Journal of International Business Studies (2004) 35, 124–141
 0047-2506 $25.00
www.jibs.net

Innovation, organizational capabilities, and the born-global firm

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We investigate born-global firms as early adopters of internationalization – that is, companies that expand into foreign markets and exhibit international business prowess and superior performance, from or near their founding. Our explication highlights the critical role of innovative culture, as well as knowledge and capabilities, in this unique breed of international, entrepreneurial firm. Case studies are analyzed to better understand the early internationalization phenomenon and reveal key orientations and strategies that engender international success among these innovative firms. Case findings are then validated in a survey-based study. Despite the scarce resources typical of young firms, our findings reveal that born-global firms leverage a distinctive mix of orientations and strategies that allow them to succeed in diverse international markets. Findings have important implications for the internationalization of contemporary firms.
Journal of International Business Studies (2004) **35,** 124–141.
doi:10.1057/palgrave.jibs.8400071

Keywords: early adopters of internationalization; innovation and capabilities; born-global firms

Innovation, knowledge, and capabilities have been central themes of research on the strategy and performance of the firm. Companies that operate internationally from an early stage in their development – early adopters of internationalization or 'born-global firms' – are emerging in substantial numbers worldwide. Despite the scarce financial, human, and tangible resources that characterize most new businesses, these early internationalizing firms leverage innovativeness, knowledge, and capabilities to achieve considerable foreign market success early in their evolution. Sometimes referred to as *international new ventures* or *global start-ups*, they have come of age during the current era of globalization and advanced technologies. Consistent with other scholars (e.g., Autio *et al*., 2000; Knight and Cavusgil, 1996; Oviatt and McDougall, 1994; Rennie, 1993), we define *born globals* as business organizations that, from or near their founding, seek superior international business performance from the application of knowledge-based resources to the sale of outputs in multiple countries.

The distinguishing feature of these firms is that their origins are international, as demonstrated by management's global focus and the commitment of specific resources to international activities. In contrast to the traditional pattern of firms that operate in the

Received: 19 November 2002
Revised: 19 October 2003
Accepted: 19 November 2003
Online publication date: 8 January 2004

domestic market for many years and gradually evolve into international trade (e.g., Johanson and Vahlne, 1977), these early adopters of internationalization begin with a global view of their markets, and develop the capabilities needed to achieve their international goals at or near the firm's founding. We focus on the phenomenon of early internationalization and the capabilities that born globals leverage for achieving superior performance in international markets.

Reports on the widespread emergence of born globals in numerous nations (e.g., Moen and Servais, 2002; Nikkei Sangyoo Shimbun, 1995; Rennie, 1993) indicate that it is an important phenomenon. These businesses first emerged in countries with small domestic markets, but are now appearing in markedly large numbers throughout the world. The phenomenon appears to be relatively universal, with researchers noting its occurrence in virtually all major trading countries (e.g., Nikkei Sangyoo Shimbun, 1995; OECD, 1997; Simon, 1996). Despite the scarce financial, human, and tangible resources that characterize most new businesses, born globals progress to internationalization relatively rapidly – the period from domestic establishment to initial foreign market entry is often 3 years or less (Autio *et al.*, 2000; McDougall and Oviatt, 2000; OECD, 1997; Rennie, 1993). The smaller size typical of young firms appears to confer a sort of flexibility that provides key benefits for succeeding in foreign markets.

In the external international business environment, early adoption of internationalization is likely driven by two key trends that have substantially reduced the transactions costs of foreign market expansion. The first is the globalization of markets, which involves countless firms in international sourcing, production, and marketing as well as cross-border alliances for product development and distribution. Globalization is associated with increasing homogenization of buyer preferences around the world, which has made international business easier by simplifying product development and positioning in foreign markets. The second trend is technological advances in information and communications technologies, production methods, transportation, and international logistics, which are reducing business transactions costs and facilitating extraordinary growth in international trade. Widespread diffusion of e-mail, the Internet, and related technologies has made internationalization a more viable and cost-effective option.

Although these trends facilitate early internationalization, by themselves they are insufficient to explain intriguing processes at work in the firm's internal environment. Despite their current and projected impact, there has been little research that attempts to explain why born globals internationalize early. More significantly, there has been almost no empirical research that examines the factors that drive the superior international performance of these young, highly entrepreneurial firms. In addition, there has been very little empirical research aimed at uncovering the actual bundles of capabilities that characterize truly innovative firms, as well as the causal link between the possession of particular types of knowledge, organizational routines, and superior performance (Lewin and Massini, 2003; Massini *et al.*, 2003).

Accordingly, a substantive investigation in this area is overdue. The study reported here explores the role of innovative culture and organizational capabilities in the early adoption of internationalization and subsequent international performance in the born-global firm. We intend to make several contributions. First, we investigate the phenomenon of early internationalization among a unique breed of international organization. Second, we highlight the importance of several key organizational capabilities that engender international success in born globals – research that has implications not only for these firms but also for internationalizing smaller firms in general. Third, and more specifically, we examine the critical linkages among entrepreneurial orientation, marketing orientation, and other key organizational capabilities in born-global international success. In the process, we extend the innovation literature by linking innovation to the phenomenon of early adoption of internationalization.

In the next section, we offer a conceptual framework that provides the rationale for the emergence of early adopters of internationalization in the current era. We then summarize the research methods used in this study. Specifically, we conduct a series of exploratory case studies on born-global firms, which lead to a set of hypotheses. We then assess these hypotheses in a confirmatory, survey-based study. Finally, we report on empirical findings, providing an overview and substantive discussion.

Conceptual foundations

The ability to internationalize early and succeed in foreign markets is a function of the internal capabilities of the firm (Autio *et al.*, 2000; McDougall *et al.*, 1994; Zahra *et al.*, 2000). The importance of internal capabilities is rooted in evolutionary economics (Nelson and Winter, 1982), wherein innovation processes are explicitly described. The evolutionary economics view implies that the superior ability of certain firms to sustain *innovation* and, as a result, create new *knowledge* leads to the development of organizational *capabilities*, consisting of critical *competences* and embedded *routines*. These firm resources in turn lead to superior performance, particularly in highly competitive or challenging environments (Nelson and Winter, 1982).

Innovation results from two major sources: (1) internal R&D that draws on the firm's accumulated knowledge, and (2) imitation of the innovations of other firms (Lewin and Massini, 2003; Massini *et al.*, 2003; Nelson and Winter, 1982). In addition to introducing new goods and methods of production, R&D also supports the opening of new markets and reinvention of the firm's operations to serve those markets optimally (Nelson and Winter, 1982; Schumpeter, 1934). Innovation is particularly the domain of entrepreneurs, whose function is:

> to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up… a new outlet for products

and so forth (Schumpeter, 1942: 132). Firms' innovative culture, combined with appropriate accumulated knowledge stocks, engenders the development or improvement of products and new methods for doing business (Dosi, 1988; Nelson and Winter, 1982). Internationalization, or new entry into markets overseas, is an innovative act (Casson, 2000; Schumpeter, 1939; Simmonds and Smith, 1968), and born-global firms are particularly innovative in this regard.

The resource-based view (RBV) (e.g., Grant, 1996a; Penrose, 1959; Rumelt, 1984;; Teece and Pisano, 1994; Wernerfelt, 1984) helps to explain how, in the context of an innovative culture, knowledge and resultant organizational capabilities are developed and leveraged by enterprising firms. Differential endowment of resources is an important determinant of organizational capabilities and performance (Barney, 1991; Grant, 1996a; Teece and Pisano, 1994; Wernerfelt, 1984). Foundational resources are particularly important in turbulent business environments because they are a more stable basis for strategy formulation (Grant, 1996a; Prahalad and Hamel, 1990). Knowledge is the most important resource, and the integration of individuals' specialized knowledge is the essence of organizational capabilities (Conner and Prahalad, 1996; Dierickx and Cool, 1989; Grant, 1996a; Leonard-Barton, 1992; Nelson and Winter, 1982; Solow, 1957).

In international business, knowledge provides particular advantages that facilitate foreign market entry and operations (e.g., Kogut and Zander, 1993). Knowledge is used here to refer to the capacity of the firm to apprehend and use relationships among informational factors to achieve intended ends (Autio *et al.*, 2000). Gross output and overall organizational performance are directly traceable to increases in stocks of organizational knowledge (Nelson and Winter, 1982; Solow, 1957). The integration of specialist knowledge hinges on the nature and quality of the firm's organizational routines, which involve continuous conversion of, especially, *tacit* knowledge (Polanyi, 1966) into business activities that create value for customers. Tacit knowledge is embedded in individuals and cannot be expressed explicitly or codified in written form (Nonaka, 1994).

In this regard, the most important knowledge resources are unique, inimitable, and immobile, reflecting the distinctive pathways of each individual firm (Dierickx and Cool, 1989; Grant, 1991, 1996a). Uniqueness facilitates profitable pricing that minimizes the need to consider competitors' offerings, inimitability helps ensure that profits will not be competed away, and immobility reduces the threat that proprietary knowledge will be disseminated to rival firms (Nelson and Winter, 1982; Teece and Pisano, 1994). Ultimately, the firm *accumulates* firm-specific knowledge internally (Barney, 1991; Dierickx and Cool, 1989; Teece *et al.*, 1997). Organizational knowledge derived from multiple individual sources is greater than the sum of its parts, and becomes a key strategic asset (Nelson and Winter, 1982). It is reinforced in all the activities of the firm and becomes increasingly embedded in its routines (Autio *et al.*, 2000).

The idiosyncratic knowledge base acquired by following unique pathways gives rise to organizational capabilities (Dierickx and Cool, 1989; Nelson and Winter, 1982; Nonaka, 1994; Teece *et al.*, 1997). Organizational capabilities reflect the ability of the firm to perform repeatedly, or 'replicate', productive tasks that relate to the firm's capacity to create value through effecting the transformation of inputs into outputs (Nelson and Winter, 1982; Teece and Pisano, 1994). Capabilities emerge via the integration of specialist knowledge across a number of individuals, and are associated with the development of organizational competences and routines (Grant, 1991; Teece and Pisano, 1994). Competences are those knowledge-intensive, performance-enhancing business activities in which the firm is particularly skilled (Teece *et al.*, 1997). Routines consist of regular and consistently practiced patterns of individual and business behaviors that institutionalize individual or organizational knowledge about the firm's ongoing, rent-generating activities (Dosi, 1988; Nelson and Winter, 1982; Teece and Pisano, 1994). Routinization of organizational activities embeds capabilities into organizational memory, engendering a unique configuration of firm resources.

Organizational capabilities are the main source of the firm's performance advantages (e.g., Grant, 1991). Capabilities have two major aspects: (1) the shifting character of the business environment; and (2) strategic management in appropriately adapting, integrating, and re-configuring knowledge-based capabilities toward the changing environment. Ideally, capabilities are 'dynamic', reflecting the ability of managers to renew the firm's competences so as to achieve congruence with the changing business environment (Teece *et al.*, 1997). Replication of organizational capabilities involves transferring or re-deploying capabilities from one organizational or business environmental setting to another, so as to extend the firm's performance into new markets, new product categories, and new ways of doing business (Nelson and Winter, 1982; Teece *et al.*, 1997).

Organizational capabilities and the born-global firm

Innovating firms develop their own unique knowledge and resultant capabilities that engender organizational performance. New product-market development in young, innovative firms is fluid and dynamic, with ongoing market expansion and redefinition resulting in frequent competitive improvements to the firm's offerings and routines (Utterback and Abernathy, 1975). Whereas larger, long-established firms usually experience substantial bureaucratization that hinders their innovative activities, smaller or younger firms are more flexible, less bureaucratic, and generally enjoy internal conditions that encourage innovativeness (e.g., Lewin and Massini, 2003; Penrose, 1959; Schumpeter, 1942).

Lewin and Massini (2003) point to various empirical studies on the effects of firm size and age on innovation. The studies conclude that there is a positive relationship between firm size and R&D activities, but innovation capabilities appear to be less than proportional to size, and therefore R&D productivity declines with size, and also therefore with age. The flexibility of young and agile firms enhances the ability to transform product and process innovations into business activities that support superior business performance (Lewin and Massini, 2003).

We conjecture that young firms with a strong innovation culture and a proclivity to pursue international markets tend to internationalize earlier than internationally oriented young firms that lack an innovation culture. This same innovation culture also should facilitate the acquisition of knowledge, leading to capabilities that drive organizational performance. Our research suggests that born globals are inherently entrepreneurial and innovative firms that possess these types of characteristics. These businesses display a specific pattern of knowledge and capabilities that engenders early internationalization and sustainable, superior performance in foreign markets.

The youth of these firms is interlinked with entrepreneurial and innovative approaches to doing business. Being young, born globals tend to lack substantial financial and human resources, as well as plant, equipment, and other physical resources. It is these *tangible* resources that older firms typically have relied upon to drive their performance in foreign markets. In contrast, born globals leverage a collection of fundamental *intangible* knowledge-based capabilities in the cultivation of foreign markets early in their evolution.

Superior performance is an outcome of the firm's entrepreneurial and managerial knowledge (Autio *et al.*, 2000; Penrose, 1959). Knowledge about international markets and operations, as well as the efficiency with which such knowledge is acquired, is a critical determinant of superior international performance in entrepreneurial firms (Autio *et al.*, 2000). Lewin and Massini (2003) contend that firms with superior innovation and knowledge-creation processes have more sophisticated, more highly developed and elaborated knowledge-creation routines and learning regimes. Consistent with innovation scholars (e.g., Lewin and Massini, 2003; Nelson and Winter, 1982), we conjecture that born globals undertake R&D projects that lead to entering new foreign markets, *or* they observe other early adopters of internationalization entering foreign markets and imitate such behaviors accordingly.

Capabilities-based resources are especially important to born globals, typically poor in tangible resources, because they deal with diverse environments across numerous foreign markets (Luo, 2000). Possession of such capabilities helps firms to attenuate their liabilities of foreignness and newness (Oviatt and McDougall, 1994). Foreignness reflects the unfamiliarity and strangeness that firms experience in foreign markets. Newness refers both to the state of being a young or new firm and to the entering of new markets – both characteristics of born-global firms. The ability to consistently replicate the firm's capabilities across numerous and varied markets produces value for born globals by supporting, especially, international expansion (Teece *et al.*, 1997).

Organizational routines and administrative heritage

A key dimension of born-global firms is that they appear to lack the deeply rooted administrative heritage (Collis, 1991; Miller and Friesen, 1984) of long-established businesses. Well-established firms typically must unlearn routines rooted in domestic operations before new, internationally oriented routines can be learned. Unlearning embedded routines becomes more difficult as firms get older, because new knowledge that leads to new routines tends to conflict with existing operations and management's embedded mental models (Autio *et al.*, 2000; Barkema and Vermeulen, 1998). Well-established firms have systematized routines that are costly to change and limit the ability of the firm to innovate (Utterback and Abernathy, 1975). The older firm's previous investments and its repertoire of organizational routines constrain its future behavior (Leonard-Barton, 1992; Teece and Pisano, 1994). Bounded rationality and embedded 'hierarchies' (Grant, 1991) of routines inhibit the ability of well-established firms to adopt new technological solutions, leading to an emphasis on developing knowledge and routines closely related to or adjoining their existing knowledge and routines, but which may be sub-optimal in light of evolving or varying environmental circumstances.

In contrast, from their earliest days, the innovative culture of born-global firms gives rise to specific capabilities suitable for success in foreign markets. Their entrepreneurial orientation is associated with an innovative and proactive approach to internationalization. Organizational learning theory suggests that the development of new knowledge occurs best under conditions in which there are little or no existing organizational routines to unlearn (Autio *et al.*, 2000; Cohen and Levinthal, 1990). This implies that young firms may be better equipped to acquire the requisite knowledge about international business. Escalating internationalization facilitates further learning opportunities that benefit their performance because of the range of unique environments and competitive situations to which these firms are exposed. Thus early internationalization may confer substantial benefits in terms of knowledge acquisition about international markets and how to succeed there. In the next section, we describe the specific capabilities that drive the international performance of born-global firms.

Delineation of key capabilities and linkages

As the widespread emergence of born globals is relatively recent, little empirical work has been attempted on this topic. Accordingly, a two-phase research design was adopted that began with qualitative interviews to develop a broader understanding of these organizations and to uncover key constructs and linkages. In the second phase, we conducted survey-based research on a large sample of born-global firms to validate findings from the qualitative phase. In-depth interviews were conducted with 33 professionals. These included senior managers at 24 early internationalizing firms, six scholars who have investigated born globals, and three international trade experts who are key observers of global business trends. Most of the interviewed firms were founded after 1985, were selling half or more of their total sales abroad, and had ventured abroad within 3 years of founding. The interviews typically lasted about 45 min and were analyzed and organized according to patterns of consistent themes of firm culture, strategy, and performance. In all, 18 of the businesses marketed various industrial products, and the remaining six sold consumer goods. The average firm had $52 million in annual sales and 296 employees. The capabilities and associated relationships that emerged from these interviews are discussed below.

In general, the qualitative phase of the study revealed that born globals are likely to be formed by entrepreneurs who pursue foreign ventures with a strong marketing orientation. They tend to leverage

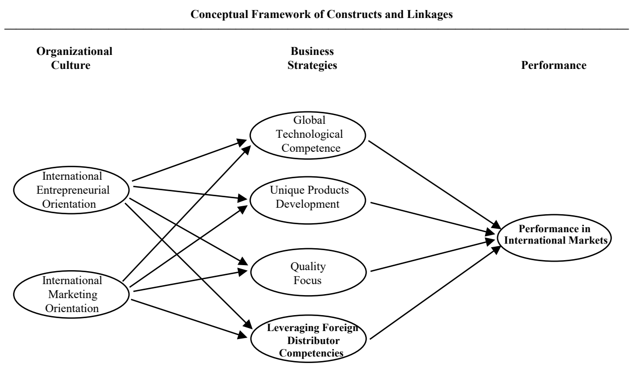

Figure 1 Conceptual framework of constructs and linkages.

technological prowess, relatively unique products, and a strong quality focus to sell their offerings via independent distributors in markets worldwide. Among operational attributes, entrepreneurial culture, marketing skills, superior and distinctively positioned products, and leveraging strong distributors, all emerged as important capabilities for born globals to position themselves in foreign markets.

Figure 1 highlights the specific constructs and relationships that emerged from the qualitative research. Ultimately, the interviewed firms were seeking superior *performance in international markets*, which is defined as the extent to which financial and other goals are achieved as a function of business strategies. Performance comprises expectations about the achievement of these objectives in addition to more conventional economic goals, such as profitability, sales growth, market share, and general international success. Each firm's unique base of resource-derived capabilities drives its international performance. The performance antecedents and associated linkages proposed in Figure 1 are elaborated next.

Organizational culture

Within the framework of evolutionary economics, specific ways of doing business emerge from the core capabilities founded on the knowledge and skills embodied in organizational employees, and codified and structured into a base of tacit information and routines. Innovative firms devise particular types of knowledge and capabilities that become embedded in the organization's culture. In our case studies, the great majority of interviewed managers at born-global firms spoke about the importance of being internationally oriented as well as entrepreneurial and innovative in the pursuit of foreign markets. They also emphasized the importance of developing and applying a strong marketing prowess abroad. Based on these findings, we conceive that the most important organizational culture attributes in born-global firms are what we term international entrepreneurial orientation and international marketing orientation.

Having an *international entrepreneurial orientation* implies that these firms make the leap into international markets because of unique entrepreneurial competences and outlook (e.g., Autio *et al*., 2000; McDougall *et al*., 1994). The interviewed born globals seem to possess a distinctive entrepreneurial orientation that, when combined with other resources and capabilities such as strong marketing skills, allows them to see and exploit opportunities in foreign markets. International entrepreneurial orientation reflects the firm's overall innovativeness and proactiveness in the pursuit of international markets. It is associated with innovativeness, managerial vision, and proactive competitive posture (Covin and Slevin, 1989; Dess *et al*., 1997; Lumpkin and Dess, 1996; Miller and Friesen, 1984). These activities are consistent with what Lumpkin and Dess (1996) term 'new entry,' the 'central idea underlying the concept of entrepreneurship' (p 136). For born globals, it implies the entering of new (that is, international) markets with new or established goods. A posture that is innovative, visionary, and proactive may be necessary amongst a class of firms that, in the face of relatively limited resources, takes the initiative to pursue new opportunities in complex markets, typically fraught with uncertainty and risk.

Dess *et al*. (1997) point to a substantial literature that emphasizes the inherent value in entrepreneurial behavior and a linkage between this behavior and desired organizational outcomes. Possession of an entrepreneurial orientation gives rise to certain 'processes, practices, and decision-making activities' associated with successful entry into new markets (Lumpkin and Dess, 1996). Whereas unbridled risk seeking may engender inferior performance, having an entrepreneurial orientation in diverse foreign environments tends to support the realization of key strategic initiatives that augment international success. Accordingly, international entrepreneurial orientation should be instrumental to the development and enactment of key organizational routines in born-global firms.

The critical role of marketing prowess overseas was also strongly emphasized by virtually all interviewees in the case studies. We conceptualize this as *international marketing orientation*, which refers to a managerial mindset that emphasizes the creation of value, via key marketing elements, for foreign customers (Cavusgil and Zou, 1994). Market orientation, marketing competence, and other marketing-related activities engender superior organizational performance (e.g., Albaum and Peterson, 1984; Cavusgil *et al.*, 1993; McKee *et al.*, 1992; Slater and Narver, 1992). Within their markets, marketing-oriented firms seek to offer products and services whose value buyers perceive to exceed the expected value of alternative offerings. The urge to continuously provide superior buyer value and attain superior performance drives the firm to create and maintain a business culture that fosters the requisite business behaviors. Globalization is facilitating the emergence of customers who are better organized, have more information, and are generally more demanding. A heightened focus on the customer is driven by a more competitive international marketplace, rapid changes in technology that have shortened product life cycles, and the mediocre financial performance of many firms. A marketing orientation provides the foundation from which the firm interacts with diverse foreign markets. Managers with this orientation create specific marketing-related strategies aimed at overcoming these challenges and maximizing performance.

Business strategies

The RBV suggests a holistic view of the firm, in which the coordinated deployment of resources and capabilities provides the foundation for creating, producing, and marketing products (Young *et al.*, 2000). Along these lines, the case studies suggest that born globals are highly innovative firms whose possession of the foundational capabilities of international entrepreneurial orientation and international marketing orientation engender the development of a specific collection of organizational strategies. The most important business strategies employed by born-global firms that emerged in our investigation are global technological competence, unique products development, quality focus, and leveraging of foreign distributor competences. These are described next.

Most interviewed firms exhibited strong technological capabilities in their respective product or industry categories. *Global technological competence* refers to the firm's technological ability relative to cohort firms in its industry. It facilitates the creation of superior products and the improvement of existing products, as well as greater effectiveness and efficiency in production processes. Advances in production technologies facilitate low-cost, small-scale manufacturing that enable smaller-scale firms to efficiently serve the specialized needs of market niches worldwide. Moreover, global technological leaders tend to leverage information and communications technologies to interact more efficiently with channel members and customers, and to obtain various other benefits (Clark, 1987; Zahra *et al.*, 2000).

Emphasis on developing new technologies is a natural routine for innovative, entrepreneurial firms (Nelson and Winter, 1982; Schumpeter, 1934). Entrepreneurship derives from 'the capacity of small firms to leverage resources and transform existing markets through innovation' (Steensma *et al.*, 2000: 951). This basic innovativeness gives rise to new ideas and creative processes, reflecting a willingness to depart from existing technologies (Lumpkin and Dess, 1996). Entrepreneurial firms continually seek to create products and operating methods that improve organizational performance (e.g., Lumpkin and Dess, 1996; Miller and Friesen, 1984; Mintzberg, 1973; Zahra *et al.*, 2000). Overall, innovation is a critical entrepreneurial process for firm performance in competitive international markets (e.g., Kotabe, 1990; Miller and Friesen, 1984; Steensma *et al.*, 2000; Zahra *et al.*, 2000).

International marketing orientation can also foster global technological competence. Firms leverage technology to innovate in the creation and improvement of products, as well as the adaptation of products for foreign markets. Information and communication technologies facilitate learning about customers and competitors, efficient channel interaction, and other benefits. Overall, as with most companies, technology facilitates the marketing process in born-global firms. The above discussion leads to our first hypothesis, which, consistent with Figure 1, relates international entrepreneurial and marketing orientations to global technological competence:

> **H1:** In the born-global firm, global technological competence is a function of (a) international entrepreneurial orientation and (b) international marketing orientation.

In addition to technology, the interviewed firms also emphasized having relatively unique products. The ability to develop unique products derives from the innovative and knowledge-intensive capabilities of these firms. *Unique products development*