resources because of its unique path through history, it will be able to exploit those resources in implementing value-creating strategies that cannot be duplicated by other firms, for firms without that particular path through history cannot obtain the resources necessary to implement the strategy.

The acquisition of firm resources depends on the unique historical position of a firm. A firm that locates its facilities on what turns out to be much more valuable location than was anticipated when the location was chosen possesses an imperfectly imitable physical capital resource (Hirshleifer, 1988). A firm, for example with scientists who are uniquely positioned to create or exploit a significant scientific breakthrough may obtain an imperfectly imitable resource from the history-dependent nature of these scientists' individual capital (Winter, 1988). Finally a firm with a unique and valuable organizational culture that emerged in the early stages of the firm's history may have an imperfectly imitable advantage over a firm founded in another historical period, where different (and perhaps less valuable) organizational values and beliefs come to dominate (Barney, 1989b).

Causal Ambiguity and Inimitable Resources

The term "causal ambiguity" in its traditional usage refers to any knowledge-based impediment to imitation (Saloner *et al*. 2001,). The first strategy paper using this term appears to be Lippman and Rumelt (1982), who assert, "basic ambiguity concerning the nature of the causal connections between actions and results" can result in persistent performance heterogeneity because "the factors responsible for performance differentials resist precise identification.""causal ambiguity" is as broadly defined as "the state in which managers do not know how their actions map to consequences," the statement "managers experience causal ambiguity" is indistinguishable from "managers don't know what they're doing," in which case a bias toward plain language should favor the latter. Lippman and Rumelt (1982), state that a particular type of confusion can arise in the context of competitive imitation that is both "causal" and "ambiguous" in a precise sense of both words.

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Causal ambiguity is the continuum that describes the degree to which decision makers understand the relationship between organizational inputs and outputs (King 2007). Their argument is that inability of competitors to understand what causes the superior performance of another (inter-firm causal ambiguity), helps to reach a sustainable competitive advantage for the one who is presently performing at a superior level. Holley and Greenley (2005) state that social context of certain resource conditions act as an element to create isolating mechanisms and they quote Wernerfelt (1986) that tacitness (accumulated skill-based resources acquired through learning by doing) complexity (large number of inter-related resources being used) and specificity (dedication of certain resources to specific activities) and ultimately, these three characteristics will result in a competitive barrier.

Isolating mechanism is a term that was introduced by Rumelt (1984) to explain why firms might not be able to imitate a resource to the degree that they are able to compete with the firm having the valuable resource (Peteraf, 1993; Mahoney and Pandian, 1992,). An important underlying factor of inimitability is causal ambiguity, which occurs if the source from which a firm's competitive advantage stems is unknown (Peteraf, 1993; Lippman and Rumelt, 1982). If the resource in question is knowledge-based or socially complex, causal ambiguity is more likely to occur as these types of resources are more likely to be idiosyncratic to the firm in which it resides (Peteraf, 1993; Mahoney and Pandian, 1992,). Conner and Prahalad (1996) go so far as to say knowledge-based resources are "*…the essence of the resource-based perspective*"

Certain resources, even if imitated, may not bring the same impact, since the maximum impact is achieved over longer periods of time. Hence, such imitation will not be successful. In consideration of the reputation as a resource and whether a late entrant may exploit any opportunity for a competitive advantage, mention three reasons why new entrants may be outperformed by earlier entrants. First, early entrants have a technological know-how which helps them to perform at a superior level. Secondly, early entrants have developed capabilities with time that enhance their strength to out-perform late entrants. Thirdly, switching costs incurred to customers, if they decide to migrate, will help early entrants to dominate the market, evading the late entrants' opportunity to capture market share. Customer awareness and loyalty is another rational benefit early entrants enjoy (Agarwal *et al*. 2003).

However, first mover advantage is active in evolutionary technological transitions, which are technological innovations based on previous developments (Cottam *et al.*, 2001). The same authors further argue that revolutionary technological changes (changes that significantly disturb the existing technology) will eliminate the advantage of early entrants. Such writings elaborate that though early entrants enjoy certain resources by virtue of the forgone time periods in the markets, rapidly changing technological environments may make those resources obsolete and curtail the firm's dominance. Late entrants may comply with the technological innovativeness and increased pressure of competition, seeking a competitive advantage by making the existing competencies and resources of early entrants invalid or outdated. In other words, innovative technological implications will significantly change the landscape of the industry and the market, making early movers' advantage minimal. However, in a market where technology does not play a dynamic role, early mover advantage may prevail.

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Social Complexity and Inimitable Resource

Another reason that a firm's resources may be imperfectly imitable is the existence of very complex social phenomena, beyond the ability of firms to systematically manage and influence. When competitive advantages are based on such a phenomena, the ability of other firms to imitate these resources is significantly constrained (Barney, 1991).

A wide variety of firm resources may be socially complex for example interpersonal relations among managers in a firm, a firms culture (Barney, 1986b), a firm reputation among suppliers (Porter, 1980) and customers. It is also to specify how these socially complex resources add value to a firm. Therefore, there is little or no casual ambiguity surrounding the link between these firm resources and competitive advantage. However, organizational culture for example those with certain attributes or quality relations among managers can improve a firm's efficiency and effectiveness does not necessarily imply that firms without these attributes can engage in systematic effort to create them (Dierickx & Cool, 1989).

Physical technology is though not included in this category of sources of imperfect inimitability. Physical technology for example machine tools or robots in factories (Hayes and Wheelwright, 1984) or complex information management systems (Howell and Fleishman, 1982), is by itself typically imitable. If one firm can purchase these physical tools of production and thereby implement some strategies, then other firms should not be a source of sustained competitive advantage.

It is only the exploitation of the physical technology in a firm with the use of socially complex firm that can make the resource imperfectly imitable. Several firms may all possess that same physical technology, but only one of these firms may possess the social relations, culture, traditions to fully exploit this technology in implementing strategies (Wilkins, 1989). If these complex social resources are not subject to imitation (and assuming they are valuable and rare and no substitute exists), these firms may obtain a sustained competitive advantage from exploring the physical technology more completely that other firms, even though competing firms do not vary in terms of the physical technology they possess.

METHODS

Setting

This analysis targeted the staff of both private and public universities. It focused on the staff in the schools/faculties that are in both the universities. These included: Arts and Social Sciences; Law; Education and Commerce/Business Management. The total number of staff at the private university in the four faculties/schools is 170 while those from the public University are 250. The staffs targeted were administrators, and all the teaching staff of the four schools.

The four schools targeted were stratified into departments. The school of Arts and Social Sciences for example was made up eight departments at public University and also eight departments at private university; school of Law had 4 departments at the public University and 2 at the private university; school of Education had 4 departments at the public university and 2 at the private

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university and school of Business Management has the 5 departments at the public University and also 3 at private university.

This study used Kerjcie and Morgan (1970) method for determining the sample that is representative of the population using the following formula:

$S = X^2\ NP\ (1-P) \div d^2\ (N-1) + X^2P(1-P)$
Where:
S = required sample size.
X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).
N = the population size.
P = the population proportion (assumed to be .50 since this would provide the maximum sample size).
d = the degree of accuracy expressed as a proportion (0.05).

A standardized table has been attached as an appendix. From the sample size table, the public university staff population of 250 in the four schools will be represented by a sample size of 148 and the private university population of 170 will be represented by sample size of 114.

Data Collection
The data collection instruments used in the analysis was questionnaires. The questionnaires were administered to the staff members of the four schools (Arts and Social Sciences; Law; Education and Commerce/Business Management in both universities. Questionnaires were preferred because of the large number of the sample size which means therefore that holding interviews would take very long. A questionnaire was appropriate for this study because it gives the researcher an opportunity to carry out an inquiry on specific issues on a large sample and thus make the study finding more dependable and reliable (Kothari, 2003). The instrument was also appropriate because the respondents are literate and therefore can respond to the questionnaire on their own. The questionnaires were self-administered; where the respondents were asked to complete the questionnaires themselves.

Measurement Scales
Two main variables were used in this study; resource inimitability as the independent variables and sustainable competitiveness as the dependent variables.

Sustainable Competitiveness
Sustainable competitiveness was measured using five constructs. They include programs/courses, public service/ outreach, research, workplace satisfaction and finance (Ruben,1999). The researcher measured the strength of the respondents' agreement on 10 statements developed by the researcher.

Two items were used to measure each of the five constructs of sustainable competitiveness. *Programs or Courses* for example was measured using: "all the lecturers in the department have masters degrees and above" and "programs offered in the department are current in the market".

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Research was measured by "the department has a journal that is produced on quarterly basis" and "publications are recognized if they are published in selected stature of journals of publishers". The two items that measured O*utreach* were "Employers send their employees to the departments' programs for continuing education" and "the alumni of the department offer both financial and moral support to its initiatives". *Workplace Satisfaction* was measured by "the department experiences very low staff turnover" and "employees in the department are regularly trained in their area of specialization" and lastly *Finance* was measured with "the department receives donations (monetary, books etc)" and "departments prepares an operating budget annually"

Resource Characteristics

Inimitability of resources was measured using 11 items e.g. "interpersonal and intrapersonal relationships in the department cannot be copied"; "the trust that exists within the employees and the management of the department cannot be emulated".

Data Analysis

A total of 290 questionnaires were distributed; 170 to the public University and 120 to the private. These numbers are more than the sample sizes of 148 and 114 for public and private universities respectively. This is because the some respondents misplaced their questionnaires, requiring the researcher to redistribute them again. The overall response rate was 91.7% (156) for the public University and 97.5% (117) response rate for the Private University. A total of eight questionnaires were discarded from the public University because they were blank & incomplete, similarly, two were discarded from the private university for being incomplete. The total usable questionnaires were 262, that is 148 (87.1%) from the public University and 114 (95%) from the private university which is acceptable for this type of research (Drnevich and Kriauciunas, 2011; Protogeron *et al*, 2008).

Eleven items were proposed to measure inimitability of resource. Using PCA, two factors were extracted and accounted for up to 69.568% of the variance in inimitability of resource. The Kaiser-Meyer-Olkin value of 0.777, and the significant Bartlett's test of sphericity (χ^2 (55) =2579.708, $p<0.01$) indicated that data collected for inimitability of resource were adequate for PCA. The reliability coefficient of the ten items extracted was 0.919 confirming that the scale had internal consistency

Sustainable competitiveness was conceptualized in this study as the dependent variable. Ten items were proposed to measure this variable. The principal components analysis extracted six items which loaded highly on two factors. Data collected for sustainable competitiveness were adequate for PCA as evidenced by the Kaiser-Meyer-Olkin value of 0.876 and the significant Bartlett's test of sphericity (χ^2 (45) =1791.717, $p<0.01$). The reliability coefficient of the six items extracted was 0.908 and variance explained was 66.779%

Inimitability of resources was originally measured using eleven items. PCA extracted ten items which accounted for 69.6% of the variance in inimitability of resources. Respondents were asked to indicate their opinion about inimitability of resources in their respective universities. Once again, responses to the items were elicited on a 5-point scale ranging from 1-strongly disagree to 5-strongly agree.

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Comparing the mean response scores with regards to inimitability of resources between the two universities, results d revealed that the mean response scores for the public university sample (M=3.506, SD=0.946) was higher than that for the private university sample (M=2.997, SD=1.055). This implies that according to the respondents, public universities have taken better steps of ensuring that their resources cannot easily be imitated. Differences were observed in the following items:

The competence of the department employees cannot be copied; the number of years of experience gained by departments cannot be copied, methods of content delivery changes with technological changes; and values and beliefs held by departments cannot be copied by competitors. In all these items, public universities were found to have a higher mean response score. This could possibly be attributed to the unique historical conditions, , organizational culture, causal ambiguity and social complexities that have been gained by those institutions and which tends to make their resources to be hard to copy.

On testing the hypothesis that there is no significant different in inimitability between public and private universities, results revealed high significant differences in resource inimitability {t (260) = 4.1.7, $p<0.01$} between public and private universities.

In all these indicators, high significant differences were observed with public university having an edge over the private university. The observed performance of public universities with regards to inimitability of their resources may be attributed to their unique historical conditions, organizational culture, unique processes and procedures and social complexities. Trust and value systems as noted by Jarvenpaa, *et al.* (2004) in their study on the role of trust in global virtual teams are time dependent. In their assertion, benefits that a team gains from being trustful tend to be long term, and conversely, the benefits of acting in an untrustworthy manner are generally short term. It is with these arguments in mind that public universities which have been in existence longer have managed to develop a trust and value system that may not be imitated. Besides, the longevity of existence of public universities justifies the observed differences with regards to inimitability experience and competence of employees in these public universities.

The second hypothesis stated that resource inimitability has no effect on sustainable competitiveness of an institution with regard to public and private universities. Results of the regression analysis indicated that resource inimitability (($\beta=0.166$, $p<0.05$) is a positive and significant predictor of sustainable competitiveness.

CONCLUSION

This study sought to establish the effect of resource inimitability on sustainable competitiveness. The first hypothesis stated that there is no difference in resource inimitability in private and public universities. The finding indicated that the public university was more superior in resource inimitability than private university. The second hypothesis stated that resource inimitability has no effect on sustainable competitiveness.

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THEORETICAL CONTRIBUTION

This study was informed by two theories; the Resource-based view (also known as the VRIN) framework and the Balanced Scorecard. The resource-based view (RBV), is one of the most widely accepted theories of sustainable competitiveness. It focuses on relationships between company's internal characteristics and competitive advantage (Spanos and Lioukas, 2001).

It is based on the assumption that companies within an industry are heterogeneous in terms of resources they control. Since resources may not be perfectly mobile, heterogeneity can be long lasting (Barney, 1991). According to Barney (1992, 1995) resources and capabilities include financial, physical, human and organizational assets that a company uses to develop, manufacture and deliver products and services to customers. This study tested resource inimitability, at the conceptual level and provided evidence that resource inimitability is a significant predictor of sustainable competitiveness. By empirically confirming this hypothesis from the VRIN framework, this study significantly contributes to Resource-based view.

MANAGERIAL CONTRIBUTION

The implication for the management profession includes emphasizing the importance of accumulating different types of resources that is, physical, human, organizational, intellectual and financial. Management needs to give attention to resource inimitability in order to enhance their ability to gain sustainable competitiveness. This means that they should accumulate and develop resources with characteristics that are scarce and not easily acquired as compared to those of their competitors and that help them in exploiting opportunities and neutralizing threats that arise from the organizational environment.

LIMITATIONS FOR FURTHER STUDY

Although this study has made theoretical and managerial contributions, it also had its limitations. The data is entirely based on assessment of university staff on their university, i.e. their opinion on investigated variables, which can often be biased. The sample is made of one public university and one private university, which can limit the generalization of findings. Also, replicating this study in another context or another country could lead to broader generalization of results.

Another limitation of this study encountered was in the data collection. The staff of both the universities took too long to respond to the questionnaire while others submitted the questionnaires unanswered or answered halfway. This made the research period longer and to some extent derailed the entire research process.

This study also failed to collected data on the universities over previous years which means that study was cross sectional in nature. It only collected data on private and public universities at a

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single point in time. A longitudinal research therefore would be more appropriate so as to follow the trend of the universities over a longer period say 5 or 10 years.

RECOMMENDATION FOR FURTHER RESEARCH

This study makes a contribution to the knowledge and literature on the effects of resource characteristics on sustainable competitiveness in the service sector. This study compared one private and one public university in Kenya. The findings of this study indicate that resource inimitability is a significant predictors of sustainable competitiveness. Therefore, for a further research on this theme, the researcher suggests a comparative research covering multiple organizations from other service sectors such as hotels, hospitals banks including universities.

This study collected data only form the staff of the university, it is therefore recommended that further research should be undertaken where data is collected from both the staff, students and alumni of the universities on the effect of resource characteristics on sustainable competitiveness. This will help to reduce the biasness as there is likelihood that staff of a university will want to talk good about their institution.

This study also found out contrasting findings from other authors who used purely qualitative research methods. This study was purely quantitative. It is therefore recommended that a mixed method approach (qualitative and quantitative) be used in future researches on the effects of resource characteristics on sustainable competitiveness. This will help to get a clear picture of this effect.

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