

Spring 2008

The Service-Dominant Logic and a Hierarchy of Operant Resources: Developing Masterful Operant Resources and Implications for Marketing Strategy

Sreedhar R. Madhavaram
Cleveland State University, s.madhavaram@csuohio.edu

Shelby D. Hunt
Texas Tech University, shelby.hun@ttu.edu

Follow this and additional works at: https://engagedscholarship.csuohio.edu/busmarkt_facpub

 Part of the [Marketing Commons](#)

How does access to this work benefit you? Let us know!

Publisher's Statement

(c) 2008 SAGE Publications

Original Citation

Madhavaram, S., & Hunt, S. D. (2008). The service-dominant logic and a hierarchy of operant resources: developing masterful operant resources and implications for marketing strategy. *Journal Of The Academy Of Marketing Science*, 36(1), 67-82.

Repository Citation

Madhavaram, Sreedhar R. and Hunt, Shelby D., "The Service-Dominant Logic and a Hierarchy of Operant Resources: Developing Masterful Operant Resources and Implications for Marketing Strategy" (2008). *Marketing*. 48.
https://engagedscholarship.csuohio.edu/busmarkt_facpub/48

This Article is brought to you for free and open access by the Browse Business Faculty Books and Publications by Topic at EngagedScholarship@CSU. It has been accepted for inclusion in Marketing by an authorized administrator of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.

THE SERVICE DOMINANT LOGIC AND A HIERARCHY OF OPERANT RESOURCES: DEVELOPING MASTERFUL OPERANT RESOURCES AND IMPLICATIONS FOR MARKETING STRATEGY

Sreedhar Madhavaram, *Cleveland State University*
Shelby D. Hunt, *Texas Tech University*

This article was originally published in:

Madhavaram, Sreedhar and Shelby D. Hunt (2007). The Service Dominant Logic and a Hierarchy of Operant Resources: Developing Masterful Operant Resources and Implications for Marketing Strategy. *Academy of Marketing Science*, 36, 67-82.

Post-print standardized by MSL Academic Endeavors, the imprint of the Michael Schwartz Library at Cleveland State University, 2013



The service-dominant logic and a hierarchy of operant resources: developing masterful operant resources and implications for marketing strategy

Sreedhar Madhavaram · Shelby D. Hunt

Abstract Marketing's evolution toward a new dominant logic requires the focus of marketing to be on the intangible, dynamic, operant resources that are at the heart of competitive advantage and performance. First, building on resource-advantage theory's notion of basic resources and higher-order resources, this article proposes a hierarchy of basic, composite, and interconnected operant resources. Second, reviewing research on business strategy and marketing strategy, several resources that correspond to the proposed hierarchy are identified and discussed. Third, the notion of developing masterful operant resources is introduced. Fourth, based on the proposed hierarchy and the notion of masterful operant resources, some exemplars of potential research avenues for marketing strategy are provided. Finally, the article concludes with the discussion of implications for marketing practitioners, researchers, and educators. In sum, this article extends and elaborates the concept of operant resources in the service-dominant logic of marketing.

Keywords Hierarchy of operant resources · Service-dominant logic · Resource-advantage theory · Operant resources · Competences · Capabilities · Marketing strategy

Marketing's evolution toward a service-dominant (S-D) logic requires a focus on the intangible, dynamic resources that form the heart of competitive advantage and perfor-

mance (Vargo and Lusch 2004; Lusch and Vargo 2006a). That is, differentiating between *operand* resources (those on which an act or operation is performed) and *operant* resources (those that act on other resources), marketing should focus on specialized skills and knowledge as operant resources that provide competitive advantage. However, marketing's shift to a focus on operant resources raises several questions: What is a resource? What are the *kinds* of operand and operant resources? How can previous research (e.g., on resources, competences, resource-advantage theory, capabilities, and dynamic capabilities) inform marketing's understanding of operant resources? Within the S-D logic, can operant resources be arranged in a hierarchical manner? Which specific operant resources need to be investigated further?

As to what a resource is, resource-advantage theory defines resources as the "tangible and intangible entities available to the firm that enable it to produce efficiently and/or effectively a market offering that has value for some market segment(s)" (Hunt 2000b, p.138). As to exemplars of operand and operant resources, while operand resources are typically physical (e.g., raw materials), operant resources are typically human (e.g., the skills and knowledge of individual employees), organizational (e.g., controls, routines, cultures, competences), informational (e.g., knowledge about market segments, competitors, and technology), and relational (e.g., relationships with competitors, suppliers, and customers) (Hunt 2004).

As to how previous research can inform marketing's understanding of operant resources, because of how Constantin and Lusch (1994) initially conceptualized operant resources, concepts such as competences, capabilities, and dynamic capabilities can be viewed as *operant* resources and, therefore, within the S-D logic. Consequently, much of the research on strategy in the last few decades can be useful in extending and elaborating the service-dominant logic, including works on the

S. Madhavaram (✉)
Department of Marketing, Cleveland State University,
Cleveland, OH 44115, USA
e-mail: s.madhavaram@csuohio.edu

S. D. Hunt
Department of Marketing, Texas Tech University,
Lubbock, TX 79409-2101, USA
e-mail: shelby.hunt@ttu.edu

resource-based view of the firm (e.g., Barney 1991; Conner 1991; Penrose 1959; Wernerfelt 1984), resource-advantage theory (e.g., Hunt 2000a, b; Hunt and Morgan 1995, 2004; Hunt and Madhavaram 2006a, b), competences (e.g., Hamel and Prahalad 1989; Heene and Sanchez 1997), capabilities (e.g., Day 1994, 1999; Dutta et al. 2003, 2005), and dynamic capabilities (e.g., Teece and Pisano 1994; Teece et al. 1997; Winter 2003).

Classificational schemata are important for the development of theory, and hierarchical schemata are particularly important (Hunt 2002). As to whether resources can be arranged in hierarchical fashion, some researchers have suggested that they can (Collis 1994; Danneels 2002; Hunt 2000a, b; Winter 2003). For Hunt (2000), competences and/or capabilities are *higher order* resources in the sense that they are bundles of basic resources. Analogously, Collis (1994) and Winter (2003) also propose that it is possible to organize capabilities into hierarchies. The purpose of this article is to build on these earlier efforts by (1) proposing a hierarchy of operant resources within the S-D logic, (2) developing the hierarchy's implications for marketing strategy and research, and (3) introducing the idea of firms developing *masterful* operant resources.

Our article is organized as follows. First, as background material, we briefly overview current research on resources, resource-advantage theory, competences, capabilities, and dynamic capabilities. Second, based on the reviewed literature, we propose a specific hierarchy of operant resources. Third, we classify and discuss several operant resources from the business and marketing strategy literatures. Fourth, we introduce the idea of developing *masterful* operant resources. Fifth, specific to marketing strategy, we discuss several avenues for researching operant resources. Sixth, we discuss the implications of the hierarchy of operant resources and the masterfully developed operant resources for marketing practice and research.

Background

Research on resources, resource-advantage theory, competences, capabilities, and dynamic capabilities is voluminous. We focus on three issues: conceptualization, resource categories, and hierarchy of resources.

Conceptualization

Resources Until recently, firm resources were viewed as the factors of production, that is, tangibles such as land, labor, and capital. However, Penrose (1959), whose work forms the basis for the "resource-based view" in business strategy, consciously avoided the term "factors of production" and viewed the firm as a collection of productive *resources*. Her

work introduced the notion of intangibles into the context of firm resources and led Barney (1991, p.101), three decades later, to define firm resources as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc., controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness."

In turn, the resource-based view of the firm provided input to the resource-advantage (R-A) theory of competition (Hunt 2000a, b; Hunt and Morgan 1995, 2004). R-A theory is an evolutionary, disequilibrium-provoking, process theory of competition, in which innovation and organizational learning are endogenous, firms and consumers have imperfect information, and in which entrepreneurship, institutions, and public policy affect economic performance. At its core, R-A theory combines heterogeneous demand theory with a resource-based theory of the firm. That is, intra-industry demand is viewed as significantly heterogeneous with respect to consumers' tastes and preferences, and firms are viewed as combiners of heterogeneous, imperfectly mobile entities that are labeled "resources." For R-A theory, competition is viewed as a process that consists of the constant struggle among firms for comparative advantages in resources that will yield marketplace positions of competitive advantage and, thereby, superior financial performance. Once a firm's comparative advantage in resources enables it to achieve superior performance through a position of competitive advantage in some market segment(s), competitors attempt to neutralize and/or leapfrog the advantaged firm through acquisition, imitation, substitution, or major innovation. Important for our research, R-A theory defines resources as the tangible and intangible entities available to the firm that enable it to produce efficiently and/or effectively a market offering for some market segment(s).

Competences or capabilities The terms competences and capabilities are essentially interchangeable (Day 1994; Hunt and Madhavaram 2006b). For example, Winter (2003, p.991) defines an organizational *capability* as "a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision option for producing significant outputs of a particular type," whereas Heene and Sanchez (1997) define a *competence* as an ability to sustain the coordinated deployment of assets (anything tangible or intangible the firm can use in its processes for creating, producing, and/or offering its products to a market) in a way that helps a firm achieve its goals. Therefore, because of the similar conceptualizations, competences and capabilities may be equated and defined as "socially complex, interconnected combinations of tangible basic resources (e.g., specific machinery, computer software

and hardware) and intangible basic resources (e.g., specific organizational policies and procedures and the skills, knowledge, and experience of specific employees) that fit together coherently in a synergistic manner to enable firms to produce efficiently and/or effectively valued market offerings” (Hunt 2000a, p.188).

Dynamic capabilities Teece et al. (1997, p. 516) define a *dynamic* capability as “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.” However, Zollo and Winter (2002) observe that, while Teece et al. (1997) conceptualization addresses the issue of what dynamic capabilities are for, “it ignores where dynamic capabilities come from.” Therefore, they propose: “A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness” (p. 340). For the purpose of this article, we define any competence or capability as *dynamic* if, in rapidly changing environments, it enables the firm to modify itself so as to continue to produce, efficiently and/or effectively, market offerings for some market segment(s).

Resource categories

Barney (1991) classifies resources into physical capital, human capital, and organizational capital. R-A theory extends Barney’s work by providing a more finely grained view that categorizes resources as financial (e.g., cash resources and access to financial markets), physical (e.g., plant and equipment), legal (e.g., trademarks and licenses), human (e.g., the skills and knowledge of individual employees), organizational (e.g., competences, controls, policies, and culture), informational (e.g., knowledge from consumer and competitive intelligence), and relational (e.g., relationships with suppliers and customers).

Constantin and Lusch (1994) categorize resources as operand and operant resources, in which the former are resources on which an operation or an act is performed to produce an effect, and the latter are employed to act on operand resources and/or other operant resources. For R-A theory, while operand resources are typically physical (e.g., raw materials), operant resources are typically human (e.g., the skills and knowledge of individual employees), organizational (e.g., controls, routines, cultures, competences), informational (e.g., knowledge about market segments, competitors, and technology), and relational (e.g., relationships with competitors, suppliers, and customers) (Hunt 2004).

As to capabilities or competences, Day (1994) classifies capabilities into three categories: inside out capabilities, outside in capabilities, and spanning capabilities. Concom-

itantly, Collis (1994), while noting that it is difficult to categorize capabilities, presents three categories: abilities that help in performing basic functional activities of the firm, abilities that help in dynamically improving the activities of the firm, and abilities involving strategic insights that can help firms in recognizing the intrinsic value of their resources and in developing novel strategies ahead of their competitors.

On hierarchies of resources

Several authors either propose hierarchies of resources or discuss their importance. For example, Winter (2003) identifies a developing consensus that dynamic capabilities are different from ordinary (operational) capabilities by being concerned with change. Analogous to differential calculus, Collis (1994) posits the existence of both second-order and third-order dynamic capabilities. For him, because capabilities of the “learning to learn” variety countermand competitors’ threats of erosion and substitution, firms should continuously invest in dynamic capabilities to stay ahead of the competition. However, Winter (2003, p. 992) observes that Collis’s capability hierarchy involves a patterning of activity that not only would typically require costly investments, but also, “there is no guarantee that the organizational processes governing high-order change are highly patterned.” Therefore, if there are no patterns (e.g., no explicit, tangible knowledge), Collis’s (1994) notion of a hierarchy of capabilities may be elusive.

Building on Collis’s (1994) work, Danneels (2002, p. 1097) discusses a hierarchy of competences in which a second-order competence is “the ability to identify, evaluate, and incorporate new technological and/or customer competences into the firm.” He notes that such second-order competences can help firms mitigate path dependencies and escape from the trap laid by their current competences. However, such competences could pose measurement problems. For instance, Danneels (2002, p.1112) reports that his notion of second-order competences did not resonate with the employees of five high-tech firms that he interviewed and that the employees showed little comprehension of competences in follow-up questions and answers. Finally, R-A theory also suggests a hierarchy of resources comprised of basic resources and higher-order resources. For it, competences or capabilities are operant resources because they are bundles of basic resources. (Hunt 2000a, b).

In summary, we may conclude from our literature review that (1) there are seven categories of basic resources that can be classified as either *operand* or *operant* resources, (2) competences and capabilities are coterminous, and all competences/capabilities can be viewed as operant resources, (3) any resource, competence, or capability can be dynamic if it can enable firms to modify themselves to address

rapidly changing environments, and (4) currently suggested hierarchies of resources/capabilities are problematic. Therefore, to further develop the service-dominant logic, this article proposes a hierarchy of operant resources that will be useful in marketing strategy.

A hierarchy of operant resources

We build on R-A theory's hierarchy of basic resources and higher-order resources by proposing the following hierarchy: (1) *basic*, operant resources (BORs), (2) *composite*, operant resources (CORs), and (3) *interconnected*, operant resources (IORs) (see Fig. 1 and Table 1). Although all the operant resources are combinations of basic or other operant resources, as one progresses up the hierarchy, the resources become (1) increasingly interconnected and (2) more difficult for competitors to acquire or develop. Therefore, the potential for sustainable competitive advantages increases.

Basic, operant resources

For R-A theory, an entity is a resource to the firm, if, and only if, it contributes to enabling the firm to produce efficiently and/or effectively a market offering that has value for some market segment(s). Therefore, *basic*, operant resources may be viewed as the underlying, lower-level, resources that form the “building blocks” of higher-order, operant resources. Such resources as the skills and knowledge of individual employees would be an example.

Composite, operant resources

We define a “composite, operant resource” (COR) as a combination of two or more distinct, basic resources, with low levels of interactivity, that collectively enable the firm to produce efficiently and/or effectively valued market offerings. The lower order resources collectively *comprise* the operant resources. That is, more of each of the lower order resources will contribute to increasing a firm's

composite, operant resource. (It is important to note that what a researcher might label as a “*composite*, operant resource” in one schema might be considered as a “*basic*, operant resource,” a building block, in another schema.) Typically, CORs can be formatively measured (e.g., resource A+resource B+resource C=composite operant resource D). Also, the lower order resources that combine to become the COR can be either tangible or intangible.

Interconnected, operant resources

An *interconnected*, operant resource (IOR) is similar to a COR, but with *interactivity* among its constituent, basic resources. We define an IOR as a combination of two or more distinct, basic resources in which the lower order resources significantly interact, thereby reinforcing each other in enabling the firm to produce efficiently and/or effectively valued market offerings. As the word “interactive” indicates, the lower order resources are intricately intertwined. Like composite, operant resources, more of each of the lower order resources has positive effects for the firm. Unlike CORs, however, the lower order resources that comprise IORs influence each other through interaction and reinforcement.

As to investigating the influence of an IOR on any desired outcome (e.g., business performance), it could be measured in several ways. For example, if such a resource is constituted by three basic/higher order resources A, B, and C, then one can measure the influence of the IOR by examining the influence of A, B, C, $A \times B$, $A \times C$, $B \times C$, and/or $A \times B \times C$ on each other and on desired outcomes. Also, an IOR with two or more distinct, basic resources, when subjected to a first-order factor analysis, would reveal a single factor indicating the existence of a distinct, single, IOR.

For example, consider firms dealing with software project development. Worldwide, firms in this industry deal with numerous skilled employees, suppliers, clients, and competitors. Therefore, any firm that has a capability involving resources such as (1) knowledgeable employees, (2) a relational competence concerning suppliers, and (3) a relational competence concerning clients will likely have a competitive advantage. By “relational competence,” we mean the firm's competence in the establishment, development, and maintenance of successful relational exchanges. In this scenario, the knowledge of employees can involve, among other things, (a) relationships with suppliers to whom the firm has outsourced some of its business processes and (b) relationships with clients with highly interconnected business needs. Also, the relational competence concerning the clients can influence the firm's relational competence concerning suppliers, and vice versa. Hence, the three basic resources presented above that form the capability interact and reinforce each other.

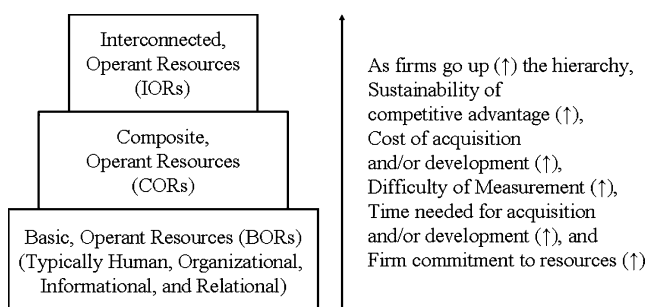


Figure 1 A hierarchy of operant resources.

Table 1 A hierarchy of operant resources

Hierarchy	Conceptualization	Characteristics
Basic, operant resources (BORs)	The tangible and intangible entities available to the firm that enable it to produce efficiently and/or effectively a market offering for some market segment(s)	<p>Can be acquired and/or developed</p> <p>Can be easily measured</p> <p>Difficult to sustain the competitive advantage</p>
Composite, operant resources (CORs)	A composite of two or more distinct basic/higher-order operant resources that collectively enable the firm to produce efficiently and/or effectively valued market offerings	<p>Slightly more difficult to acquire and/or develop</p> <p>Can be measured formatively (e.g., resource A+resource B+ resource C)</p> <p>Slightly increased levels of sustainability of competitive advantage</p>
Interconnected, operant resources (IORs)	A combination of two or more distinct basic/higher-order operant resources wherein the lower order resources interact and reinforce each other in enabling the firm to produce efficiently and/or effectively valued market offerings	<p>Difficult to acquire and/or develop</p> <p>Can be measured as a first-order factor with distinct resources or as a set of relationships investigating resources interacting and reinforcing each other</p> <p>Increased levels of sustainability of competitive advantage</p>

For R-A theory, a comparative advantage in resources can provide a competitive advantage in the marketplace. As firms go up the hierarchy of operant resources shown in Fig. 1, there is increased: (1) sustainability of the competitive advantage, (2) cost of acquisition and/or development of resources, (3) time required to acquire and/or develop resources, and (4) commitment of firms to resource development. The competitive advantage of firms becomes more sustainable as firms go up the hierarchy because resources become more inimitable and nonsubstitutable. In the next section, we review the business and marketing strategy literatures to identify resources that correspond to our proposed hierarchy.

The hierarchy of operant resources and strategy

Although the business and marketing strategy literatures evidence extensive research on resources, the number of research articles goes down significantly as we go up the hierarchy. For example, the EBSCO Business Source Premier database records approximately 300,000, 110,000, and 200 hits respectively for the keywords “resource,” “competence or capability,” and “dynamic competence or dynamic capability.” Table 2 identifies 13 resources that we

categorize as CORs, and Table 3 identifies 7 resources that we categorize as IORs. However, as the evolving dominant logic of marketing requires more research on operant resources, more research up the hierarchy is warranted. A major point should be stressed here. Some of the CORs identified in the tables could potentially be argued to be IORs. However, the classifications in the tables are based solely on the conceptualization and/or measurement in the corresponding citations themselves. For example, potentially, both the conceptualizations of market orientation by Narver and Slater (1990) and Kohli and Jaworski (1990) can be argued to be IORs. However, the categorizations are based on our interpretation of the original articles. Theoretically, if an IOR is measured as a COR, then it is possible that the explained variance in the study will be reduced.

Our displaying the 20 operant resources in Tables 2 and 3 highlights the fact that some operant resources in the marketing and business strategy literatures suffer from a lack of conceptual distinctiveness. For example, customer orientation and competitor orientation of *market orientation 1* may not be conceptually distinct from customer knowledge process and competitor knowledge process of *market knowledge competence*. As a second example, sometimes CORs or IORs could potentially have common BORs. Consider A, B, C, D, and E as BORs available to the firm. It

is possible that one COR/IOR has A, B, and D as constituent BORs and another COR/IOR has B, C, and E as constituent BORs, leaving B common to both the CORs/ IORs. The problem of lack of conceptual distinctiveness is, of course, not unique to the strategy literature. As is well known, academic research is characterized by, and suffers from, the research “silo” problem. The strategy literature is no exception. The hierarchical classificational schema introduced here and the operant resources identified not only furthers the development of the service-dominant logic, but

it also assists researchers in recognizing problems of conceptual distinctiveness. In doing so, it encourages the dismantling of research silos in future research.

Composite, operant resources

Of the 13 CORs identified in Table 2, while 6 (2 conceptualizations of market orientation (1 & 2), market knowledge competence, price-setting capability, marketing planning capability, and customer response capability)

Table 2 Composite, operant resources for business/marketing strategy

Composite, operant resources	Facets	Consequences
Market orientation (1) (Narver and Slater 1990)	Customer orientation, competitor orientation, and inter-functional coordination	Performance
Market orientation (2) (Kohli and Jaworski 1990)	Intelligence generation, intelligence dissemination, and organization-wide responsiveness	Organizational commitment Espirit de corps Performance
Market knowledge competence (Li and Calantone 1998)	Customer knowledge process, marketing–R&D interface, and competitor knowledge process	New product advantage Market performance
Alliance competence (Lambe et al. 2002)	Alliance experience, alliance management development capability, and partner identification propensity	Alliance success
Absorptive capacity (Zahra and George 2002; Jansen et al. 2005)	Potential absorptive capacity (acquisition and assimilation of new external knowledge) and realized absorptive capacity (transformation and exploitation of new external knowledge)	Strategic flexibility Innovation Performance
Price-setting capability (Dutta et al. 2003)	Identifying competitor prices, setting pricing strategy, and performing analysis of proposed prices and gaining commitment to the new prices	Performance
Market-focused strategic flexibility (Johnson et al. 2003)	Intent and capabilities	Short-term and long-term performance
Network competence (Ritter and Gemunden 2003, 2004)	The degree of network management task execution and the extent of network management qualifications	Innovation success
Technological competence (Ritter and Gemunden 2004)	Technological collaboration reasons and technological expertise	Innovation success
Marketing planning capability (Slotegraaf and Dickson 2004)	Anticipation skills, alternative generation skills, and implementation skills	Firm performance
Customer response capability (Jayachandran et al. 2004)	Customer response expertise and customer response speed	Performance
Knowledge management competence (Arnett and Badrinarayanan 2005)	Knowledge development, knowledge dissemination, and knowledge application	Customer relationship management (CRM) success
Internal market orientation (Gounaris 2006)	Internal market intelligence generation, internal intelligence dissemination, and response to internal intelligence	Job satisfaction Empowerment Participation in decision-making

Table 3 Interconnected, operant resources for business/marketing strategy

Interconnected, operant resources	Facets	Consequences
Market relating capability (Day 1994)	Orientation, knowledge and skills, and integration and alignment of processes	Greater loyalty Competitive advantage
Product innovation competence (Danneels 2002)	Technological competence and customer competence	New product development success
Learning platform capability (Johnson and Sohi 2003)	Learning intent, receptivity, and transparency	Commitment effectiveness/efficiency
Organizational learning capability (Jerez-Gomez et al. 2005)	Managerial commitment, systems perspective, openness and experimentation, and knowledge transfer and integration	Competitive advantage
Knowledge creation capability (Smith et al. 2005)	Access to parties, combination capability, and value anticipation	Number of new products and services
Entrepreneurial proclivity (Griffith et al. 2006)	Innovativeness, risk taking, proactiveness, autonomy, and competitive aggressiveness	Market responsiveness Firm performance
Market orientation–innovativeness capability (Menguc and Auh 2006)	Market orientation and innovativeness	Firm performance

pertain to marketing strategy, the other 7 (alliance competence, absorptive capacity, market-focused strategic flexibility, network competence, technological competence, knowledge management competence, and internal market orientation) correspond to business strategy. Obviously, there is substantial overlap between marketing and business strategy. Our categorizations of the strategies as marketing or business are based on the research-literature contexts of the original articles and the processes and activities that the CORs relate to. However, researchers can benefit from drawing on both research streams.

For example, the conceptualization of internal market orientation benefits from drawing on the market orientation concept of Kohli and Jaworski (1990). Also, alliance competence and network competence both concern relationship management. Therefore, future research in these areas can, in turn, benefit from the advances in the relationship marketing literature. Furthermore, these CORs have a positive influence on the firm in terms of overall firm performance, new product advantage (innovation success), and relational outcomes such as alliance success and customer relationship management (CRM) success. Also, positive influences were proposed and found on employee outcomes such as organizational commitment, esprit de corps, job satisfaction, empowerment, and participation in decision-making.

Market orientation (1 & 2) Prominent among the several research articles that have conceptualized and measured market orientation are the ones by Narver and Slater (1990)

and Kohli and Jaworski (1990). For Narver and Slater (1990), market orientation consists of three behavioral components—customer orientation, competitor orientation, and interfunctional coordination. While customer orientation and competitor orientation include all of the activities involved in acquiring information about the buyers and competitors in the target market and disseminating it throughout the business(es), the third behavioral component, interfunctional coordination, is based on the customer and competitor information and comprises the business's coordinated efforts. For Kohli and Jaworski (1990), the components of market orientation are: (1) organization-wide generation of market intelligence pertaining to current and future customer needs, (2) dissemination of the intelligence across departments, and (3) organization wide responsiveness to it. We note that, for both conceptualizations, market orientation is a COR.

Market knowledge competence Li and Calantone (1998, p.14) define *market knowledge competence* as “the processes that generate and integrate market knowledge.” For them, *processes* imply a series of activities that involves interconnected bundles of skills and collective learning. Li and Calantone (1998) conceptualize market knowledge competence as having three components: customer knowledge process, marketing–R&D interface, and competitor knowledge process.

Alliance competence Lambe et al. (2002) conceptualize alliance competence as the ability for finding, developing,

and managing alliances and as having three facets: alliance experience, alliance manager development capability, and partner identification propensity. Through empirical investigation, they show that alliance competence is a key antecedent to alliance success. This important COR can assist firms in better understating the drivers of alliance success. That is, more of alliance experience, alliance manager development capability, or partner identification propensity contributes to increasing a firm's competence in finding, developing, and managing alliances.

Absorptive capacity Reviewing the literature on absorptive capacity, Zahra and George (2002) reconceptualized absorptive capacity as having two components: potential absorptive capacity and realized absorptive capacity. While potential absorptive capacity makes the firm receptive to acquiring and assimilating external knowledge, realized absorptive capacity is a function of the transformation and exploitation capabilities of the firm. Zahra and George (2002) note that the two components of absorptive capacity have a role in providing firms with competitive advantage through positive influences on strategic flexibility, innovation, and performance. Jansen et al. (2005) recently investigated how organizational antecedents help in managing potential and realized absorptive capacity.

Price-setting capability Arguing that pricing is a capability, Dutta et al. (2003) conceptualize the price-setting process within the firm as having three major components: identifying competitor prices, setting pricing strategy, and performing analysis of proposed prices and gaining commitment to the new prices. Studying pricing process at a firm that makes 8,000 products, they conclude that pricing capabilities can be valuable for firms.

Market-focused strategic flexibility Johnson et al. (2003, p.77) define market-focused strategic flexibility as "the firm's intent and capabilities to generate firm-specific real options for the configuration and reconfiguration of appreciably superior customer value propositions." That is, capabilities and intent are two components of market-focused strategic flexibility. For them, firm capabilities involve the identification of resources, the acquisition of resources, the deployment of resources, and the identification of options. Furthermore, they suggest that market-focused strategic flexibility is positively related to both short-term and long-term firm performance.

Network competence For Ritter and Gemunden (2003, 2004), network competence enables a firm to establish and use relationships with other firms. They conceptualize network competence as having two facets: *network management task execution* and *network management qualifi-*

cations. Investigating 308 German firms, they establish a positive relationship between network competence and the innovation success of firms. Also, they note that firms with a high level of network competence follow more realistic and more market-oriented innovation development paths and establish a better relationship marketing strategy for selling innovative products.

Technological competence Ritter and Gemunden's (2004) conceptualization of technological competence has two facets: *technological collaboration reasons* and *technological expertise*. A firm's technological competence is characterized in its ability to understand, use, and exploit internally relevant state-of-the-art technology. Furthermore, firms with high levels of technological competence will have greater innovation success. They find a positive relationship between technological competence and the innovation success of firms.

Marketing planning capability Slotegraaf and Dickson (2004, p. 373) define marketing planning capability as "the ability to anticipate and respond to the market environment in order to direct a firm's resources and actions in ways that align the firm with environment and achieve the firm's financial goals." Measuring marketing planning capability as formative construct involving competencies in market scanning, market situation/environment analysis, matching firm strengths to market opportunities, meshing programs to market realities, implementing marketing programs, marketing budgeting/allocating resources, and program performance tracking, they note that marketing planning capability positively influences firm performance.

Customer response capability For success (Jayachandran et al. 2004), a firm's competence in satisfying customer needs through effective and quick responses is critical to its. Therefore, they conceptualize customer response capability in terms of *customer response expertise* and *customer response speed*. While customer response expertise refers to the extent to which the responses of an organization effectively meet customer needs, customer response speed refers to the extent to which the organization's responses to customer needs are rapid. Reporting results from a study involving 227 organizations, they conclude that customer response capability is related to positively to performance.

Knowledge management competence For Arnett and Badrinarayanan (2005), a firm's knowledge management competence has three components: knowledge development, knowledge dissemination, and knowledge application. They propose that knowledge management is an important

resource for firms implementing customer-needs driven CRM (customer relationship management) strategies.

Internal market orientation Synthesizing the voluminous internal marketing (IM) literature, Gounaris (2006) suggests that IM refers to the strategies and programs that the firm implements in its internal market (employees at all levels) in order to attain its external market objectives. Drawing from research on market orientation (e.g., Kohli and Jaworski 1990) and internal relationships (e.g., Gummeson 1999), Gounaris (2006) conceptualizes internal market orientation as having three dimensions: internal intelligence generation, internal intelligence dissemination, and response to internal intelligence generation. Furthermore, he conceptualizes (1) *identification of exchange value and awareness of labor market conditions* as two facets of internal intelligence generation, (2) *communication between managers and employees* and *communication among managers* as two facets of internal intelligence dissemination, and (3) *internal segmentation, job description, remuneration system, management concern, training, and internal targeting* as six facets of response to intelligence. Analyzing data from 583 interviews, he finds a positive influence of internal market orientation on empowerment, job satisfaction, and participation in decision-making of firms' employees.

Interconnected, operant resources

Of the seven IORs identified in Table 3, three (market relating capability, product innovation competence, and market orientation–innovativeness capability) pertain to marketing strategy, and four (learning platform capability, organizational learning capability, knowledge creation capability, and entrepreneurial proclivity) concern business strategy. Also, these IORs were proposed/found to have positive influences on overall firm performance, new product success, market responsiveness, competitive advantage, and greater customer loyalty. Also, the distinct facets of individual were conceptualized/found to interact and reinforce each other. In some instances, for example, knowledge creation capability, the three different components loaded onto a single factor.

Market-relating capability Day (1999) identifies orientation, knowledge and skills, and integration and alignment of processes as the three elements of a market-relating capability. These three elements interact and reinforce each other. For him, firms can create and maintain relationship with their most valuable customers, if (1) a relationship orientation pervades the mindset, values, and norms of the organization, (2) a firm continually deepens its knowledge of the customers and puts it to work throughout the

organization, and (3) the key processes are internally integrated and externally aligned with the corresponding processes of the firm's customers.

Product innovation competence Drawing from Danneels (2002), product innovation competence requires the firm to have competences relating to technology and relating to customers. While customer competence gives the firm the ability to serve certain customers, technological competence gives the firm the ability to design and manufacture market offerings. As new product development is a process of linking technology and customers (Dougherty 1992), it requires bringing together the competences related to technology and customers. Furthermore, combining field research in five high-tech firms and existing theory, Danneels (2002) notes that the reciprocal linking (of technological and customer competences) results in product innovation.

Learning platform capability For Johnson and Sohi (2003), a learning platform has three components: learning intent, transparency, and receptivity which are, respectively, the firm's (1) desire to internalize knowledge into firm's knowledge stocks, (2) interfaces between functional areas, levels of management, and other relevant work group such as the teams that work together in boundary spanning activities, and (3) capacity or potential to learn. This learning platform capability indirectly influences the firm's relational outcome such as effectiveness/efficiency and commitment through dissemination and shared interpretation of information.

Organizational learning capability Organizational learning can be conceptualized as the "capability of as organization to process knowledge—in other words, to create, acquire, transfer, and integrate knowledge, and to modify its behavior to reflect the new cognitive situation, with a view to improving its performance" (Jerez-Gomez et al. 2005, p. 716). Organizational capability has four dimensions: managerial commitment, systems perspective, openness and experimentation, and knowledge transfer and integration. Furthermore, although the identified dimensions are different, they are also related. For example, Jerez-Gomez et al. (2005) note that there is interaction between openness and experimentation and knowledge transfer and integration.

Knowledge creation capability For Smith et al. (2005), firms have a knowledge creation capability when employees: (1) have access to people or groups with specialized information, (2) are able to absorb and combine information that has been exchanged, and (3) can anticipate value from the exchange and combination process. Noting that the

three distinct factors load on to a single factor, they find that knowledge creation capability positively influences innovation in terms of number of new products and services.

Entrepreneurial proclivity Griffith et al. (2006, p. 56) conceptualize entrepreneurial proclivity as “top managers’ disposition to accept entrepreneurial processes, practices, and decision making, characterized by its preference for innovativeness, risk taking and proactiveness, autonomy, and competitive aggressiveness.” Modeling entrepreneurial proclivity as a second order construct of five factors, they find that entrepreneurial proclivity helps firms recognize the importance of developing a wide range of knowledge resources and, in turn, influences market responsiveness and firm performance.

Market orientation–innovativeness capability The integration of market orientation and innovativeness gives rise to a new capability. Furthermore, for Menguc and Auh (2006), market orientation will have more value and when it is bundled together with, and complemented with innovativeness. Testing their model using 160 Australian firms, they find support for their hypothesis that the new integrated capability has a positive relationship with firm performance.

Masterfully developed operant resources

Be it firms or people, differences can be found between having a capability and the mastery thereof. Many are competent; few are masterful. Consider chess. There are many capable chess players around the world, but only a few individuals who are masters. The World Chess Federation rates chess players using the ELO rating system (named after Arpad Elo, the renowned physicist and chess player) who developed it in 1960 (FIDE 2006). Of the hundreds of thousands (if not millions) of the world’s chess players, only (1) 19,743 players have a rating of above 2,200 (the minimum for Candidate Master title), (2) 1,868 players have a rating between 2,400 and 2,499 (therefore, the title of International Master or Grand Master) title, (3) 563 players have a rating between 2,500 and 2,599, (4) 123 players have a rating between 2,600 and 2,699, (5) 18 players have a rating between 2,700 and 2,799, and (6) only 4 players (Garry Kasparov of Russia, Vladimir Kramnik of Russia, Veselin Topalov of Bulgaria, and Vishwanathan Anand of India) have a rating of 2,800 or above. In the history of FIDE rating system, only 39 players, called *Super-grandmasters*, have achieved a rating of 2,700 or more (FIDE 2006). Many play chess; few are masters.

Similarly, in the case of firms, though many firms have operant resources such as good capabilities and compe-

tences, few have masterfully developed operant resources. Consider, for example, SONY, Canon, and NEC Corporation as firms that benefited from the co-evolution of knowledge, capabilities, and products. Helfat and Raubitschek (2000) propose a model of product sequencing supported by an underlying system of knowledge and systems of learning. The histories of new product introductions by these three, technology-intensive, Japanese firms suggest masterfully developed operant resources. This does not imply that these firms have not faced failures in the marketplace, for, like the Super-grandmasters of chess, these firms occasionally fail. It does imply that these firms’ masterfully developed operant resources enable them to consistently produce, efficiently and/or effectively, valued market offerings.

Masterfully developed operant resources display three characteristics. First, their component, lower-level resources display a high degree of tacit knowledge (Polanyi 1957). Leonard and Sensiper (1998) note that tacit knowledge developed communally over time can help firms in their innovations. We propose that it characterizes masterfully developed operant resources, as well. Second, masterfully developed operant resources are a result of systems in organizations that are purposely planned to promote learning that involves increments in *core* knowledge, as well as fundamental changes to core and *integrative* knowledge. As Helfat and Raubitschek (2000) note, while core knowledge is at the heart of, and forms foundation for a market offering, *integrative* knowledge (i.e., knowledge that enables the firm to integrate different activities, capabilities, and market offerings) is key to what we label masterfully developed operant resources.. Third, developing tacit knowledge and learning systems with reference to operant resources requires time. Some things just cannot be speeded up. Therefore, we define a masterfully developed operant resource as an operant resource that (1) has a very high degree of tacit knowledge, (2) is a result of purposely planned learning systems of the firm, (3) has taken a long time to develop, and (4) enables firms to consistently produce, efficiently and/or effectively, valued market offerings. Note that both CORs and IORs can be masterfully developed.

Do masterfully developed operant resources exist?

Though several research efforts suggest the existence of masterfully developed operant resources, with the exception of Helfat and Raubitschek (2000), there is very little research on them. However, this shortage in research is expected as measuring the mastery of operant resources can be extremely difficult. Intuitively, the difference between competence/capability and mastery makes sense. But, is such mastery possible at the firm level? That is, do masterfully developed operant resources exist? For Penrose (1959), resources are pieces of a ‘jigsaw’ puzzle that firms

can combine and recombine to produce outputs. Building on Penrose's notion of 'jigsaw' puzzle, Danneels (2002) notes that the creation of new products requires firms to make proper connections between (potential) customers and (potential) resources of the firm. This can be a fairly daunting problem. Can firms do this for long periods of time and sustain their competitive advantage?

Classifying product sequencing strategies into (1) new generation of an existing product, (2) replacement products, designed to partially or fully supplant customer usage of a company's prior product, (3) horizontal expansion (e.g., related diversification), (4) vertical expansion, and (5) interconnected sequences that combine two or more of the prior sequences, Helfat and Raubitschek's (2000, p.965), historical analysis of SONY, Canon, and NEC Corporation suggests that firms can, indeed, possess masterfully developed operant resources. Therefore, a *product sequencing strategy capability* can be defined as a firm-level operant resource that is characterized in the co-evolution of knowledge, capabilities, and products that involves three components—system of knowledge, product sequencing, and systems of learning. Furthermore, this operant resource has high levels of tacit knowledge, takes a long time to develop, and is a result of the conscious learning systems of the firm. Therefore, we argue, it is possible for firms to masterfully develop their basic, composite, and/or interconnected operant resources.

Marketing strategy and research avenues

For Vargo and Lusch (2004), marketing should be positioned at the core of the firm's strategic planning. That is, the most successful organizations might be those whose core competence is marketing and all its market sensing processes (Day 1999). The proposed hierarchy of operant resources and the notion of masterfully developed operant resources can provide foundations for future research in operant resources that are relevant to marketing strategy. Hunt and Madhavaram (2006b) identify four different normative theories of strategies that are distinctively marketing: brand equity, market orientation, market segmentation, and relationship marketing. Therefore, we discuss research avenues that correspond to marketing strategy in general, as well as brand equity strategy, market orientation strategy, market segmentation strategy, and relationship marketing strategy (see Table 4).

Marketing strategy in general There are several opportunities for research with reference to marketing strategy in general. For example, following Menon et al. (1998, p. 21), *marketing strategy making (MSM) capability* involves "an interconnected set of activities, processes, and routines

involved in the design and execution of marketing plans." Although Slotegraaf and Dickson (2004) have conceptualized and measured marketing planning capability that is somewhat similar to MSM capability, more needs to be done in terms conceptualization, measurement, antecedents, and consequences. Perhaps, one could conceptualize MSM capability as either a composite or an interconnected operant resource and, then, investigate potential antecedents and consequences. Other opportunities for research could potentially involve answering questions such as: how do firms go up the hierarchy of (marketing) resources, how can information technology enable firms go up the hierarchy of (marketing) resources, and what characteristics of the firms enable them to develop masterful operant resources?

Brand equity strategy The fundamental thesis of brand equity strategy is that, to achieve competitive advantage and, thereby, superior financial performance, firms should acquire, develop, nurture, and leverage an effectiveness-enhancing portfolio of brands. Therefore, brands (trade-marks) can be resources, but only if they contribute to the firm's ability to efficiently and/or effectively produce a market offering of value to some market segment(s). With reference to brand equity strategy, a potential brand management capability can be conceptualized as having components such as brand orientation (Reid et al. 2005), brand identity capability (Madhavaram et al. 2005), and marketing communications capability. Next, antecedents and consequences of such a capability can be investigated.

Also, following Peltier et al. (2003) conceptual model of the relationship between database management and interactive integrated marketing communication, *marketing communications (marcom) database management capability* involves (1) data collection through traditional and online surveys, website tracking, e-mail responses, warranty cards, internal records, appended data, and other data, (2) customer database development that incorporates demographics, psychographics, and behavioral data, and (3) customer relationship management development that involves forming relational segments and profiling and prioritizing various target segments. Consequently, specific integrated marketing communication programs can be developed keeping all the target segments in mind. As marketing communication programs can significantly influence the firm's brand equity, this operant resource will be particularly useful for brand equity strategy.

Market orientation strategy The fundamental imperative of market orientation strategy is that, to achieve competitive advantage and superior financial performance, firms should systematically (1) gather information on present and potential customers and competitors and (2) use such information in a

Table 4 Research avenues for marketing strategy

Marketing strategy research avenues	Exemplars
Marketing strategy in general	<p>Conceptualization, measurement, antecedents, and consequences of MSM (marketing strategy making) capability</p> <p>Firm structure, policies, culture, processes, and/or activities that enable the firms to go up the hierarchy of (marketing) operant resources</p> <p>Enabling role of information technology in taking firms up the hierarchy of (marketing) operant resources</p> <p>Characteristics of firms with masterly/evolved higher-order (marketing) operant resources</p>
Brand equity strategy	<p>Conceptualization, measurement, antecedents, and consequences of brand management capability</p> <p>Conceptualization, measurement, antecedents, and consequences of marcom (marketing communications) database management capability</p>
Market orientation strategy	<p>Market orientation as an interconnected, operant resource</p> <p>Conceptualization, measurement, antecedents, and consequences of co-creation capability</p>
Market segmentation strategy	<p>Conceptualization, measurement, antecedents, and consequences of marketing decision support systems (MDSS) capability</p> <p>Conceptualization, measurement, antecedents, and consequences of market segment management capability</p>
Relationship marketing strategy	<p>Conceptualization, measurement, antecedents, and consequences of customer relationship management (CRM) capability</p> <p>Measurement, antecedents, and consequences of market relating capability</p> <p>Conceptualization, measurement, antecedents, and consequences of relationship portfolio management capability</p>

coordinated way to guide strategy recognition, understanding, creation, selection, implementation, and modification. In the last two decades, research on market orientation has made a lot of progress. While early research conceptualized and measured market orientation as a composite resource (Kohli and Jaworski 1990; Narver and Slater 1990), current research is suggesting that market orientation is, perhaps, an interconnected resource (Kirca et al. 2005; Menguc and Auh 2006).

For Lusch and Vargo (2006b, p.284), one of the foundational propositions of service-centered dominant logic is

that “the customer is always a co-creator.” Therefore, if a firm is truly market oriented, then, it should develop a co-creation capability. This potentially can help firms in their innovation efforts. Consistent with this view, recently firms such as GE HealthCare have even encouraged users to alter their products so that they can be made better (Kroll 2006). Hence, conceptualization, measurement, antecedents, and consequences of co-creation capability can be a fertile research opportunity. In conceptualizing a firm’s co-creation capability, Day’s (1994) *customer-linking capability* that

refers to creating and managing close customer relationships that are important for firms, can be an important component. Such a customer linking capability involves (1) close communication and joint problem solving and (2) coordinating activities (Day 1994).

Market segmentation strategy The fundamental strategic thesis of market segmentation is that, to achieve competitive advantage and superior financial performance, firms should (1) identify segments of industry demand, (2) target specific segments of demand, and (3) develop specific marketing “mixes” for each targeted market segment. Drawing from Goslar’s (1986) conceptualization of the components of an ideal marketing decision support system, we argue that a *marketing decision support system capability* involves abilities to (1) integrate and/or transform divergent data to create non-repetitive problem scenarios, (2) analyze ill-structured problems involving aggregation, transformation, and pattern recognition capabilities using sophisticated parametric and non-parametric analytical tools, (3) develop heuristic and analytic models with stochastic features that closely represent marketing problems, and (4) facilitate the flow of information in forms most effective for the marketer. This operant resource will be useful for market segmentation strategy.

Specifically, for R-A theory, market segmentation strategy refers to the strategic process that includes (1) identifying bases for segmentation, (2) using the bases to identify potential market segments, (3) developing combinations (portfolios) of segments that are strategic alternatives, (4) ascertaining all the resources necessary for each strategic alternative, (5) assessing existing resources, (6) selecting an alternative that targets a particular market segment or segments, (7) securing the resources necessary for the target(s), (8) adopting positioning plans for the market offerings for the segments, and (9) developing marketing mixes appropriate for each segment (Hunt and Arnett 2004). Therefore, following R-A theory’s notion of market segmentation strategy, conceptualization, measurement, antecedents, and consequences of *market segment(s) management capability* can be a useful research avenue.

Relationship marketing strategy The fundamental imperative of relationship marketing strategy is that, to achieve competitive advantage and, thereby, superior financial performance, firms should identify, develop, and nurture a relationship portfolio. Following Dowling (2002), *customer relationship management (CRM) capability* involves (1) a relationship management component (e.g., support teams and loyalty programs) and (2) a data-driven component (e.g., identifying profitable segments through statistical techniques). With the help of IT, these two components can be used to develop marketing strategies that have a long

term relationship orientation. These three operant resources will be useful in discussions and analyses that involve the adoption of a relationship marketing strategy.

In the previous section, we identified Day’s (1999) market relating capability as an IOR that involves creating and maintaining relationships with their most valuable customers through a (1) relationship orientation that pervades the mindset, values, and norms of the organization, (2) a deep knowledge of the customers that is put to work throughout the organization, and (3) the key processes that are internally integrated and externally aligned with the corresponding processes of the firm’s customers. Research into the measurement, antecedents, and consequences of market relating capability can be useful for relationship marketing strategy.

Not all of the possible relationships with potential stakeholders are advantageous or should be nurtured. As Gummesson (1994, p.17) emphasizes, “some marketing is best handled as transaction marketing.” Therefore, it is important that managers develop an ability to manage effectively their “relationship portfolios.” Hunt (1997, p. 439) suggests that firms should develop a relationship portfolio that is comprised of relationships that add to firm efficiency and/or effectiveness, that is, “every potential and existing relationship should be scrutinized to ensure that it contributes to the firm’s ability to efficiently and/or effectively produce a market offering that has value to some market segment(s).” Therefore, the conceptualization, measurement, antecedents, and consequences of *relationship portfolio management capability* can prove fruitful for relationship marketing strategy.

Also, marketing strategy research should focus on masterfully developed operant resources. For example, some worthwhile questions to pursue are: how can firms develop operant resources masterfully? Or what makes some firms better than others at achieving mastery in operant resources? Because the concept of masterfully developed operant resources could pose significant measurement problems, the historical method could prove to be an appropriate research tool.

Discussion

Marketing’s service-dominant approach implies that (1) marketing strategy should be placed at the core of the firm’s strategic planning and (2) intangible, dynamic, operant resources are at the heart of competitive advantage and performance. Drawing from the resources, competences, resource-advantage theory, capabilities, and dynamic capabilities literatures, we extend and elaborate on the service-dominant logic’s notion of operant resources by proposing

a hierarchy of operant resources. Starting from the seven basic resource categories (financial, physical, legal, human, organizational, informational, and relational), we propose basic, composite, and interconnected operant resources as the hierarchy.

Next, the proposed hierarchy is used to identify operant resources that are researched in the resources, competences, resource-advantage theory, capabilities, and dynamic capabilities research streams. The hierarchical classificational schema proposed in this article has the potential to integrate the research on operant resources belonging to different research silos. Furthermore, this article identifies several opportunities for future research. Overall, the hierarchical classificational schema introduced in this article can potentially (1) be a theoretical foundation for future research on operant resources and (2) bring clarity to how operant resources are conceptualized and measured.

Implications for business/marketing For the service-centered dominant logic, operant resources are the source of economic growth. Therefore, advantages in basic, composite, and/or interconnected operant resources, will give firms competitive advantages in the marketplace. Furthermore, going up the hierarchy will significantly increase the possible sustainability of firms' competitive advantages. Consequently, firms should consciously and continuously aim to (1) acquire and develop lower order resources that can take them up the hierarchy and (2) develop organizational policies, learning systems, and cultures that will facilitate their move up. Using this hierarchy, firms' managers can view firms as bundles of resources that can guide strategy recognition, understanding, creation, selection, implementation, and modification. In addition, firms should also consciously and continuously strive for mastery in their operant resources.

Implications for research As marketing is evolving toward a dynamic, evolutionary process, service-centered view, marketing should focus on specialized skills and knowledge as operant resources that provide competitive advantage. Therefore, reflecting this evolution, research in business and marketing strategy should also focus on operant resources. To some extent, there is evidence that strategy research is moving in the right direction through its increased research in competences, capabilities, and dynamic capabilities. However, as noted earlier, several of the operant resources identified in this article have problems of conceptual distinctiveness and potential conceptual overlap. Often, lack of classificational schemata and research silos results in literature confounding the conceptualization of operant resources. The hierarchy of operant resources proposed and the notion of masterful, operant resources introduced in this article can help business/marketing

research in the conceptualization and measurement of operant resources. In addition, some of the CORs could potentially become IORs. Therefore, researchers should investigate the issues with regards to the current conceptualization and measurement of the CORs in the extant literature.

Implications for pedagogy For a service-centered college curriculum, the marketing strategy course should be centered on resource-advantage theory, building on the role of competences and capabilities in the co-creation of value and competitive advantage (Vargo and Lusch 2004). Specifically, the hierarchy of operant resources proposed in this article can be used as a conceptual framework for helping students in conceptualizing, organizing, and analyzing marketing problems. That is, the point to stress is that the hierarchy of operant resources provides a conceptual framework that can assist students in understanding how competences and capabilities are related to marketing strategy in their analyses of cases and projects. Furthermore, students can be encouraged to use historical analysis and study firms that have masterfully developed operant resources.

In conclusion, the hierarchy of operant resources presented and the notion of developing masterful operant resources introduced in this article extend and elaborate on the operant resources concept in the service-dominant logic. We hope that this article acts as a catalyst for further exploration of operant resources in the contexts of business and marketing strategy.

References

- Arnett, D. B., & Badrinarayanan, V. (2005). Enhancing customer-needs-driven CRM strategies: Core selling teams, knowledge management competence, and relationship marketing competence. *Journal of Personal Selling & Sales Management*, 25(4), 329–343.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99–120.
- Collis, D. J. (1994). How valuable are organizational capabilities? *Strategic Management Journal*, 15, 143–152, Winter Special Issue.
- Conner, K. (1991). A historical comparison of resource-based theory and five schools of thought within industrial-organization economics: Do we have a new theory of the firm? *Journal of Management*, 17, 121–154, (March).
- Constantin, J. A., & Lusch, R. F. (1994). *Understanding resource management*. Oxford, OH: The Planning Forum.
- Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23, 1095–1121.
- Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58, 37–52, (October).
- Day, G. S. (1999). Managing market relationships. *Journal of the Academy of Marketing Science*, 28(1), 24–30.
- Dougherty, D. (1992). A practice-centered model of organizational renewal through product innovation. *Strategic Management Journal*, 13, 77–92, Summer Special Issue.
- Dowling, G. (2002). Customer relationship management: In B2C markets, often less is more. *California Management Review*, 44 (3), 87–104.

- Dutta, S., Narasimhan, O., & Rajiv, S. (2005). Conceptualizing and measuring capabilities: Methodology and empirical application. *Strategic Management Journal*, 26, 277–285.
- Dutta, S., Zbaracki, M. J., & Bergen, M. (2003). Pricing process as a capability: A resource-based perspective. *Strategic Management Journal*, 24, 615–630.
- Federation Internationale des Echecs (2006). Available from: <http://www.FIDE.com>.
- Goslar, M. D. (1986). Capability criteria for marketing decision support systems. *Journal of Management Information Systems*, 3 (1), 81–95.
- Gounaris, S. P. (2006). Internal-market orientation and its measurement. *Journal of Business Research*, 59, 432–448.
- Griffith, D. A., Noble, S. M., & Chen, Q. (2006). The performance implications of entrepreneurial proclivity: A dynamic capabilities approach. *Journal of Retailing*, 82(1), 51–62.
- Gummesson, E. (1994). Making relationship marketing operational. *International Journal of Service Industry Management*, 5(5), 5–20.
- Gummesson, E. (1999). *Total relationship marketing*. Oxford: Butterworth-Heinemann.
- Hamel, G., & Prahalad, C. K. (1989). Strategic intent. *Harvard Business Review*, 67, 63–76, (May–June).
- Heene, A., & Sanchez, R. (1997). *Competence-based strategic management*. New York: Wiley.
- Helfat, C. E., & Raubitschek, R. S. (2000). Product sequencing: Co-evolution of knowledge, capabilities and products. *Strategic Management Journal*, 21, 961–979.
- Hunt, S. D. (1997). Competing through relationships: Grounding relationship marketing in resource-advantage theory. *Journal of Marketing Management*, 13(5), 431–445.
- Hunt, S. D. (2000a). The competence-based, resource-advantage, and neoclassical theories of competition: Toward a synthesis. In R. Sanchez & A. Heene (Eds.), *Competence-based strategic management: Theory and research* (pp. 177–208). Greenwich, CT: JAI Press.
- Hunt, S. D. (2000b). *A general theory of competition: Resources, competences, productivity, economic growth*. Thousand Oaks, CA: Sage Publications.
- Hunt, S. D. (2002). *Foundations of marketing theory: Toward a general theory of marketing*. Armonk, NY: M.E. Sharpe.
- Hunt, S. D. (2004). On the service-centered dominant logic of marketing. *Journal of Marketing*, 68(1), 21–22.
- Hunt, S. D., & Arnett, D. B. (2004). Market segmentation strategy, competitive advantage, and public policy: Grounding segmentation strategy in resource-advantage theory. *Australasian Marketing Journal*, 12(1), 7–25.
- Hunt, S. D., & Madhavaram, S. (2006a). The pedagogy of the service-dominant logic of marketing: Resource-advantage theory as an integrative theoretical foundation. In R. F. Lusch & S. L. Vargo (Eds.), *Toward a service-dominant logic of marketing: Dialog, debate and directions*. Armonk, NY: M.E. Sharpe.
- Hunt, S. D., & Madhavaram, S. (2006b). Teaching marketing strategy: Using resource-advantage theory as an integrative theoretical foundation. *Journal of Marketing Education*, 28, 93–105.
- Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of Marketing*, 59, 1–15, (April).
- Hunt, S. D., & Morgan, R. M. (2004). The resource-advantage theory of competition: A review. *Review of Marketing Research*, 1, 153–205.
- Jansen, J. J. P., Van Den Bosch, F. A. J., & Volberda, H. W. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal*, 48(6), 999–1015.
- Jayachandran, S., Hewitt, K., & Kaufman, P. (2004). Customer response capability in a sense-and-respond era: The role of customer knowledge process. *Journal of the Academy of Marketing Science*, 32(3), 219–233.
- Jerez-Gomez, P., Cespedes-Orente, J., & Valle-Cabrera, R. (2005). Organizational learning capability: A proposal of measurement. *Journal of Business Research*, 58, 715–725.
- Johnson, J. L., Pui-Wan Lee, R., Saini, A., & Grohmann, B. (2003). Market-focused strategic flexibility: Conceptual advances and an integrative model. *Journal of the Academy of Marketing Science*, 31(1), 74–89.
- Johnson, J. L., & Sohi, R. S. (2003). The development of interfirm partnering competence: Platforms for learning, learning activities, and consequences of learning. *Journal of Business Research*, 56, 757–766.
- Kirca, A. H., Jayachandran, S., & Bearden, W. O. (2005). Market orientation: A meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, 69(2), 24–41.
- Kohli, A. K., & Jaworski, B. (1990). Market orientation: The construct, research propositions, and managerial implications. *Journal of Marketing*, 54, 1–18, (April).
- Kroll, K. M. (2006). Customer made. *American Way*. Available from: <http://americanwaymag.com>.
- Lambe, C. J., Spekman, R. E., & Hunt, S. D. (2002). Alliance competence, resources, and alliance success: Conceptualization, measurement, and initial test. *Journal of the Academy of Marketing Science*, 30(2), 141–158.
- Leonard, D., & Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review*, 40, 112–132.
- Li, T., & Calantone, R. (1998). The impact of market knowledge competence on new product advantage: Conceptualization and empirical examination. *Journal of Marketing*, 62, 13–29, (October).
- Lusch, R. F., & Vargo, S. L. (2006a). *The service-dominant logic of marketing: Dialog, debate, and directions*. Armonk, NY: M.E. Sharpe.
- Lusch, R. F., & Vargo, S. L. (2006b). Service-dominant logic: Reactions, reflections, and refinements. *Marketing Theory*, 6(3), 281–288.
- Madhavaram, S., Badrinarayanan, V., & McDonald, R. E. (2005). Integrated marketing communication (IMC) and brand identity as critical components of brand equity strategy: A conceptual framework and research propositions. *Journal of Advertising*, 34(4), 69–80.
- Menguc, B., & Auh, S. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the Academy of Marketing Science*, 34(1), 63–73.
- Menon, A., Bharadwaj, S. G., Adidam, P. T., & Edison, S. W. (1998). Antecedents and consequences of marketing strategy making: A model and a test. *Journal of Marketing*, 63(2), 18–41.
- Narver, J. C., & Slater, S. F. (1990). The effect of market orientation on business profitability. *Journal of Marketing*, 54, 20–35, (October).
- Peltier, J. W., Schibrowsky, J. A., & Schultz, D. E. (2003). Interactive integrated marketing communication: Combining the power of IMC, the new media and database marketing. *International Journal of Advertising*, 22, 93–115.
- Penrose, E. T. (1959). *The theory of the growth of the firm*. London: Basil Blackwell and Mott.
- Polanyi, M. (1957). *Personal knowledge: Towards a post-critical philosophy*. London: Routledge and Kegan Paul.
- Reid, M., Luxton, S., & Mavondo, F. (2005). The relationship between integrated marketing communication, market orientation, and brand orientation. *Journal of Advertising*, 34(4), 11–23.
- Ritter, T., & Gemunden, H. G. (2003). Network competence: Its impact on innovation success and its antecedents. *Journal of Business Research*, 56, 745–755.
- Ritter, T., & Gemunden, H. G. (2004). The impact of a company's business strategy on its technological competence, network competence and innovation success. *Journal of Business Research*, 57, 548–556.

- Slotegraaf, R. J., & Dickson, P. R. (2004). The paradox of a marketing planning capability. *Journal of the Academy of Marketing Science*, 32(4), 371–385.
- Smith, K. G., Collins, C. J., & Clark, K. D. (2005). Existing knowledge, knowledge creation capability, and the rate of new product introduction in high-technology firms. *Academy of Management Journal*, 48(2), 346–357.
- Teece, D., & Pisano, G. (1994). The dynamic capabilities of firms: An introduction. *Industrial and Corporate Change*, 3, 537–556.
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal* 18(7), 509–533.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
- Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24, 991–995.
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, 27(2), 185–203.
- Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organizational Science*, 13(3), 339–351.