

# **Generic Verticalization Strategies in Enterprise System Markets: An Exploratory Framework**

**Lior Fink**

Department of Industrial Engineering & Management  
Ben-Gurion University of the Negev

**Sarit Markovich**

Kellogg School of Management  
Northwestern University

**Correspondence:** Lior Fink, Department of Industrial Engineering and Management, Ben-Gurion University of the Negev, P.O.B. 653, Beer-Sheva 84105, Israel

Tel: +972-54-4494591

Fax: +972-8-6472958

E-mail: [FinkL@bgu.ac.il](mailto:FinkL@bgu.ac.il)

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# Generic Verticalization Strategies in Enterprise System Markets: An Exploratory Framework

## **ABSTRACT**

In recent years, enterprise system (ES) software markets have been very dynamic. While contemporary customers are increasingly seeking ES solutions that require less and less customization and implementation effort, it is unclear whether all ES providers should take the "vertical" path of offering functionality tailored to specific industries. Given the lack of conceptualization that explores ES markets' segmentation, this paper offers a typology of generic verticalization strategies and matches ES providers' organizational characteristics of size and scope with the most effective verticalization strategy. A dynamic dimension is introduced to this framework by analyzing recommended strategies for market entry and growth. Finally, the applicability of the exploratory framework is illustrated using examples from the customer relationship management (CRM) software market.

**Keywords:** verticalization strategies; industry segmentation; enterprise systems; customer relationship management; software markets

## **INTRODUCTION**

"Enterprise systems appear to be a dream come true...While the rise of the Internet has received most of the media attention in recent years, the business world's embrace of enterprise systems may in fact be the most important development in the corporate use of information technology in the 1990s."

(Davenport, 1998, pp. 121-122)

An enterprise system (ES) represents a cross-functional, integrated information system, usually used by organizations to support business processes and provide an underlying platform for data integration. Typical examples are an enterprise resource planning (ERP) system, a customer relationship management (CRM) system, and a supply chain management (SCM) system. Together, these systems encompass most of the business processes undertaken throughout a company's value chain. Towards the end of the 1990s, ESs became to be regarded as the new "panacea" in the information systems field, especially for managers who faced the negative consequences of rapid information systems proliferation in their organizations.

The 1980s signified a major shift in organizations' computerized environments. The technological move towards end-user computing and client/server architectures enabled organizations to break off gradually from the restricting centralized structure imposed by the mainframe era. Rather than conform to "the organizational way of doing things", business unit managers were given the ability, via decentralized computer policies and distributed computer budgets, to design information systems that provided a better fit to their specific needs and demands. However, as with many revolutions, the pendulum probably swung too far to the other side: the development of information systems in many organizations became

fragmented and lacked central management. As a result, integration difficulties became more and more salient. At the point when integration disadvantages came to outweigh the advantages of decentralization, ESs emerged as the manageable solution.

**Thorns.** However, the promise of generic systems with the ability to deliver successful organizational results soon proved to have some thorns. ESs are complex, comprehensive, and tightly-integrated software packages, consisting of business processes that are "siliconized" into the system. Different organizations, however, employ different business processes and practices. Therefore, in many cases the "one-process-fits-all" horizontal philosophy created some obstacles. As Talbert (2002) suggests, organizations have two major alternatives: (1) reconfigure the ES to fit existing organizational processes (software modification and enhancement), or (2) reengineer the organization's processes to conform to the software (process modification and enhancement).

While the first alternative might seem appealing, it is technically complex and can lead to considerable reduction in expected return on investment, not to mention implementation failures. Typically, modifications to ESs' configurations are made during implementation, through configuration tables that allow some flexibility in the system's business rules and are specified by the ES provider. Any significant attempt to make modifications beyond those specified parameters (e.g., by building interfaces to external software packages) carries a considerable risk to the entire implementation project. Such modifications may add considerable time and cost to the project, introduce new integration difficulties, and increase the complications involved in future upgrading. Consequently, whereas organizational users tend to push for package modification (to minimize the changes in work procedures), consultants and project managers tend to advocate organizational

adaptation, to simplify the implementation and avoid the costs and risks of package modification (Soh and Sia, 2005).

ESs allegedly represent best practices that integrate effectively and efficiently with each other, thus the implementing organization can benefit considerably by launching business process reengineering initiatives (a radical redesign of business processes aimed at gaining dramatic performance improvements) to bridge any diagnosed gaps. However, these initiatives often entail major organizational changes, which no organization undertakes lightly, and they represent a major obstacle on the way to successful implementation. Furthermore, the "one-process-fits-all" philosophy represents a major threat to enterprises striving for, or watchfully defending, a competitive edge. Implementing organizations become increasingly indistinguishable in their practices, as generic and standardized processes replace unique and customized ones that might have been a source of competitive advantage.

**Towards market segmentation in ES markets.** In response to the above difficulties, customers have recently shifted the responsibility for significant system modifications to ES providers. The market now expects providers to narrow the gaps between system-embedded and practiced processes by transforming their development strategy from a "one-process-fits-all" strategy to a more segmented one. Instead of viewing the whole market as a single entity, providers can segment their markets into groups of customers with similar needs and offer various products that are targeted at more homogenous requirements.

While the market segmentation approach was originally developed for the consumer market sector, it has found wide acceptance in the industrial market sector as well (Sollner and Rese, 2001). However, segmenting industrial markets is significantly more complex than segmenting consumer markets (Shapiro and Bonoma, 1984). Market segmentation is viewed

as one of the most critical tasks for business-to-business marketers (Palmer and Millier, 2004), especially for high-tech companies (Hlavacek and Ames, 1986). The effective segmentation of industrial markets assists in capturing a new business opportunity, protecting a market position, and averting competitive threats (Hlavacek and Ames, 1986). While widespread benefits have frequently been associated with market segmentation, increasing practical evidence suggests that difficulties in its implementation are often encountered (Dibb and Simkin, 2001). In the fast-evolving markets of information and communication technologies, a preliminary market insight, on the supply-side as well as on the demand-side, and segment-tailored introduction strategies are critical to the successful introduction of innovations (De Marez and Verleye, 2004). Given that the success of a concentrated market segmentation strategy depends on the competitiveness of the market environment (Dolnicar et al., 2005)—the more competitive the market, the higher the probability of success—ES providers facing increased competition should aim at segmenting their industrial markets.

Shapiro and Bonoma (1984), acknowledging the importance of individual situations and circumstances, present a "nested" approach to industrial market segmentation, based on numerous segmentation criteria. The authors suggest that the most general segmentation criteria should include demographic variables: industry, company size, or customer location. As ESs are mostly concerned with core business processes that are relatively homogenous within industries, industry-based market segmentation is probably a very effective general approach for ES providers. ES providers can develop industry-specific products that embed industry-specific processes. By definition, these industry-specific processes are intended to provide a better fit to existing business practices in each industry, and therefore demand less gap-narrowing investments and fewer risks on the part of adopters.

In this paper, we refer to market segmentation by industry as "verticalization" (Kohavi et al., 2002). In recent years, ES providers have taken on the challenge of better tailoring products to practices, and an increasing number of them have adopted a more segmented (i.e., verticalized) strategy, in what seems to be one of the most evident strategic trends in ES markets. However, as suggested by the exploratory framework developed in this paper, a vertical strategy does not suit all providers. Likewise, a vertical ES is not necessarily the best choice for all customers. The following sections demonstrate why a leading software provider that focuses specifically on ES markets, such as SAP, should opt to offer vertical solutions, while a leading provider servicing many other markets besides ES markets, such as Microsoft, might be better off offering a more general, or "horizontal," solution. Similarly, while a firm such as the IJ Company, a top US foodservice distributor, would probably find an ES that is tailored to the food distribution industry very valuable, a firm with many different lines of business, for example, Virgin, might prefer a horizontal solution that can be used throughout its different business units. Nevertheless, firms like Virgin are probably the minority in the ES market, where the trend towards verticalization seems to be dominant. An ES provider, thus, faces a tradeoff between following the market trend and choosing the strategy that best fits its line of business.

Because this strategic trend of verticalization is still immature, practitioners are facing considerable terminological difficulties in identifying and evaluating plausible alternatives and their consequences. A review of the recent literature indicates that the research community has not yet turned attention, either conceptually or empirically, to this trend. This paper advances knowledge of the dynamics of ES markets by developing an exploratory framework of generic verticalization strategies in these markets. Our conceptualization begins with developing a straightforward typology of three generic verticalization strategies

available for industry-based market segmentation. Next, we present a framework that matches high-level organizational characteristics of size and scope with their best-fitting verticalization strategies. We then add a dynamic dimension to this framework by analyzing strategies for market entry and growth. Throughout the stages of framework development, we offer seven propositions to guide future research, which can also serve as practical guidelines. Finally, we illustrate the applicability of the proposed framework using examples from the CRM market and discuss implications for competitive advantage, limitations, and future research avenues.

### **A TYPOLOGY OF GENERIC VERTICALIZATION STRATEGIES**

An ES represents a common platform that enables process improvement and data visibility, which are expected to generate cost reduction, responsiveness to customers, and strategic decision making (Ross and Vitale, 2000). As companies have come to realize the potential for large benefits, the demand for ESs has grown dramatically in the last decade. In light of the ubiquity of ESs in recent years, ESs may have turned from being a source of competitive advantage in the market to being a necessity for survival (Davenport, 1998). As ES markets have grown and become more competitive, it has become more important for ES providers, such as SAP and Amdocs, to choose how to position themselves in the market.

Following Cusumano (2003), we define a "horizontal" strategy to be a strategy whereby a software company develops a product that potentially appeals to most or all market users. Conversely, a "vertical" strategy refers to a case where a firm offers a software product that targets a certain industry. In general, the vertical domain may be defined by various customers' characteristics, such as size and location. For instance, SAP developed its Business One system specifically for small-to-medium businesses (SMBs). For our purposes,



we define the vertical domain by an industry (e.g., telecommunication, education, health care), and refer to such industries as “verticals”. That is, a horizontal strategy focuses on a "one-size-fits-all" solution, while a vertical strategy segments the market by industry to provide appropriately tailored products. Note that choosing a vertical strategy does not necessarily imply that the ES provider targets a narrower market. ES providers can increase their overall market coverage by offering solutions for more than one industry (vertical).

The discussion above suggests that ES providers have two main decision variables: degree of market verticalization and breadth of market coverage. The market verticalization axis is defined by horizontal strategies at one end and highly industry-specific solutions at the other; the market coverage axis ranges from few to many different verticals. While, in reality, providers can choose intermediate points along either axis, we simplify the analysis by assuming that ES providers can only select extreme strategies. Providers are assumed to focus on either a horizontal or vertical segmentation strategy. In terms of market coverage, they can choose either to focus on specific verticals or to target the entire market.

This framework creates a 2x2 matrix with four different strategies: (1) a horizontal strategy targeted at specific industries—labeled here as "Non-Adaptable Horizontal", (2) a horizontal strategy targeted at the entire market—"Adaptable-Horizontal", (3) a vertical strategy targeted at specific industries—"Specific-Vertical", and (4) a vertical strategy targeted at the entire market—"Multi-Vertical". Because the Non-Adaptable Horizontal strategy is neither reasonable nor viable for ES providers, our typology, presented in Figure 1, focuses on the other three generic strategies. Next, moving along the market verticalization line, we explicitly define the three strategies.

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Insert Figure 1 about here  
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## **A Horizontal Strategy**

ES providers in this category are interested in offering one solution that can accommodate the needs of a wide range of organizations. This, however, is not a simple task. Different organizations, within and across different industries, have different operation processes, marketing processes etc. Therefore, ES providers tend to allow for some level of customization. However, general ES solutions that enable only the traditional customization, through configuration tables and parameters, are no longer considered valuable. (This is why we do not consider a Non-Adaptable Horizontal strategy in this paper). Contemporary organizations are expecting their ES providers to help bridge the gap between their practiced processes and system-embedded processes. Therefore, ES providers in this category frequently take customization forward by offering "add-ons" that make the system more easily adaptable to a particular vertical.

**Adaptable-Horizontal strategy.** ES providers offering an adaptable system target multiple verticals with the same underlying product. However, this product can be industry-configurable, offering different business processes, business rules, and configuration parameters for organizations in different verticals. A key point is that those industry-specific processes and capabilities are typically built "on top" of the product, rather than being an integral part of its design. As a result, the product in question may be neither perfectly nor equally adaptable to every vertical.

For instance, Amdocs, a global provider of integrated customer management solutions for telecommunications markets, identified the North-American telecommunications market as possessing unique characteristics that differentiate this industry from other telecommunications industries. In response, Amdocs developed "add-on" solutions to its

generic products that support the processes and business rules that are unique to this geographically-defined market. Accordingly, implementation projects in this market have to deal with significantly smaller gaps between the processes of the system and those of the enterprise, and thus they involve fewer resources and risks. While this example relates to segments within the same industry, it provides a good illustration of an Adaptable-Horizontal strategy.

An alternative version of this strategy is to rely on business partners to provide industry-specific solutions. In this case, the provider offers a configurable product. Partners can then take advantage of the product's configurability to develop different solutions for different verticals. We therefore do not consider this strategy to be Non-Adaptable Horizontal. However, we do not consider this to be a vertical strategy either. Market verticalization in this case is the result of integrating preexisting development efforts, instead of a strategic decision to segment product design by industries, as in the vertical strategy case. Microsoft, for example, executes such a strategy in providing business solutions. Microsoft has a wide range of certified partners around the world who offer industry-specific solutions for various verticals, such as the automotive, construction, professional services, retail management, and wholesale and distribution industries. We further discuss Microsoft's strategy later in this paper in the context of the CRM market.

### **Vertical Strategies**

A vertical strategy is aimed at minimizing the gap between practiced processes and system-embedded processes. ES providers that employ a vertical strategy develop specialized versions of ES software for various verticals. Industry-specific processes are embedded into the system from the early requirements and design stages. For example, a CRM product for

the financial industry is tailored to the processes bankers and analysts use, and is therefore not appealing to managers in health care or engineering services. We divide the vertical strategy into Specific-Vertical and Multi-Vertical.

**Specific-Vertical strategy.** This strategy refers to industry-specific solutions developed for particular verticals. ES providers in this category develop different solutions for different verticals, but limit themselves to the most common ("heavy") verticals (e.g., health care, financial) or to verticals with which they are most familiar, based on their business experience and existing customer base.

**Multi-Vertical strategy.** This strategy refers to industry-specific solutions for many different industries. As with the Adaptable-Horizontal strategy, ES providers in this category try to target almost the entire market. However, unlike the horizontal strategy, these providers cover the market with many different specialized solutions rather than one solution that (more or less) fits all of them.

## **DETERMINANTS OF VERTICALIZATION STRATEGIES**

The three generic verticalization strategies, outlined in the previous section, represent three different development and implementation strategies available to ES providers. Clearly, these strategies do not carry the same potential benefits and risks for every ES provider. Thus, different ES providers adopting the same verticalization strategy may face different consequences.

In general, when choosing a verticalization strategy, providers should evaluate their organizational strengths and weaknesses, together with the resources and capabilities on hand. Their actual or potential capacity to take advantage of market needs or to cope with imminent risks should be estimated prior to adopting a verticalization strategy. For instance, a

relatively small and inexperienced ES provider, one that holds only a minor share of the market, may find the adoption of a Multi-Vertical strategy to be too demanding and thus, ultimately, devastating. Furthermore, obeying market trends is not necessarily the best path to follow.

Given these challenges and tradeoffs, it seems essential to have some high-level guidelines that can help ES providers with their choice of verticalization strategy. Obviously, thorough and final verticalization decisions should be based on a comprehensive analysis of the market and on very subtle organizational characteristics, such as the technical capabilities of the R&D personnel, the experience of the management team, and the flexibility of the development processes. Such an examination, however, would require a case-by-case analysis and would not offer the general guidelines of interest, here.

We posit that two high-level organizational characteristics – organizational size and product scope – should guide ES providers in their preliminary decision of which verticalization strategy to adopt. Both characteristics have been extensively used in the research literature as explanatory variables for organizational growth decisions, the rate of organizational change, and various organizational performance measures.

Organizational size has frequently been associated with firm behavior. Haveman (1993) perceived organizational size as the dominant variable in the sociological literature on organizational structure. The managerial literature has used a number of variables to measure organizational size, including number of employees, average sales, and average assets (Leiblein and Miller, 2003). Organizational size has repeatedly been studied as an independent variable in research designs exploring the rate of organizational change as the dependent variable (e.g., Dobrev et al., 2003; Haveman, 1993). Concerning product scope, there is a significant literature relating this variable to organizational decisions. Product scope

typically relates to the degree of product diversification (Grinyer and Yasai-Ardekani, 1981; Grinyer et al., 1980; Weinshall, 1982), and specifically to the range of product markets in which the company is involved (Leiblein and Miller, 2003; Vermeulen and Barkema, 2002). According to Gopalakrishnan and Damanpour (2000), product scope represents two key aspects of an organization's product choice: (1) the extent of product specialization/focus (specializing in one type of product versus producing a variety of products), and (2) the type of products in which an organization specializes. Product scope has also been investigated in the context of organizational expansion (Vermeulen and Barkema, 2002).

Overall, the management literature has established both organizational size and product scope as significant variables in the context of positioning and organizational growth decisions. Some studies have examined product scope and organizational size, in a single research design, as two primary determinants of organizational structural characteristics (Allen, 1978; Brews and Tucci, 2004; Grinyer and Yasai-Ardekani, 1981; Leiblein and Miller, 2003), organizational performance measures (Grinyer et al., 1980; Qian and Li, 2003; Vermeulen and Barkema, 2002), or dimensions of innovation adoption (Gopalakrishnan and Damanpour, 2000).

**Categorization of size and scope.** Focusing on organizational size and product scope, we assume that ES providers can be classified into two size categories: *SMBs* and *large businesses*. In terms of product scope, we classify ES providers according to the range of product markets they serve. Providers for which developing and supporting ESs is their main line of business are defined as *specialized* (e.g., SAP). We define providers that have other lines of business, in addition to ESs, *generalized* (e.g., Microsoft). The dichotomous categorization of organizational size and product scope creates another 2x2 matrix, this time of four plausible types of ES providers: (1) specialized SMBs, (2) generalized SMBs, (3)

specialized large businesses, and (4) generalized large businesses. Again, as for our typology of generic verticalization strategies, one matrix square is occupied by an artificial and unreasonable category – generalized SMBs. ES providers that are SMBs, and thus have limited resources, would likely refrain from developing a large variety of products and managing multiple lines of business. Instead, those providers would tend to specialize in the ES market.

Having defined three generic verticalization strategies and three types of providers, we now propose a one-to-one match between provider types and verticalization strategies. In other words, we suggest that each provider type can be matched with the verticalization strategy that fits it best. We start our discussion with product scope.

Typically, providers that have many lines of business (i.e., generalized large providers) have to divide their resources and capabilities between their different business lines. These providers frequently leverage their brand names to enter ES markets and, thus, are interested in attracting all customer segments. They already have a substantial customer base acquired through their other business lines, and are, therefore, likely to target a large share of the potential ES market. Consequently, generalized large providers should not invest considerable resources in segmenting the market to offer different ES solutions. Rather, they should develop a product that addresses the needs and requirements of as many verticals as possible. Alternatively, these providers should rely on their more specialized partners to offer industry-specific solutions based on their platforms.

*Proposition 1a: The most lucrative verticalization strategy for generalized large ES providers is the Adaptable-Horizontal strategy.*

Following the same logic, specialized ES providers should generally pursue one of the two vertically-focused strategies. These providers focus on ES markets and therefore devote all of their resources to developing and supporting ESs. The choice between a Specific-Vertical strategy and a Multi-Vertical strategy should then depend on the size of the provider. While specialized SMB providers should serve one or a few verticals and focus on developing the best-suited solution for these markets, specialized large providers likely can afford to expand into a larger number of vertical markets. That is, just as in the horizontal strategy, large providers have an adequate amount of resources to target the *whole* market, but with many different industry-specific solutions instead of one adaptable solution.

Specialized ES providers, either SMBs or large businesses, should take the path to market verticalization. The breadth of industries they serve should be determined based on the level of their organizational resources. Thus, we can formulate two additional propositions:

*Proposition 1b: The most lucrative verticalization strategy for specialized SMB ES providers is the Specific-Vertical strategy.*

*Proposition 1c: The most lucrative verticalization strategy for specialized large ES providers is the Multi-Vertical strategy.*

Figure 2 presents Propositions 1a through 1c graphically. In order to depict the match between organizational characteristics and generic verticalization strategies as clearly as possible, we take Figure 1 and change the variables on the axes to size and scope. The resulting figure gives clear guidelines for best-suited verticalization strategies.

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## **THE DYNAMICS OF ENTRY AND GROWTH**

Segmentation is largely a static process, carried out at a point in time based on a snapshot of the market, yet the time frame should reflect the dynamics of the business environment (Palmer and Millier, 2004; Sollner and Rese, 2001). Our framework so far has been static; given certain market conditions and organizational characteristics, it provides guidelines regarding how an ES provider should position itself. However, markets – in particular, software markets – are dynamic. The structure of ES markets has changed dramatically during the last decade, and it is expected to keep evolving in the future. We, therefore, propose a more dynamic analysis. We extend our framework by examining entry and growth strategies using organizational size and product scope as the main determinants. Moving along the size dimension, we start with entry and then move on to growth strategies.

### **Entry**

**SMB entrants.** As suggested in the previous section, SMB software providers should not opt for a generalized strategy. Such providers' resources are too limited to develop and manage multiple business lines. Thus, they should choose to target and specialize in one or a few ES software products. Proposition 1b suggests that SMB ES providers should focus on the ES market, positioning themselves as Specific-Vertical providers. However, new entrants to ES markets can execute this strategy in more than one way. While entering providers can always start product development from scratch, the R&D process for these products is long, complex, and requires large investments. Alternatively, entering providers may collaborate with an existing dominant provider, usually a generalized large provider (i.e., one that has to allocate development resources to multiple business lines, including ES), and leverage the

partner's market presence. An entrant can then take advantage of already-developed platforms and functionalities as a basis for its product, and develop solutions for the specific needs and requirements of its target vertical. We consider such a strategy as Specific-Vertical, because the ES solutions developed by the entrant are designed specifically for particular verticals.

Note that these partnerships are very valuable for small entrants, as they typically provide access to high-end resources for a fixed annual fee. An entrant, however, has to go through a qualification process that determines the level of cooperation between the two partners. More advanced providers pay a higher annual fee, granting them closer relationships with large providers like Microsoft and Salesforce. Available resources range from access to code, through telephone-based account engagement, to joint-marketing efforts. Close partnerships give SMB entrants access to a rich set of benefits that can help them gain an advantage in the market. Furthermore, these partnerships offer SMB entrants a great opportunity to focus their knowledge. Rather than spend time and capital on the basics of the system, an entrant can instead build on an existing platform to implement industry-specific knowledge and expertise.

On the other hand, such partnerships lock an entrant into a specific system developed by another provider. It is important to note that the decision to use a partner's platform, rather than develop it in-house, confines an entrant's position to that of follower. Partnership-based entry will not open up the option to challenge the dominant providers in the overall market. However, the entrant can still become the dominant provider for a specific vertical. Expertise in a specific vertical allows the entrant to offer a better-tailored product than the competition can. Nevertheless, such a provider would find it difficult to challenge an *established ES specialist*.

**Large entrants.** In general, large software companies are well positioned to enter ES markets only if they can offer additional benefits that existing ES providers cannot provide. Besides a large resource base, such large entrants typically have a brand name and a loyal customer base, and should therefore take advantage of these assets. For example, large entrants can leverage their resource base and expertise in developing integrated products to offer ES software that better interfaces with common non-ES software. However, we argue that large entrants, in the early stages of entering ES markets, should not invest in verticalization. By making a strategic decision to develop a small number of industry-specific ES products (i.e., a Specific-Vertical strategy), a large entrant may miss the opportunity to leverage its assets to become a dominant player in ES markets. Moreover, by making a strategic decision to develop a wide range of industry-specific ES products (i.e., a Multi-Vertical strategy), a large entrant may find itself over-investing resources in a new and complex market, thereby impairing other product lines. Thus, large software companies entering ES markets should employ an Adaptable-Horizontal strategy by developing a cross-industry adaptable ES. While these large entrants should not invest in verticalization, they can partner with specialized SMB providers to offer a branded, yet industry-tailored, solution. Customers for whom the cost of implementing an “unknown” system is very high would value the option of a branded, “less risky” solution.

Note that, while our typology suggests that certain type of providers should adopt a Multi-Vertical strategy, the above analysis suggests that a Multi-Vertical strategy is not a viable *entry* strategy. Consequently, providers that opt for a Multi-Vertical strategy should be growing towards this strategy, rather than entering with it. Before we move on and discuss growth strategies, Proposition 2 summarizes our conclusions concerning entry strategies.

*Proposition 2: The verticalization strategy selection of ES entrants should be determined by organizational size – SMB entrants should adopt a Specific-Vertical strategy, whereas large entrants should adopt an Adaptable-Horizontal strategy.*

## **Growth**

Growth is a very natural process, and usually involves significant risks. A critical success factor is choosing an appropriate growth strategy. This section extends the proposed framework by examining the most valuable growth strategy for an ES provider, based on its preliminary generic verticalization strategy.

**Specific-Vertical.** ES providers employing a Specific-Vertical strategy focus on ES markets, and therefore have two possible growth strategies: (1) add verticals and eventually become a Multi-Vertical provider, and (2) enter a related ES market with a Specific-Vertical strategy (e.g., an ERP provider may choose to enter the CRM market). The choice between the two strategies should depend on the range of industries a provider serves, its knowledge of these industries, and its customer base.

Some ES providers have a long history within a specific vertical and, accordingly, comprehensive knowledge of that industry as well as a loyal customer base. Such providers would find it relatively costly to enter new verticals, as they would have to move out of their "home court" and invest in learning and gaining market share in new industries. These providers are therefore better off entering a related ES market, while targeting the same industry they have already been serving for many years. Furthermore, the existing customers of these providers would highly value the ability to integrate current ES capabilities with additional capabilities developed by the same provider. That is, the provider could offer its

current customers a more comprehensive, better-integrated solution, further strengthening its position in the specific vertical. It is important to note, however, that as such a provider grows, it would eventually have to move out of the Specific-Vertical box. The provider would then have to choose whether to enter markets other than ES markets and offer extended value to its current customers, or else develop ES solutions for additional verticals.

Conversely, ES providers that do not specialize in a particular vertical should grow by offering additional verticals. These ES providers should employ a vertical strategy, designing industry-specific solutions in a particular ES market. The choice of new verticals should be based on a provider's available resources. Note that a hasty and demanding growth process may trigger pressures to abandon true specialization in different verticals by turning to a more horizontal strategy, threatening the success of this strategic move.

To be clear, in expanding to additional verticals, ES providers leverage their knowledge in a specific ES *market* in order to enter new *industries*, rather than leverage their knowledge in a specific *industry* in order to enter other ES *markets*. Proposition 3a provides growth guidelines for providers with a Specific-Vertical strategy:

*Proposition 3a: ES providers that dominate specific verticals should first grow by entering related ES markets with solutions designed for the same verticals. Other Specific-Vertical ES providers should opt for gradually adding verticals in their existing ES markets.*

**Multi-Vertical.** As suggested by our framework, ES providers employing a Multi-Vertical strategy ought to be large and have substantial expertise in ES markets. Clearly, these providers should first grow by enhancing their position and gaining market share within the verticals they serve. Assuming that these providers have exhausted all of their vertical

growth opportunities, they should move and enter related ES markets. Our framework suggests that these large providers should position themselves in the Multi-Vertical box in all of the ES markets they serve. However, entering a new ES market with a Multi-Vertical strategy seems to be a very demanding and risky strategy. Instead, we suggest that large providers should enter a new ES market with an Adaptable-Horizontal strategy. Growing to additional ES markets through an Adaptable-Horizontal strategy allows a slower-paced yet better-controlled growth. Once a provider establishes a presence in the new market, the provider should further grow and move to the Multi-Vertical box.

In sum, whereas the growth path for Specific-Verticals can be controlled by gradually adding verticals, the growth path for Multi-Verticals should be *staged*. Proposition 3b presents this logic:

*Proposition 3b: Multi-Vertical ES providers should grow by entering related ES markets with an Adaptable-Horizontal strategy at the first stage and a Multi-Vertical strategy at a later stage.*

**Adaptable-Horizontal.** Our framework suggests that ES Providers with an Adaptable-Horizontal strategy typically ought to be generalized large software companies leveraging their resources and capabilities in order to enter ES markets. Being focused on other markets, in addition to ES markets, these providers should consider carefully whether to verticalize their presence in ES markets. By collaborating with partners that execute a Specific-Vertical strategy, these providers can effectively respond to market demands for verticalization while maintaining an Adaptable-Horizontal strategy. Only at a later stage, after gaining substantial knowledge of the market and developing the capabilities to offer different industry-specific products, should the generalized large provider consider a vertical

strategy. However, maintaining a horizontal position and building on partners to offer verticalization in ES markets seems like a more effective strategy for generalized large providers who wish to preserve their presence in multiple markets. Proposition 3c summarizes this point:

*Proposition 3c: Adaptable-Horizontal ES providers should grow by entering related ES markets with an Adaptable-Horizontal strategy.*

Figure 3 graphically depicts the entry strategies formulated in Proposition 2 and the growth strategies formulated in Propositions 3a through 3c.

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## **APPLICATION**

This paper aims at developing an exploratory framework. Therefore, we do not report on the rigorous collection and analysis of empirical data. Nevertheless, we find it valuable to illustrate the applicability of the proposed framework in ES markets using examples of different ES providers. While this illustration advances the understanding of the framework, as well as offers guidance for future research, we certainly do not intend for it to represent an exhaustive analysis meant to empirically corroborate our propositions. The illustration focuses on a major ES market – the customer relationship management (CRM) market. The CRM market has grown tremendously during the last decade and is expected to continue growing rapidly. Frost & Sullivan (2004) project the North American market for CRM software to grow from \$553 Million in 2004 to \$826 Million by 2008. Recognizing the importance to organizations of better understanding their key customers and finding

strategies to expand and maintain their customer base, CRM providers are investing in providing more and more sophisticated capabilities, in addition to the basic CRM functionality of supporting marketing, sales, and customer service activities. These additional capabilities give CRM customers the ability to leverage advanced business intelligence algorithms to identify valuable patterns in customer data.

In this section, we apply our exploratory framework of generic verticalization strategies to analyze the strategies of five recognized CRM providers (each generic verticalization strategy is represented by at least one CRM provider). Our framework is based on high-level organizational characteristics: organizational size and product scope. Consequently, most of the data required to illustrate its applicability is easily available from the providers' annual reports. Taking each provider's 2004 annual report, we have collected data on the following characteristics to serve as a proxy for the provider's size: year founded, number of employees, office locations, and total revenues. Based on the criteria used by the Gartner Dataquest Guide (Gartner, 2004), firms that have less than a thousand employees and a turnover of less than \$250 Million are defined as SMBs, whereas firms that are above one of these thresholds are considered to be large firms.

Collecting information on the providers' product scope is a bit more subtle. While this information is available on each provider's webpage, it turned out that in some cases providers tend to overrate the scope of their business. We, therefore, supplemented the data on product scope with consulting group reports. In particular, we have gathered additional information on Microsoft and Siebel from Yankee Group reports from March and April 2005, as well as from Gartner Vendor Rating reports from May 2004 and May 2005. We define specialized firms as those for which all of their lines of business are related to ES markets. Generalized firms, in contrast, have other lines of business. Finally, in order to



complete the analysis, we have also collected information on the providers' verticalization strategy. Again, in order to have accurate and unbiased information, we have complemented the information from the providers' web pages with the same consulting groups' reports, as well as with analysts' reports in professional magazines. Specifically, we have looked at reports from InformationWeek, CNet, and SearchCRM.com for a comparative analysis of the different providers. Our data is summarized in Table 1.

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### **Specialized Providers**

CRM providers have mushroomed in the last few years. The number of CRM providers grew by 20 percent from 2003 to 2004 (Frost&Sullivan, 2004), with new entrants like Chordiant, Pivotal, Pegasystems, and Kana entering this market. In conjunction with entry, incumbents like SAP have expanded their products and services into new vertical markets. Our framework suggests that vertical demands should be met by providers that specialize in ES markets. The market coverage of each provider should then be determined by the provider's size. In order to demonstrate this reasoning, we study in more depth Chordiant and Kana as examples of specialized SMB providers and Seibel (now Oracle) as an example of a specialized large provider.

**Chordiant.** Founded in 1997, Chordiant has 281 employees in the US, London, Paris, Amsterdam, and Munich, with revenues of \$85 Million split 50/50 between North America and Europe. Chordiant focuses on CRM and offers solutions to meet the needs of service-driven organizations in retail banking, card services, lending, insurance, and telecommunications. Representative customers include Capital One, Chase, and T-Mobile.

**KANA.** Positioned as a leader in Service Resolution Management, KANA serves customers like Palm, Sony and Sprint. KANA was founded in 1996 and has 210 employees serving North America, Europe, Asia, Japan and Africa. KANA's vertical solutions are targeted at financial services, telecommunications, healthcare and high technology. Their revenues are in the \$40-Million range, all coming from the CRM market or related services.

**Siebel (now Oracle).** Founded in 1993, Siebel was the first major vendor to realize the importance of creating CRM applications for individual market segments (Schwartz, 2003). Prior to being acquired by Oracle in September of 2005, Siebel employed more than 3,000 employees and had more than 80 offices in more than 30 countries worldwide. Siebel had, in 2004, revenues of \$134 Million, coming from serving more than 4,000 customers such as AT&T wireless, Deloitte, Honeywell, and HP. Siebel's vertical solutions covered many industries: automotive, high technology, oil, retail, financial services, life sciences and the public sector, among many others. Siebel focused on the enterprise software and solutions market, offering a wide array of products and services.

**Discussion.** All three providers specialize in CRM markets and do not have other lines of business—all three are similar in terms of scope. Nevertheless, they differ significantly in terms of size: Chordiant and KANA are categorized as SMBs and Siebel is categorized as a large business. The providers' information above clearly demonstrates that differences in scale affect the verticalization strategy adopted. Siebel's large scale allows it to cover, more or less, the entire market – as a horizontal strategy would – but with many different solutions tailored to the specific needs of customers in many different industries. Thus, its strategy is a Multi-Vertical one. In converse, Chordiant and KANA have a much smaller scale and therefore choose a more niche strategy, developing solutions that target specific industries—a Specific-Vertical strategy.

## **Generalized Providers**

In recent years, there has been a growing demand in the CRM market for industry-specific solutions. However, our framework posits that some providers are better off with a horizontal strategy (just as some customers are better off with a horizontal solution). IBM and Microsoft demonstrate this position.

**IBM.** Founded in 1911, IBM has been known as a leader in the hardware and software markets for many years. When the CRM market started growing, IBM entered this market, mainly offering services (consulting, integration, software hosting). IBM's strategy has been to use CRM software by partners (e.g., KANA, SAP, SAS, Epiphany, Oracle) and integrate it with horizontal platforms from IBM.

**Microsoft.** The largest software company in the world, Microsoft was founded in 1975 and currently employs more than 57,000 employees. Microsoft's total revenues of more than \$36.8 Billion come mainly from desktop software, server software, and consumer electronics. Microsoft offers a horizontal CRM solution, where verticalization is done by certified independent software vendors.

**Discussion.** The same pattern is apparent in both examples above: large scale and large scope providers leverage their brand-name and market dominance to serve the growing CRM market, as well. The expertise of both providers originates in software and service markets other than CRM. Consequently, employing a Specific-Vertical or a Multi-Vertical strategy in ES markets does not fit their organizational characteristics. Thus, IBM and Microsoft provide horizontal platforms of which other, more specialized, providers can take advantage. Such partnerships are beneficial for both sides. On the one hand, they allow Microsoft and IBM to offer a more customized CRM solution and thus survive the

verticalization trend. On the other hand, small providers can offer a brand-name solution tailored to specific industries. Furthermore, IBM and Microsoft can still offer a horizontal solution to organizations in need of such a solution (e.g., multi-business organizations). Microsoft's horizontal CRM product (Microsoft Dynamics CRM) is an example of a horizontal strategy executed by a generalized large provider.

## **IMPLICATIONS**

While being straightforward, our framework of generic verticalization strategies has important implications for ES providers, in particular, and for providers of software solutions, in general. Given a certain level of resources and product scope, choosing the best-fitting verticalization strategy can maximize the potential benefits to providers and enable a superior competitive positioning in the market. When the verticalization strategy pursued is more ambitious than the strategy suggested by our propositions – for instance, a generalized large provider that employs a Multi-Vertical strategy – we expect some level of under-investment, because the provider does not have the resources and capabilities to capitalize on the chosen strategy. Conversely, when the verticalization strategy adopted is narrower than the strategy suggested by our framework – for example, a specialized large provider that settles for a Specific-Vertical strategy – the probable result is missed opportunities and foregone profits, as the provider does not exhaust all of its resources and capabilities. In order to better demonstrate this latter point, Amdocs' strategy is proffered as an example.

Founded in 1995, Amdocs employs more than 10,000 employees. Amdocs focuses on offering billing and CRM solutions to the global telecommunications industry. Although Amdocs may be categorized as executing a Specific-Vertical strategy, because of its focus on specific industries, we categorize Amdocs as having an Adaptable-Horizontal strategy for the

CRM market, given that its CRM solution (originally developed by Clarify) was not designed for specific industries. In terms of organizational characteristics, Amdocs is a specialized large provider. Therefore, our framework suggests that Amdocs should pursue a Multi-Vertical strategy. Amdocs' focus on enterprise applications and its substantial available resources ought to enable it to provide vertical solutions to a wide range of industries. Amdocs, however, striving to bring together its application portfolio in order to offer customers an integrated customer management solution, seems to invest its resources in customizing its CRM product to specific needs and requirements in the telecommunications industry – instead of designing additional industry-specific products. Our framework suggests that Amdocs may find considerable benefits in a strategic decision to expand its product line to additional vertical solutions. Entering the CRM market with a horizontal strategy was a warranted strategic move, but Amdocs should turn to a Multi-Vertical strategy for this market to capitalize on its potential.

Note that while the framework identifies a preferred verticalization strategy for each ES provider, this strategy relates to a particular ES market. A provider may adopt different verticalization strategies for different product markets it serves. For example, SAP, one of the world's leading software companies, seems to execute such a "mixed" vertical strategy. Being a key player in both the ERP and the CRM markets, SAP employs a Multi-Vertical strategy for its ERP market in conjunction with an Adaptable-Horizontal strategy for its CRM market. While our framework does not analyze directly such a case, SAP's strategy is in line with our propositions. SAP started as an ERP provider, and therefore most of its resources have been devoted to ERP products and services. SAP's aggressive investments in the ERP market enabled it to verticalize its ERP products. Leveraging its brand name and capabilities in one ES market, SAP was able to enter the CRM market as well. Since the CRM market is a

"secondary" market for SAP, with a lower level of investment, the firm is better off employing an Adaptable-Horizontal strategy in this market. Nonetheless, growing rapidly, SAP can naturally move towards a Multi-Vertical strategy in the CRM market in the near future. SAP's case further exemplifies our analysis of entry and growth strategies: specialized large providers like SAP should grow by entering related ES markets with an Adaptable-Horizontal strategy at the first stage and a Multi-Vertical strategy at a later stage (see Proposition 3b).

The discussion in this section highlights two noteworthy limitations of the proposed framework. First, the framework is based on a categorical distinction between vertical and horizontal strategies. This distinction is obviously simplifying in nature, because a vertical-horizontal *range* may be more realistic than a vertical-horizontal dichotomy. Furthermore, it can vary across product line within a given firm. Consequently, our framework gives clear guidelines only at the product level. An organizational-level analysis is obviously more complex, and beyond the scope of this paper. Future research can extend the proposed framework by examining how providers should integrate their verticalization strategies across product lines and markets.

Second, the framework suggests that organizational characteristics should determine a provider's verticalization strategy. While we typically expect strategic decisions to depend on existing organizational characteristics, the causality can run the other way. For example, an ES provider may first decide on a Multi-Vertical strategy based on the identification of different needs and requirements in different industries, and then act to narrow its product scope and enlarge its resource base to support such a strategy. This reversed type of relationship should be more evident in new entrants, who find it easier to first formulate a

market strategy and then decide on the organizational scope and size that would best execute that strategy.

**The vertical CRM challenge.** Whereas this discussion has focused on the move of the CRM market towards verticalization, there are other important changes taking place. The risk and large upfront cash required to implement a CRM system has pushed the market towards a "subscription" model and away from a traditional licensing model. Instead of hefty deals for perpetual licenses to CRM software, many enterprises are opting for so-called "on-demand" CRM agreements that require less upfront cash in return for use. On-demand applications consist of software maintained away from a customer's physical premises by a provider who oversees management of the applications and the data. This hosting model can involve a monthly fee, rather than an upfront payment for software licenses that usually stretch for several years. That is, on-demand CRM offers customers numerous advantages over traditional models, such as increased flexibility, faster installation, and lower total cost of ownership (TCO). The disadvantages mainly come from the risks involved in the externalization of strategically important data and processes. According to IDC researchers, the overall on-demand software market is expected to grow to \$4.8 Billion in the US alone by 2009, driven by a 28 percent annual compound growth rate (Hines, 2005).

While this paper focuses on ES providers whose business model is primarily based on selling software products, the proposed framework can be applied to on-demand markets as well. Because the analysis does not relate to the implementation process itself, applying the framework to ES providers who follow an on-demand business model is straightforward and does not require any additional assumptions. Future research may explore the validity of the proposed framework across various business models in ES or other software markets.

## **CONCLUSIONS**

In recent years, ES markets have been very dynamic, as the customers of enterprise-wide solutions have become more and more demanding. Whereas, given the complexity of ESs, a standard, non-adaptable solution was considered adequate only a few years ago, contemporary customers are increasingly seeking solutions that require less and less customization and implementation effort. Given the lack of conceptualization and empirical evidence in the literature that explore the segmentation of ES markets, this paper contributes by offering an exploratory framework that identifies the primary generic verticalization strategies, matches organizational characteristics of size and scope with the most effective verticalization strategy, and analyzes strategies for market entry and growth.

We claim that organizational size and scope should guide ES providers in their preliminary decision of which verticalization strategy to adopt. Verticalization is an effective strategy for providers that specialize in ES markets, where SMB providers should pursue a Specific-Vertical strategy and large providers a Multi-Vertical strategy. The verticalization path, however, is less effective for generalized providers with many other lines of business. These providers should not conform to this market trend, but rather stick to a horizontal strategy.

Despite the investment, complexity, and risks involved in implementing information systems that are designed to support multiple business processes, ES markets are expected to expand considerably in coming years. This paper suggests that key players in these markets, as well as new entrants, should make sure that the verticalization strategy they formulate and execute is aligned with their organizational characteristics, mainly their organizational size and product scope. A failure to do so may put those ES providers in inferior competitive positions.

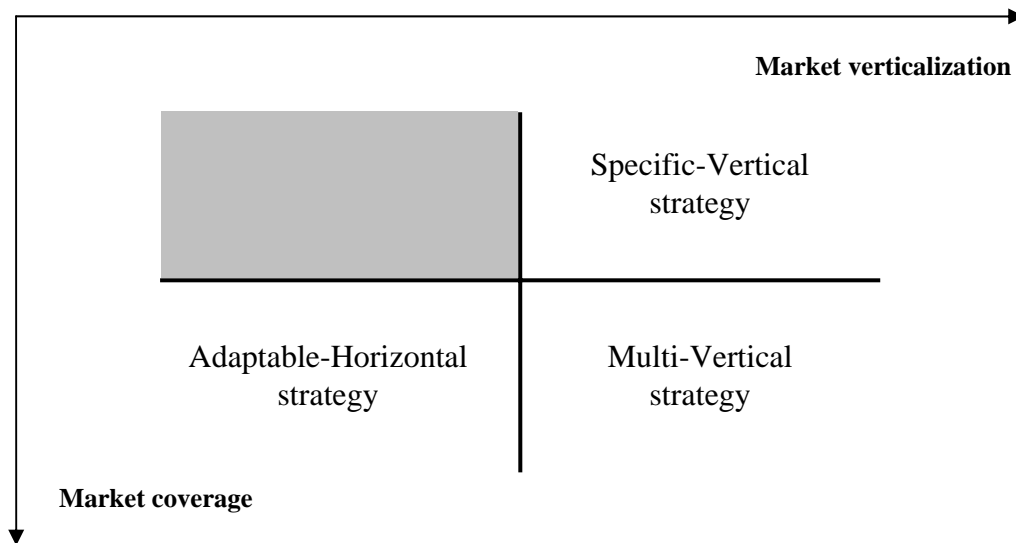


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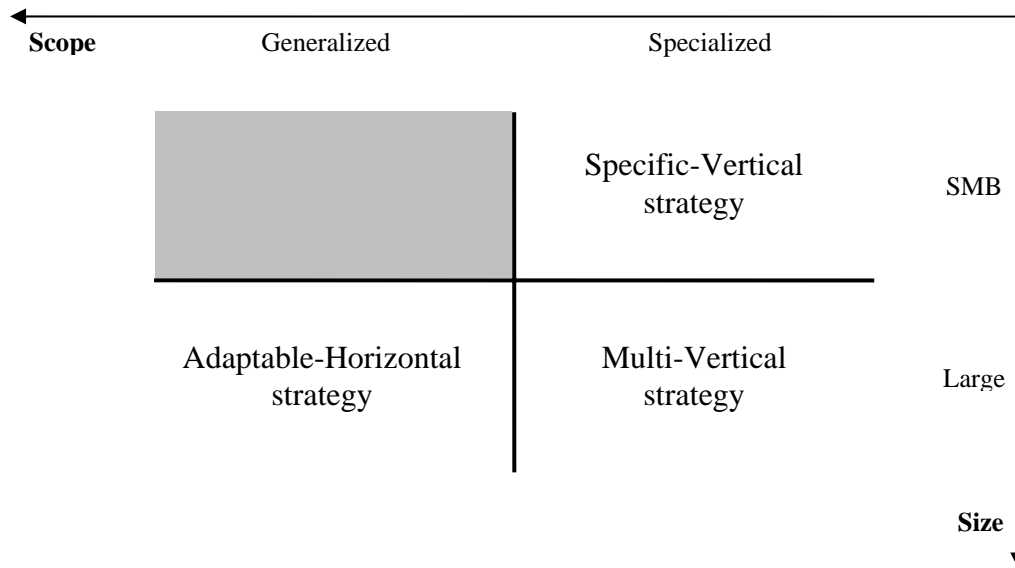
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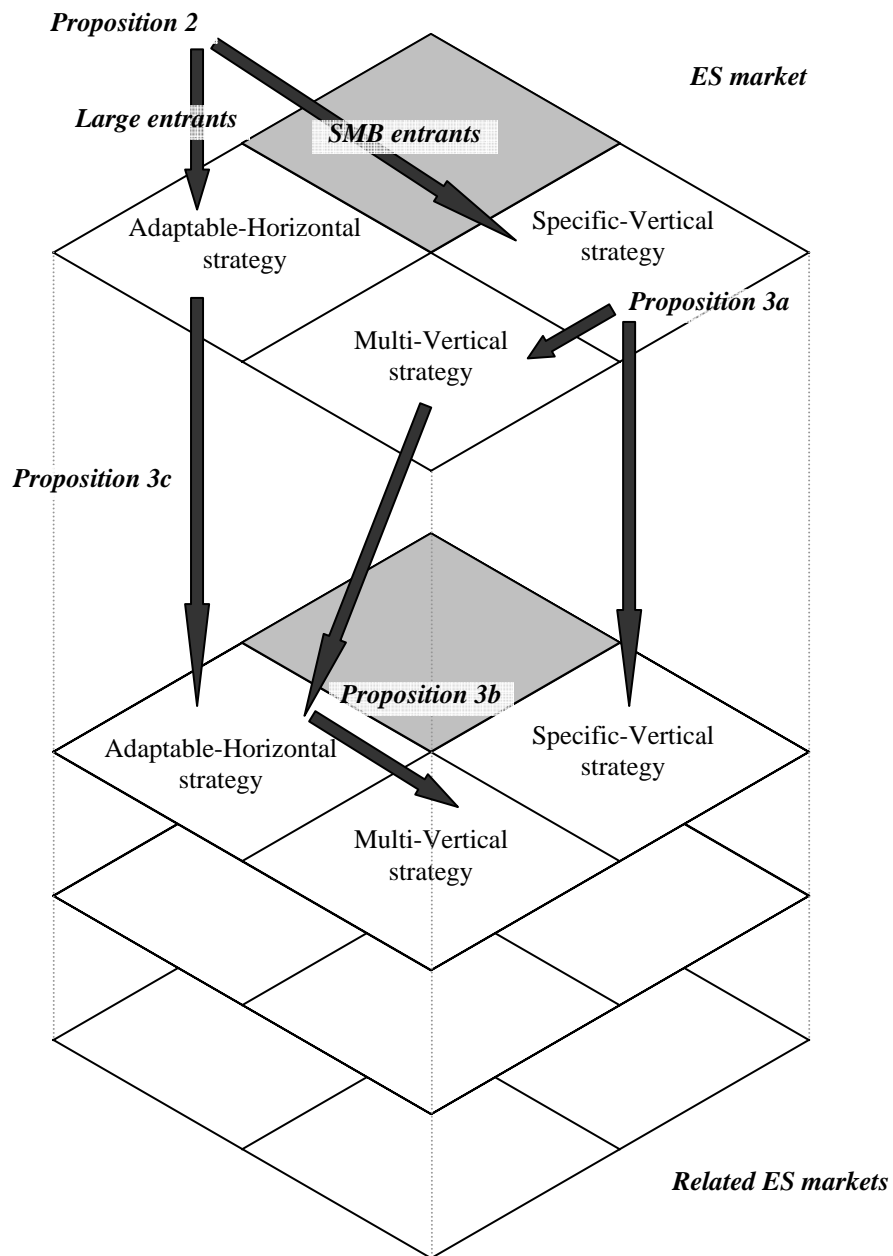
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**Figure 1** A typology of generic verticalization strategies



**Figure 2** Matching providers' characteristics and generic verticalization strategies



**Figure 3** Entry and growth strategies of ES providers

**Table 1** Providers' high-level characteristics

<i>Firm</i>	<i>Founded</i>	<i># of Employees</i>	<i>Offices</i>	<i>Revenues (Millions)</i>	<i>Product Scope</i>
Chordiant	1997	281	US & Europe	\$85	CRM only
KANA	1996	210	North America, Europe, Asia & Africa	\$40	CRM only
Siebel (now Oracle)	1993	>3,000	Global	\$134	CRM only
IBM	1911	>300,000	Global	>\$96,000	Software, Hardware, Services & Financing
Microsoft	1975	>57,000	Global	\$36,800	Software