

Differences Between Resources and Strategy in Strategic Management: An Experimental Investigation

G. Titi Oladunjoye

Albany State University

Godwin Onyeaso

Concordia College

According to Jay Barney, resources and capabilities are the core of the resource-based view (RBV) of strategic management. However, the difference between resources and capabilities remains controversial among strategic management scholars. This study uses a classroom experiment to test for the difference between resources and capabilities to students. In a nutshell, the results of the experiment suggest that: (a) resources and capabilities are different constructs, (b) inter-group (inter-organizational) differences in capabilities is the major determinant of inter-group (inter-organizational) difference in performance, and (c) active participation of students in classroom experiments is a teaching tool that enhances students' knowledge of key strategic management constructs such as resources and capabilities. These findings suggest that strategic management professors should use classroom experiments as separate or complementary teaching tools to enhance students' knowledge of strategic management concepts.

Introduction

The Academy's new Teaching Committee, chaired so ably by Peter Frost, is helping us conceive of new links among management research, management practice, and **the classroom** (Hambrick, 1994:14, boldface mine)

The above quote is culled from an Academy of Management Review article on the Academy's 1993 Presidential Address captioned "What if the Academy Actually Mattered?" delivered by Donald C. Hambrick. In that presidential address, Hambrick eloquently underscored the importance of integrating management research and practice with classroom teaching so that graduating students are equipped with the skills industry manager are demanding from college graduates (Stephen, Parente, & Brown, 2002). To attain this end, strategic management professors are crafting innovative teaching tools in teaching strategic management concepts to students. The present study makes a contribution to strategic management by using an innovative classroom experiment to illustrate the difference between resources and capabilities, a controversial topic in strategic management.

Agreeably, teaching strategic management as a capstone course is a Herculean task (Greiner, Bhambri & Cummings, 2003) exacerbated by the controversial differences between resources and capabilities (Carmeli & Tishler, 2005; Makadok, 2001). Insofar as this controversy (Amit & Shoemaker, 1993; Priem & Butler, 2001) persists, it will continue to be a milestone against theory development in strategic management (Priem & Butler, 2001). Carmeli and Tishler (2005: 300) expressed this concern as follows:

Resources as a general term is taken to include three main constructs---resources, capabilities, and competencies, which have been variously defined in the strategic management literature, making it difficult to generalize across studies.

Concomitantly, it has also be argued that “How researchers measure resources and capabilities varies extensively” (Hoopes, Madsen & Walker (2003: 890), which is a milestone to academic dialogue and replication of empirical results (Priem & Butler, 2001). Consequently, Schneider and Lieb (2004) compellingly argued that even though the resource-based view (RBV) of strategic management has become one of the dominant perspectives, it is scantily mentioned in the classroom. There is no a prior reason to assume that lack of clarity between resources and capabilities has not contributed to under-representation of the RBV in the classroom, relative to the industrial organization economics perspective.

The purpose of this paper is to make a contribution to the teaching of strategic management (business strategy) by using an experiment to illustrate the differences between resources and capabilities. In doing so, the experiment is used to illustrate the notion that capabilities are embedded in organizations (Makadok, 2001), and capabilities are the major determinant of superior organizational competitive advantage (Grant, 1991; Makadok, 2001; Amit & Shoemaker, 1993). Put differently, the experiment illustrates that capabilities rather than resources drive superior firm performance (Makadok, 2001; Amit & Shoemaker, 1993; Grant, 1991; Ethirajet et al, 2005) in line with the conceptual distinction between resources and capabilities proposed by Makadok (2001). Importantly, because students understand Makadok (2001) analysis better, the experiment drew conceptual guide from it. Second, some scholars believe that Makadok’s definition may be apt. For example, Hoopes, Madsen and Walker (2003: 890) argued that the way Makadok (2001) differentiated resources from capabilities was masterfully crafted. Third, the use of experiments in which students were practically and actively involved in expressing the difference between resources and capabilities is consistent with previous research suggesting that students’ conceptual understanding is enhanced by practical component of teaching (Reid & Johnston, 1999). In this sense, our approach is consistent with recent definitions and stipulations of classroom research proposed by Loyd, Kern and Thompson (2005). Finally, Makadok’s distinction between resources and capabilities has been used in empirical studies (Ethiraj et al, 2005:27) focusing on the sources of firm-level superior competitive advantage. In sum, our research objective is as follows.

Formally, the objective of this classroom research (experiment) is to use the experiment involving active participation of students to illustrate the difference between resources and capabilities---a controversial area of extant strategic management. In this research design, every thing tangible used in this experiment is regarded as a resources as shown in Table 1. Conversely, every other thing intangible used in the experiment are labeled capabilities. Like capabilities, these intangibles are unobservable, they cannot be touched, they cannot be valued, and they are embedded in groups and in group members

working cooperatively to attain a given objective. This distinction is drawn from the literature review tracing the genesis of the concept of resources and capabilities as well as the divergent views of scholars about them, as discussed below

The genesis of the notion of resources and capabilities can be traced to the landmark works of Penrose (1959) and Andrews (1971). In her masterfully crafted analyses, Penrose conceptualized that firms develop in unique history-dependent manners over time. In this path-dependency, Penrose reasoned that, in their trajectories of development, each firm develops its own idiosyncratic pool of (heterogeneous) resources so that the limits of each firm's growth can be found "inside" the firm in terms of the resources it was able or unable to amass over time. However, Penrose went on to argue that, even though resources (or factors) are available to all firms in the industry, the "capability" needed to deploy these resources for superior returns is not uniformly distributed across firms in the industry. In other words, Ricardian rent as rent accruing from superior resources requires "capability" of the firm to deploy resources in ways other firms cannot. Consistent with this line of reasoning, Andrews (1971) suggested that the "distinctive competence" of a firm is not what the firm can do but what the firm can do in ways no other firm can do it, hence the word distinctiveness.

Drawing from these earlier works as their springboard, scholars of the resource-based view tradition hold divergent views about resources and capabilities, and their views have distilled into two controversial streams (Ethiraj et al, 2005). According to Ethiraj and his colleagues (2005), the first stream includes Barney (1991) and Peteraf (1993). These gurus lump resources and capabilities together so that there is no clear-cut distinction between resources and capabilities. To them, resources are "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc." (Barney, 1991: 101).

Conversely, the second stream attempts to draw seemingly clear distinctions between resources and capabilities (Grant, 1991; Amit & Shoemaker 1993). Specifically, Amit and Shoemaker (1993: 35) stated that:

resources consist ... of know-how that can be traded, financial or physical assets, human capital, etc. ... [whereas] capabilities ... refer to a firm's capacity to deploy resources"

Joining this latter stream, Grant (1991) argued that resources can be seen as "inputs" into the production processes, so that without resources as inputs no production can take place. Therefore, resources are at the epicenter of the essence for which firms exist. In this light, Robert Grant argued that, an anatomy of a firm's resources is tantamount to an x-ray of what the firm can do. Thus, if one wants to know what a particular firm exists for, one should take an x-ray of the firm's resource configuration. From another angle, Grant argued that defining a firm's business in terms of what its resources permit it to do rather than the needs it professes to satisfy---offers a lasting basis for firm strategy (p. 116). Finally, Grant cautioned that, even though resources are indispensable to the organization's production capacity, resources cannot be productive

by themselves because they require co-operation and co-ordination to be productive. By these latter requirements, Grant (1991: 118) brought the notion of firm capabilities into his analysis and clearly stated that “There is a key distinction between resources and capabilities.”

Joining this latter stream to draw specifically from Amit and Shoemaker (1993: 35), Makadok (2001:389) defined a capability “as a special type of resource---specifically, an organizationally embedded nontransferable firm-specific resource whose purpose is to improve the productivity of the other resources possessed by the firm.” [italics in the original]. By and large, the following key strands of Makadok’s definitions are noteworthy.

First, a resource is tangible and hence observable, and thus it can be valued and traded. However, this is not always the case because, even though a parcel of land is tangible, observable, and can be valued and traded, brand image, patent and license are resources which are not tangible and hence cannot be valued. In this sense, not all resources are “necessarily tangible.” Second, conversely, capabilities are necessarily intangible and thus unobservable. These characteristics suggest two things about capabilities: (a) capabilities cannot be valued in monetary terms, and (b) capabilities are embedded in employees and teams of employees within the organization. By this latter characteristic, capabilities cannot be transferred outside the organizational boundaries without transferring the entire organization or its units. Once the notion of non-transferability of capabilities enter the discussion, the distinctions between resources and capabilities become clearer because, inasmuch as capabilities cannot be transferred without transferring the organization or its units, resources can be transferred.

Additionally, non-transferability of capabilities subsumes the notion that capabilities are intertwined with tacit knowledge, previous works including Makadok (2001) were silent about the fact that capabilities are enshrined in tacit knowledge. This link between capabilities and tacit knowledge became glaringly obvious during our experiment when a student remarked that “There is no way I can steal another student’s soup-making capabilities because that knowledge is buried in the heads of each student.” Importantly, juxtaposing capabilities and tacit knowledge reveals how capabilities can be a source of inimitable and sustainable superior competitive advantage to the organization. Finally, capabilities leverage productivity of other resources within it’s role as the productivity-enhancer (Makadok, 2001) which parallels the intermediate goods notion of capabilities (Amit & Shoemaker, 1993). In this sense, capabilities are more than catalysts since they are enablers to other resources.

All in all, in spite of these conceptual and empirical differences about resources and capabilities, there is a consensus that resources are at the epicenter of organizational competitive advantage and performance (Barney, 1991; Nelson & Winter, 1982; Wernerfelt, 1982). Consistent with this notion, Wernerfelt (1984) conceptualized resource strengths as the analog of entry barriers, and he argued that a firm’s strategy may include the capability to develop unique products and services within the bounds of its own

unique resources. In like manner, Mahoney and Pandian (1992) argued that resources can be barriers to imitation similar to entry barriers of the industrial organization (I/O) perspective. That is, a firm's capability to combine resources in ways that are not easily imitated or substituted by rivalries, is a source of competitive advantage. Corroborating these views, Nelson and Winter (1982) conducted their anatomy of resources within the paraphernalia of their concept of "organizational routines." In this framework, organizational routines are the regular, predictable patterns of activities performed by the organization to produce the products or services for which the organization exists. From this angle, organizational routines are the analogue of human DNA---the core map of the living being. Analogously, just as a human being's DNA contains his/her genetic make-ups, an organization's routines are analogue of the organization's DNA. We now turn to the experiment.

Methodology

This study was conducted in a strategic management (business strategy) class for graduating seniors (two males and eleven females) in a college-university system in the southern part of the United States. To control for gender bias, nine students were randomly selected from eleven females, so that there was no male involvement in the experiment. The experiment had three groups (A, B & C) so that each group had three female students (photographs can be obtained on request). The non-participating two male and two female students were allowed to observe the experiment. Ages of the participants ranged from 24 to 27 ($M=25$, $SD=1.23$), further discussion of participants appears below.

Again, in order to address the above research question, students were randomly assigned into one of three groups: Groups A, B and C. Our model is based on the idea that each of the three groups is a restaurant specializing in soup making such that the three groups constitute the soup-making restaurant industry. Importantly, however, the use of three groups implies that in the real world the restaurant industry is an oligopoly. This is incorrect. We used three groups because the class size could not permit more than three groups. Any way, the three-group model does not dilute the purpose and significance of the experiment. To ensure that the three groups were the same in terms of resource positions (possessions), the following protocols were used to implement additional statistical controls.

Following Makadok's definition of resources discussed above, the materials and ingredients for the soup-making experiment were considered to represent resources in the restaurants industry. In this sense, since all firms in an industry face the same resources and resource prices (Ethiraj et al, 2005; Makadok, 2001), the three groups were given the same soup-making materials as resources to reflect this notion. In this way, it follows that resources and their prices were the same for the three groups as the resource-based view argues (Amit & Shoemaker, 1993; Wernerfelt, 1984). Following this rationale, because each group represents a restaurant organization, inter-organizational differences in soup-making or performance cannot arise from inter-organizational

differences in resources. This is so because resources (tangibles) have been manipulated to be equal for the three groups by assigning equal amount of resources (tangibles) to each of the group.

In this framework, it then follows that inter-organizational differences in productivity (performance) can only be explained by inter-organizational differences in capabilities (intangibles). Critically, this aspect is the essence of the experiment. To incorporate this notion fully into the experiment, the following protocols were used. The resources (tangibles) were purchased in the same retail store at the same price because the resource-based view stipulates that the three groups (restaurant firms) face the same factor market and the same factor prices (Barney, 1986). Again, in this framework, since these resources (tangibles) were purchased in the same retail store at the same retail price, it means that the resources were bought in the same factor market at the same factor prices for the three groups representing three restaurant organizations. Finally, each group (organization) received the same quantity and quality of resources (tangibles). These resources (tangibles) are reported in Table 1.

Again, to control for the potential confounding effects of gender all males were excluded from participating in this experiment. Similarly, we controlled for race by randomly assigning equal number of white females and black females into each group. Specifically, each group comprised of two white females and one black and students, respectively. That is, the student participants in the experiment were randomly selected with a stopping rule for two white females and one black respectively. In this way, no female student felt neglected if she was not lucky to be randomly picked to participate in the

Table 1: Tangibles as Resources Used

<u>Tangible Materials</u>
Three hot plates Three extension cords Three tables for cooking
A recipe (the three groups voted for chicken noodle soup)
Soup ingredients (the same for the three groups)
Pots to cook in (the same make & size of pots for the three groups)
Spoons
2 pounds boneless chicken breast
4 cups of water
1 teaspoon salt
½ teaspoon pepper
1 medium stalk celery with leaves, cut up
1 carrot, cut up
1 small onion, cut up
1 sprig parsley

experiment. However, one white female had managerial experience in cutlery education, we considered her an outlier that should be removed. Finally, to control for variation arising from physical environment, the experiment was conducted in the same classroom and at the same starting time. Each group (restaurant organization) was granted the discretion to stop preparing its own soup when it decides to stop. In this way, the final outcome (soup-productivity or performance) for each group is not confounded by the imposition of a common stopping time.

To summarize, these controls ensured that each group had: (a) the same resources (tangibles), (b) the same environmental conditions, (c) the same starting and not stopping time, and (d) the same gender distribution. In other words, the three groups (restaurants) were the same in all respects except soup-making capabilities (intangibles). In this way, students were able to observe the following attributes of soup-making capabilities: (a) soup-making capabilities are group specific and thus, idiosyncratic, (b) soup-making capabilities are embedded in each group, (c) soup-making capabilities are unobservable (d) soup-making capabilities are non-transferable across the groups without transferring the group or subunit thereof, and (e) soup-making capabilities are the enablers without which the resources (tangibles) cannot be productive. Of course, these observations are consistent with key strands of the extant resource-based theory.

Hypotheses

H1: Inter-group differences in soup-making capabilities are the major determinant of inter-groups differences in performance.

H2: Resources and capabilities are different constructs in strategic management.

Approximately, after an hour and a half, the three groups (A, B & C) finished soup production. An experienced restaurant manager from the business community was invited to rate the three pots of soup produced by the three groups. The results are reported in Table 2.

Experimental Results

Hypothesis 1. Hypothesis 1 predicted that inter-group differences in soup-making capabilities are the major determinant of inter-groups differences in superior soup-making or performance. Evidence in Table 2 suggests that Group C is the best of the three groups in soup-making because of its superior soup-making capabilities. Recap that, this conclusion is possible solely because all other variables affecting soup making performance have been statistically manipulated to be the same across the three

Table 2: Group Scores on Soup-Making Capabilities

Group	Scores
Group A	76%
Group B	85%
Group C	91%

groups (restaurant organizations) except their differences in soup-making capabilities. Therefore, inter-group (inter-organizational) differences in soup-making capabilities explained inter-group (inter-organizational) differences in soup-making performance. This is consistent with Makadok (2001) propositions. Again, hypothesis 1 is supported because the superior performance of Group C in soup-making can be explained by one factor: its superior soup-making capabilities given that all other variables affecting soup-making except group-level capabilities, have been statistically controlled to be the same in the three groups.

Hypothesis 2. Hypothesis 2 predicts that resources and capabilities are different constructs in strategic management. This hypothesis is supported because the only variable allowed to be different across the three groups was soup-making capabilities. Therefore, the only variable explaining the superiority of Group C in soup-making is superior capability in soup-making. In other words, if resources and capabilities were the same construct, any attempt to statistically control resources to be equal across the groups while allowing capabilities to vary, would be impossible to accomplish. Because this has been accomplished, resources and capabilities are different constructs in strategic management. Hence, hypothesis 2 is supported.

Discussion and Conclusions

The objective of this classroom research (experiment) was to use an experiment with active participation of students to illustrate the difference between resources and capabilities which is a controversial area of extant strategic management. By our research design, every thing tangible used in this experiment is regarded as resources and these are shown in Table 1. Conversely, every thing intangible used in the experiment (research) was regarded as capabilities. Like capabilities, these intangibles are unobservable, they cannot be touched and hence they evade measurement, they cannot be valued, and they are embedded in groups and in group members working corporately to attain a given objective.

Consequently, Group C was the best of the three groups in soup-making because of it's superior soup-making capabilities. This conclusion was made based solely on the fact that all other variables affecting soup making performance have been statistically manipulated to be the same across the three groups (restaurant organizations) except their differences in soup-making capabilities. Hence, inter-group (inter-organizational) differences in soup-making capabilities explained inter-group (inter-organizational) differences in soup-making (productivity) or performance. This is consistent with Makadok (2001) propositions, and those precursors to his propositions.

In addition, we found that resources and capabilities are different constructs in strategic management. Because the only variable allowed to vary across the three groups was soup-making capabilities while every other variable in the three groups was the same, the conclusion can be drawn that resources (denoted as tangibles in this experiment) are different constructs from capabilities (denoted as intangibles in this experiment). Therefore, the only variable explaining the superiority of Group C in soup-making

is Group C's superior capability in soup-making. In other words, if resources and capabilities were the same construct, any attempt to statistically control resources to be equal across the three groups while allowing capabilities to vary, would be impossible to accomplish experimentally. Because our research design was able to accomplish this, resources and capabilities are separable constructs in strategic management.

To ensure that students underscored the key attributes of capabilities that are different from resources, the researchers asked each of the three groups conducting the experiment to make a list of the attributes of soup-making capabilities they recognized. Students mentioned the following characteristics about soup-making capabilities: (a) capabilities are native and idiosyncratic to each group, (b) capabilities are embedded in each group (c) capabilities are unobservable in each group because they cannot be seen or touched and hence they reside in the minds of group members, (d) because capabilities are housed (embedded) in each group, they cannot be transferred across the groups without transferring the group or its parts thereof, (e) capabilities are enablers because they enabled Group C to deploy its own resources (tangibles) better than the other groups.

At this juncture, Group C's (the winning group) leader asked: What next should Group C do now that it has become the leader of the soup-making industry? This question prompted the researchers to give all the groups a take-home assignment entitled: Where do we go from here? A summary of students' answers to this assignment raised the following questions:

- (1) How and when did Group C build its superior capabilities for soup-making?
- (2) What would Group C do to maximally extract rent from its superior capability position?
- (3) What can Group C do to keep up with changes (e.g., consumer taste) in the soup-making industry?
- (4) How would Group C maintain its industry leadership position over time so that other competing groups (restaurant organizations) will not take over the leadership position? Because these questions are among the issues that resource-based view researchers (theorists) are still grappling with, a detailed discussion of them will take a text book. We can only attempt a brief overview of each question.

The resource-based view is silent about the origin of firm-level or group-level superior competitive advantage (Rouse & Daellenbach, 2002; Helfat & Peteraf, 2003). Instead, it assumes an ex post factor (as given) position about the origin of organizational capabilities or how they were created. Some scholars have lamented the seriousness of this conceptual vacuum, arguing that "Unless the sources of firm-specific superiority can be understood, the nature of competitive advantage is doomed to remain largely a mystery." (Rouse & Daellenbach, 2002:966). Similarly, Helfat and Peteraf (2003:997) cautioned that "Absent an understanding of where heterogeneity in resources and capabilities comes from, it is difficult for researchers to fully explain how firms use resources and capabilities to create competitive advantage."

Acquisition of superior capabilities is a necessary but not a sufficient condition to tap rent from capabilities. In other words, Group C must have other functional-level complementary assets (Teece, 1986, 1987) such as marketing capabilities to exploit rent from its superior market position, and it must do so dynamically within the dynamic capabilities framework (Teece et al, 1997) discussed next.

The answer to this question draws heavily from the dynamic capability perspective which seeks to explain how Group C would evolve dynamically over time to renew its resources and capabilities, so that it can meet challenges posed by changes in its environment (Teece et al, 1997). In this way, Group C would need a new type of organizational capability---the capacity for self-renewal of its resources, routines, capabilities and core competences (Collis, 1994). In this sense, dynamic capability is a higher order organizational asset (resources) or special resource (Makadok, 2001) because it involves a dynamic process of intra-organizational learning with individuals within the organization as well as the entire organization itself (Zollo & Winter, 2002; Teece et al, 1997).

In other words, dynamic capabilities are a subset of Group C's capabilities in that it allows the creation of new products and processes. In that sense, it permits Group C to dynamically respond to changes in its external environment (consumers, government regulations, competitors, etc.). In this framework, the role of managers is to continuously keep adapting, reconfiguring, integrating and reshaping organizational skills and resources and capabilities (Teece et al, 1997). In a similar vein, Eisenhardt and Martin (2000:1107) contend that "Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die."

It is easier to gain competitive advantage (as Group C has done) than to sustain it dynamically over time. From the resource-based view perspective, the traditional approach to sustainability of competitive advantage is to identify the resources and capabilities that underpin the competitive advantage, and then determine the extent to which they will remain scarce (Barney, 1991). By scarcity it is meant that: (a) competitors cannot readily acquire those resources and capabilities on the factor market, and duplicate them, and (b) there are barriers preventing competitors from developing these resources and capabilities internally (Barney, 1986; Dierickx & Cool, 1989). Focusing on internal development, Group C's superior competitive advantage was found to be based on its soup-making capabilities which are abstract, complex, ambiguous and group-specific (indigenous). These characteristics are important for sustainability of competitive advantage, in at least three respects.

One, it evokes causal ambiguity (Lippman & Rumelt, 1982; Reed & DeFillippi, 1990), whereby imitators attempting to develop Group C's superior competitive advantage in soup-making capabilities will be obstructed by a lack of understanding of the nature of the capabilities and/or the process by which the capabilities were created. Two, it evokes time compression diseconomies, whereby the potential imitator cannot rush but must undergo the path-dependent long process to develop superior capabilities. In other

words, a potential imitator may elect to rush the development of Group C's soup-making capabilities but the cost of doing so will grow exponentially as the time to imitation is shortened (compressed) (Dierickx & Cool, 1989).

Third and finally, as mentioned above in this paper, a missing critical piece in the controversial distinctions between resources and capabilities is the role of tacit knowledge. That is, capabilities are enshrined in tacit knowledge (Polanyi, 1966). Being intertwined with tacit knowledge, Group C's soup-making capabilities cannot be imitated because it is not codified in the form of written manuals. As such, a potential imitator must acquire such knowledge through learning-by-doing. Learning-by-doing can only occur if the imitator works closely with Group C---this is not possible because the imitator is a competitor, and a competitor cannot work closely with the incumbent (Group C).

Concluding, the mission of strategic management as capstone course is to give conceptual and practical skills to graduating students to empower them to make sound business decisions and implement those decisions competitively. While this goal is clear, its attainment has been obstructed by some roadblocks. One of these roadblocks relate to the controversial distinctions between resources and capabilities, the two crucial cornerstones of the strategic management discipline (e.g., Barney, 1986, 1991; Makadok, 2001). In response, scholars have called for innovative approaches to teaching strategic management with particular emphasis on broadening students' understanding of key constructs subsumed under the resource-based theory (e.g., Schneider & Lieb, 2004).

As a contribution in this area, this study used a student-centered classroom experiment to illustrate the difference between resources and capabilities. The results of the experiment permit the rejection of the null hypothesis that inter-group (inter-organizational) differences in capabilities is not the major determinant of inter-group (inter-organizational) differences in productivity or performance. This empirical result suggests that innovative teaching methods can promote students' understanding of key concepts in strategy. Therefore, strategic management professors should craft innovative approaches to complement the traditional methods of teaching strategic management.

In terms of further research, we suggest a replication of this study in different countries and learning environments. In such a replication, male students can be used so that the study is able to ascertain whether the results are the same with female students used in the current study. Alternatively, future research can focus on a research design that allows for equal number of male and female students. Finally, the current study and future studies of its kind require an outlet for strategic management education, say "Strategic Management Education Journal" similar to that incubating at Emory University's Goizueta School of Business for some years now.

References

- Amit, R. and Shoemaker, P. (1993), Strategic asset and organizational rent, **Strategic Management Journal**, 14: 33-46.

Andrews, K. R. (1971), **The concept of corporate strategy**. New York: Dow Jones-Irwin.

Barney, J. (1986), Strategic factor markets: expectations, luck, and business strategy, **Management Science**, 32 (10), 1231-1241

Barney, J. (1991), Firm resources and sustained competitive advantage, **Journal of Management**, 17(1): 99-120.

Carmeli, Abraham and Asher Tishler (2005), Resources, capabilities, and the performance of industrial firms: A multivariate analysis, **Managerial and Decision Economics**, 25: 299-315.

Collis, D. J (1994), How valuable are organizational capabilities? **Strategic Management Journal**, Winter Special Issue, 15: 143-1

Dierickx, I and Cool, K. (1989), Asset stock accumulation and sustainability of competitive advantage, **Management Science**, 35 (12), 1504-1513.

Ethiraj, Sendil K., Prashant Kale, M. S. Krishnan, and Jitendra Singh (2005), Where do capabilities come from and how do they matter? A study in the software services industry, **Strategic Management Journal**, 26: 25-45.

Eisenhardt, K.M. and Martin, J. A. (2000), Dynamic capabilities: what are they? **Strategic Management Journal**, 21, 10-11, (Special Issue), 1105-1122.

Grant, R. M. (1991), The resource-based theory of competitive advantage, **California Management Review**, (Spring), 114-135.

Greiner, Larry E., Arvind Bhambrri and Thomas G. Cummings (2003), Searching for a strategy to teach strategy, **Academy of Management Learning and Education**, 2(4): 402-420.

Hambrick, D. C. (1994), 1993 Presidential Address: What if the Academy Actually Mattered? **Academy of Management Review**, 19, 11-16.

Helfat, Constance E. and Margaret A. Peteraf (2003), The dynamic resource-based view: Capability lifecycle, **Strategic Management Journal**, 24, 997-1010.

Hoopes, D. G. Madsen, T. L. and Walker, G. (2003), Guest Editor's Introduction to Special Issue: Why is there a resource-based view? Towards a theory of competitive heterogeneity, **Strategic Management Journal** (Special Issue), 24(10): 889-902.

Lippman, S., and R. Rumelt (1982), Uncertain imitability: An analysis of interfirm differences in efficiency under competition, **The Bell Journal of Economics** 13, 418-438.

Loyd, Denise Lewin; Mary C. Kern and Leigh Thompson (2005), Classroom research: Bridging the Ivory divide, **Academy of Management Learning and Education**, 4(1): 8-21.

Mahoney, J. and J. Pandian (1992), The resource-based view within the conversation of strategic management, **Strategic Management Journal**, 13, 363-380.

- Makadok, R. (2001), Towards a synthesis of resource-based and dynamic capability views of rent creation. **Strategic Management Journal**, 22(5): 387-402.
- Nelson, R. and Winter, S. (1982), **An Evolutionary Theory of Economic Change**, Harvard University Press, Cambridge: MA.
- Penrose, E. T. (1959), **The Theory of the Growth of the Firm**, New York: Wiley.
- Peteraf, M. A. (1993), The cornerstones of competitive advantage: a resource-based view. **Strategic Management Journal** 14: 179-191.
- Polanyi, M. (1966), **The Tacit Dimension**, Anchor Day Books, New York.
- Priem, R. L. and Buttler, J. E. (2001), Is the Resource-Based 'View' a Useful Perspective for Strategic Management Research? **Academy of Management Review**, 26 (1), 22-40.
- Reed, R. and DeFillippi, R. (1990), Causal ambiguity, barriers to imitation, and sustainable competitive advantage, **Academy of Management Review**, 15 (1), 88-102.
- Reid, D. J. and Johnston, M. (1999), Improving teaching in higher education: Student and teacher perspectives, **Educational Studies**, 25(3): 269-281.
- Rouse, Michael J. and Urs S. Daellenbach (2002), More thinking on research methods for the resource-based perspective, **Strategic Management Journal**, 23, 963-967.
- Schneider, Marguerite and Pamela Lieb (2004), The challenges of teaching strategic management: Working toward successful inclusion of resource-based view, **Journal of Management Education**, 28 (2), 170-187
- Stephen, J., Parente, D. and Brown, R (2002), Seeing the forest and the trees: balancing functional and integrative knowledge using large-scale simulation in capstone business strategy classes, **Journal of Management Education**, 26(2), 164-193.
- Teece, D., F. Pisano, and A. Shuen (1997), Dynamic capabilities and strategic Management, **Strategic Management Journal** 18, 509-533.
- Teece, D.J. (1986), Profiting from technological innovation: implications for integration, collaboration, and licensing and public policy. **Research Policy**, 15, 285-305.
- Teece, D. J. (1987), Profiting from technological innovation: implications for integration, collaboration, licensing, and public policy, In **Competitive Challenge and Strategies for Industrial Innovation and Renewal**, Teece (eds), Ballinger: Cambridge, MA.
- Wernerfelt, B. (1984), A resource-based view of the firm, **Strategic Management Journal**, 5(2): 171-180.
- Zollo M, Winter S. 2002. Deliberate learning and the evolution of dynamic capabilities. **Organization Science** 13(3): 339-351.

Contact email address: ganiyu.oladunjoye@asurams.edu gonyeaso@concordiaselma.edu

Dave Flynn
Janet Lenaghan
School of Business
134 Hofstra University
Hempstead
NY 11549 USA

Chen-Ming Chu
Department of Business Administration
Chung Yuan Christian University
Taiwan

Dar-Hsin Chen
Department of Business Administration
National Taipei University
151 University Rd., San Shia
Taipei County, Taiwan 237

Ho-Li Yang
Department of Finance
National United University
1 Lien Da, Kung-ching Li, Miaoli
Taiwan 36003

Aarthi Ilangovan
Wesley A. Scroggins
Elizabeth J. Rozell
Department of Management
Missouri State University, Springfield
MO 65897 USA

Les Tien-Shang Lee
Department of International Trade
Kun Shan University
949, Da Wan Rd., Yung Kang City
Tainan Hsien, Taiwan 71003

Badri Munir Sukoco
Department of Management
Airlangga University, Surabaya
Jl. Airlangga 4
Surabaya
Indonesia 60286

Dwan-Fang Sheu
Dept of Logistics Management
Takming College
5F No.12 Lane 65, Chiang-Nan Street
Nei-Hu, Taipei, Taiwan

Hui-Shan Lin
Deloitte Taiwan
No.127 Fusing Second Road
Sinsing District
Kaohsiung, Taiwan

Riliang Qu
Aston Business School
Aston University, Birmingham
B4 7TJ England

G. Titi Oladunjoye
School of Education
Albany State University
504 College Drive
Albany
GA 31705 USA

Godwin Onyeyaso
School of Business
Concordia College
1804 Green Street
Selma
AL 36701 USA

Shaomin Li
Department of Business Administration
Old Dominion University
Norfolk
VA 23529 USA

Ming Ouyang
School of Business
University of Windsor
Windsor
Ontario N9B 3P4, Canada