

**MINDING AFFECT: WHY SOME FIRMS LEARN FROM THEIR
EXPERIENCE WHILE OTHERS DO NOT**

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ABSTRACT

While many studies suggest that organizations learn processes from experience, many others suggest otherwise. The purpose of this study is to explore why some firms learn organizational processes from their experience while others do not. The focal process is internationalization and the setting is 10 entrepreneurial firms with headquarters in three culturally distinct countries (i.e., Finland, U.S., and Singapore). Comparisons of firms that learned and did not learn an internationalization process reveal that first, variations in learning relate to purposeful path dependence. Leaders in firms that learned instilled urgency for internationalization which created impetus for action and led to the proactive accumulation of a pattern of self-reinforcing experiences rather than the reactive agglomeration of many random ones. Second, differences in learning relate to personal associations, not impersonal roles, as positive affect fostered the bridging of individual and organizational levels of learning. Differences in learning also stem more from an attitude of humility than a corpus of superior knowledge since the former leads to open-mindedness while the later often leads to hubris. Finally, data reveal that firms in which a process was learned switched learning curves through strategic pull-outs and deliberate re-starts. This contrasts with existing literature which suggests that firms should remain on the same learning curve. Besides reframing learning as a posture of wisdom, we indicate the central insight that variations in learning relate to heeding affect. Thus, while dominant perspectives of learning emphasize behavior and cognition, this study brings to light the salient role of emotion.

Key words: affect, experience, learning, capabilities, process, internationalization

Much research suggests that organizations learn processes from their experience (Zimmerman, 1982; Argote and Epple, 1990; Chung, 2001). Darr and colleagues (1995), for example, found that as pizza organizations gained experience in production, the unit cost of production declined significantly. Likewise, Anand and Khanna (2000) and Sampson (2005) found that firms learn to manage interfirm alliances as their experience accumulated. The authors discovered that the creation of many alliances over time appeared to give firms a broader portfolio of experiences which in turn helped them better prepare the skills needed to create alliance arrangements with new partners in the future. Kale and colleagues (2002) described similar results. Analyzing approximately, 1572 alliances from 78 firms, these scholars found that cumulative alliance experience was significantly related to abnormal stock gains following alliance announcements. Finally, Bingham and Eisenhardt (2005) showed that firms learn from their internationalization experience. Their study showed that over time, leaders accumulated varied sets of heuristics that allowed them to move effectively enter new countries.

Yet other research suggests that organizations fail to learn from their experience. For example, Haleblian and Finkelstein (1999) analyzed 449 large completed majority acquisitions and found a U-shaped relationship between organization acquisition experience and acquisition performance. Likewise, Hayward (2002) used data from 535 acquisitions and found no significant relationship with experience and performance. Zollo et al. (2002) discovered an analogous outcome in their research on alliances. Specifically, the authors studied 145 alliances in the bio-technology industry and found no empirical support for learning benefits associated with a firms' number of previous alliances.

The empirical research that does conjecture why some firms learn from their experience while others do not suggests that such variation may be due routinization of behavior (Joskow and

Rozanski, 1979), refined knowledge (Hayes and Wheelwright, 1984; Argote, 1999; Zollo and Singh, 2004), continued commitments to existing product offerings (Darr, et al., 1995; Chung, 2001), greater specialization (Ingram and Baum, 1997), improvements to technology (Lieberman, 1987), and better understanding and delineation of roles (Argote, 1993). For example, using a cross section of nuclear power plants in the U.S. and other foreign countries, Joskow and Rozanski (1979) described how a major contributor to the productivity gains associated with experience was increased routinization of existing routing and material handling. Extant literature also indicates that the root of such variations in learning relate to cognition and/or behavior. That is, firms that learn from experience are assumed to be more effective at making regular changes in routines (Cyert and March, 1963; Nelson and Winter, 1982) , and/or systematic alterations in ideas and causal models (Argote, 1999; Miner, Bassoff, and Moorman, 2001) than those firms that do not learn. To illustrate, in their interviews with executives at aerospace and truck plants about what caused differences in organizational learning, Argote and colleagues (1999) discovered that managers emphasized gaining increased understanding about the skills of individual members and then assigning tasks accordingly. Collectively, these studies portray a view where differences in learning relate to actions that are rational, technical, variance-reducing, and emotionally devoid.

In contrast, there is reason to believe that traditional accounts may not accurately describe why some firms learn processes from heterogeneous experiences. In general, processes learned from heterogeneous experience (e.g., acquisitions, product development, partnering, and internationalization) are initiated and consummated for unique, not similar reasons (Hayward, 2002). This suggests that inter-firm differences in learning may have more to do with shifting organizational behavior than routinizing it as repeating inappropriate solutions may lead to overgeneralization (Haleblian and Finkelstein, 1999) or escalation of commitment (Staw, 1976).

Heterogeneous experience is also challenging and uncertain. For example, internationalization requires knowing what customers to pursue, what mode of entry to employ, what sales techniques to use, and how those variables might change for each new country entry (Bingham and Eisenhardt, 2005) It also often requires moving quickly so as to take advantage of short-term windows of opportunity (McDougall and Oviatt, 2000; Zahra, Ireland, and Hitt, 2000). Such preponderance of choice suggests that learning advantages may not derive from patient deliberation and structured analysis but rather from a feeling of urgency and guided intuition. This may be especially true in entrepreneurial firms, where time is scarce and leaders often make decisions based on their “gut” rather than through detailed studies (Allinson, Chell, and Hayes, 2000). Finally, heterogeneity in experience implies that humility and positive affective may be more related to differences in learning than stocks of knowledge and impersonal roles as organizational understanding for tasks often rests on the intrinsic motivation of key individuals to acquire new knowledge and share existing knowledge to others inside the firm (Carlson, Charlin, and Miller, 1988; Weick, 1993). Overall, while research shows that some firms learn from their experience while others do not, what is relatively unknown are the conditions under which each happens, especially in the context of heterogeneous experience.

The purpose of this study is to explore why some firms learn organizational processes from their heterogeneous experience while others do not. Given the lack understanding about the conditions under which variations in learning occur (particularly in the context of heterogeneous experience) we use an inductive grounded theory-building (Glaser and Strauss, 1967; Eisenhardt, 1989). Such an approach is consistent with the counsel of several learning scholars such as Huber (1991: 95) who states, “the literature on organizational learning from experience contains very few formal, systematic field studies,” Argote (1999: 202) who suggests, “Understanding

why some firms are better at learning than other should continue to be an overarching question that motivates research...it will be more fruitful to design studies that analyze the contribution of specific factors to organizational learning in depth,” and Finkelstein and Haleblian (2002: 45) who recommend that, “Future research using a lab study simulation or case study approach should examine the underlying processes (of learning).” The focal process is internationalization, and the setting is 10 technology-based entrepreneurial firms with headquarters in three culturally distinct countries (i.e., Finland, United States, and Singapore).

The result is a theoretical framework for why some firms learn from their heterogeneous experience while others do not. We reframe learning as a posture of wisdom, a perspective that emphasizes holism (not specialization), social associations (not impersonal roles), external data sources (not parochialism), and norms that encourage switching learning curves rather than staying on the same ones over time. More broadly, we offer a fresh view of organizational learning by revealing a lens that underscores the importance of urgency, valence, humility, and tempered devotion. We contrast our emergent *affective* view of learning with dominant *behavioral* and *cognitive* views (Cyert and March, 1963; Huber, 1991; March, Sproull, and Tamuz, 1991; Miner, et al., 2001) which suggest that variations in learning stem from stocks of knowledge or organizational routines and that learning is diminished by, not enhanced with, the use of affect.

METHODS

The research design is a multiple-case, embedded study. Multiple cases allow a replication logic in which cases are viewed as a series of experiments. Each case serves to confirm or disconfirm the inferences drawn from the others (Yin, 1994). A replication logic typically yields more generalizeable and accurate results than do single case studies. Cases are

also particularly useful for studying longitudinal phenomena such as learning from experience because they permit the emergence of more complicated theoretical relationships than are readily examined in many other types of research. This study also uses an embedded design – i.e., multiple levels of analysis including: (1) country entry, (2) firm, and (3) country entry team. Although complex, an embedded design improves the likelihood of inducting richer and more reliable models (Yin, 1994).

The research setting is ten entrepreneurial corporations in the global information industry. The global information industry (including hardware, software, networking, and service firms) is attractive for this study because of the many ventures in the industry, and the importance of foreign markets to provide growth opportunities. In addition, the dynamic nature of the industry suggests the challenges and importance of learning in this context.

We sample entrepreneurial firms because their small size simplifies the observation of learning phenomena in contrast with the complexity of larger organizations (Argote, 1999). In addition, studying entrepreneurial firms deals with issues of left censoring of data because firms can be tracked from inception. Studying entrepreneurial firms is also important from a pragmatic viewpoint as they are important to the economic vitality of the economy (Schoonhoven and Romanelli, 2001). Finally, research using entrepreneurial firms fills an important gap in the learning literature as most studies on the effects of experience have focused on larger mature organizations (e.g., Alchian, 1963; Rapping, 1965; Zimmerman, 1982).

The focal organizational process is internationalization. Although often overlooked, internationalization is a useful context in which to explore learning for several reasons. First, country entries are discrete and easily detected events. Second, during internationalization, organizations may enter into countries that may or may not be similar to other previous country

entries, suggesting substantial variance in the effects of prior experience. Third, country entries typically take place at multiple points during an organization's history, allowing prior country entry experience to be leveraged (or not) to enter subsequent countries. Fourth, the data for each country entry can be isolated, enabling both single country and firm-level analysis. Finally, from a pragmatic perspective, internationalization is often important to organizational success, particularly for young firms competing in global markets (Autio, Sapienza, and Almeida, 2000; McDougall and Oviatt, 2000), as well as to the overall economy's balance of trade (Aharoni, 1966).

We sample firms with headquarters in each of three culturally distinct regions (i.e., Finland, U.S., and Singapore) (Hofstede, 2001). Multiple regions enhance the generalizability of the results while at the same time addressing a significant need in the literature for comparative international research (Pettigrew, Woodman, and Cameron, 2001). Each of these firms was founded after 1996, and entered at least four countries. Post-1996 founding enhances accurate recall of events while entry into at least four countries ensures sufficient experience from which to study the linkages between experience and learning. Finally, each firm was currently entering at least one additional country at the time of data collection, thereby providing both retrospective and real-time data (Leonard-Barton, 1992).

Data Collection

We rely on three data sources: (1) quantitative and qualitative data from semi-structured interviews with company leaders; (2) e-mails, observations, and phone calls to follow-up on interviews and to track international expansion over time; and (3) extensive archival data including company websites, business publications, and other materials produced inside the firm.

The primary data source is semi-structured interviews. Specifically, we conducted approximately 60 personal interviews with individuals on three different continents. There are two types of interviews corresponding to the two types of informants. The first type is corporate executives responsible for firm-wide activities. These include founders, CEO, COO and VP of International if such a role exists. The second type is country-level employees who were directly involved with entry into a particular country. Overall, these two types of interviews helped yield data with both the multi-country view from the corporate perspective as well as specific detail from individual countries.

All interviews were both open and closed-end questions and consisted of three parts. The first part of the interview began by briefly asking background information for the firm (e.g., overall and international strategy). The second part, the heart of the interview, was an open-ended chronology of the firm's internationalization. Each informant was asked to relate the story of entry into a particular country as he or she witnessed it by asking them to place themselves back at the time of the events and move forward as the events occurred. We also supplemented these accounts by probing questions when appropriate. In order to ensure more accurate information, a "courtroom" procedure was used where questions center on concrete facts and events rather than on personal interpretations, especially of the motives of others (Eisenhardt, 1989). For corporate level informants, we focus this part of the interview on either the internationalization of the company as a whole whereas with country level informants we focused on entry into a particular country. For both informants, we sought to obtain rich qualitative and quantitative data of the overall entry story beginning with the entry decision process and then continuing over time. In particular, we asked questions such as how the country was selected, who was involved, how leaders achieved their first sale, what lessons (if any) were

used from previous entries, and how leaders decided where to go next. Consistent with grounded methods, we used demand neutral questions in order to avoid “leading” informants (e.g., was the entry fast or slow, surprising or expected). The final part of the interview was a series of closed-ended questions to measure likely to be important constructs such as communication.

All interviews were tape-recorded and transcribed, most within 24 hours. Immediate observations of the interviewers were also added to the end of each interview. Further, we conducted follow-up interviews and supplemented interview data with archival information from corporate websites and the media. Overall, as a result of this research design, we developed deep relationships with and understanding of our focal companies.

As informant bias is an important consideration, we addressed this issue in several ways. First, we combine both real time and retrospective data. Such a combination is ideal, with the retrospective data enabling efficient data collection of more observations (thus enabling better grounding) while real time data collection allows further depth in understanding how events evolve (Leonard-Barton 1990). Second, experience with previous research (e.g., Brown and Eisenhardt 1997; Galunic and Eisenhardt 2001) suggests that the proposed interview techniques (e.g., “courtroom” questioning, event tracking, non-directive questioning, establishing a “back in time” cognitive frame) typically yield accurate and convergent information among informants and with archival data. The few differences that may arise are due primarily to informants’ relating different parts of the story, not because they are in conflict. Third, reliance on informants at multiple levels of hierarchy is likely to yield a more complete and thus, accurate picture of events due to complementary perspectives and granularity. Combining qualitative stories with quantitative measures has similar effects (Edmondson and McManus, 2005). We also rely on informants who are particularly knowledgeable about the relevant events and for

whom those events were quite important, thus improving memory accuracy. Fourth, the use of anonymity for both companies and informants encourages candor. Finally, we supplement these data with archival information from the time period in question.

Data Analysis

As is typical in inductive, grounded theory-building, we began data analysis by writing individual case histories (Eisenhardt, 1989). These histories synthesized the interview and archival data of the focal firm and described the chronological story of the internationalization. They were also supplemented with selected narrative quotes, tables, and timelines summarizing key facts. In addition, we incorporated the perspective of another researcher who independently read through the original interviews and archival information, forming an independent perspective on each case. This added perspective helped provide a more robust and triangulated summary for each firm.

As is typical in inductive, grounded theory-building research, we used individual case histories for two types of analysis: within-case and cross-case. During within-case analysis we concentrated on developing constructs, emergent themes, and theoretical relationships linking experience and learning based on the insights from each firm. During cross-case analysis we looked for the emergence of similar themes and constructs across multiple cases (Eisenhardt, 1989; Miles and Huberman, 1994). It proceed with a variety of lenses including grouping sample firms according to similar theoretical constructs as well as random groupings. We also engaged in successive paired comparisons in order to develop an understanding of similarities and differences that might be emerging using a replication logic. Finally, we relied on extant literature to sharpen the conceptual underpinnings of our findings. Overall, data analysis involved multiple iterations between data, theory, and later extant research until a strong match

between data and the theoretical framework for why some firms learn from their experience emerged.

WHY SOME FIRMS LEARN PROCESSES FROM HETEROGENEOUS EXPERIENCE

We measured whether or not an organizational process was learned by first tracking its development over successive countries. In particular, following Bingham and Eisenhardt (2005), for each country entry we noted the rules and heuristics for internationalization (see Table 2). We observed that those that learned a process began with boundary and how-to rules. They then added in temporal heuristics such as sequence and synchronization rules, as well as elaborations to existing boundary and how-to rules in the form of specific priorities and detailed action steps. Finally, those that learned a process developed varied levels of abstraction in rules. Each of these rules was a recognizable guide for internationalization that was known by several people and used in multiple experiences (i.e., more than one country entry). A good illustration of a firm that learned a process from experience is e-Secure. After five country entries the firm had multiple rules for internationalization. More specifically, leaders had created several boundary and how-to rules such as “target auditors” and “focus on consultative selling.” They also had incorporated temporal rules into process content such as “use Hong Kong as a springboard to enter larger future markets,” and elaborated a few early boundary and how-to rules such as “use joint venture partnerships based on unique business environment.” Finally executives had created varied levels of abstraction in rules such as the more abstract rule of “target large organizations with proprietary information and the ability to pay,” as well as the less abstract rule of “stay China focused.”

In contrast, some companies did not learn from their experience. In general, these firms learned very few (one-three) heuristics, added no time or elaboration to process content, and failed

to create levels of abstraction. One example is Bioprime. Although the company learned idiosyncratic country lessons such as piracy problems in India, and cultural protocols in Japan (e.g., who sits where when getting into a taxi or sitting at a table), after the same number of entries as e-Secure leaders had only created two heuristics – “concentrate on bioinformatics” and “work with partners.”

Purposeful Path Dependence

Much research portrays a view of learning that is path dependent (Levitt and March, 1988; Huber, 1991). According to this perspective, firms learn from their experience by becoming better at the same types of events (Ingram and Baum, 1997; Haleblian and Finkelstein, 1999; Zollo, et al., 2002). For example, in their study of why some firms learn from their acquisition experience, Haleblian and Finkelstein (1999) discovered that the more similar a firm’s acquisition targets were to prior targets, the better they performed. However, while path dependence is important, we found that variations in learning were more complex. First, instead of delaying internationalization until after building domestic core competencies, leaders began quickly after creating a compelling sense of urgency. Second, managers entered countries proactively based on meaningful understanding of the way learning accumulates for the future (Bingham and Eisenhardt, 2005) not reactively based on inertial pressures to repeat what worked in the past (Nelson and Winter, 1982; Dosi, Nelson, and Winter, 2000). Finally, our data show that over time country entry experience reflected a pattern of increasing strategic importance. This contrasts with existing studies which describe how experience combines to form a compilation of analogous events (Haleblian and Finkelstein, 1999; Kale, et al., 2002). Together these findings portray a view of path dependence that more purposeful than inertial.

We assessed purposeful path dependence using three measures that emerged from the

data: (1) urgency; (2) proactive start; and (3) pattern of experience. Urgency existed if internationalization began within two years after founding and if interview data conveyed a sense of rush or hurry in the management's desire to start. A proactive start existed if executives selected their initial country entry based on familiarity (not necessarily similarity) with the market and their belief that it would provide a valuable setting in which to begin learning how to internationalize. Finally, patterns existed if subsequent experience (i.e., after first country entry) reflected systematic movement from smaller, familiar, and less significant regions, to larger, more unfamiliar, yet more strategic ones. Table 3 summarizes this finding across the 10 organizations.

Data suggest that the greater the purposefulness of path dependence, the greater was the learning from experience. A good illustration is Finnish-based AutoFinn, an organization that helps retail organizations better manage their inventory through point-of-sale software solutions. AutoFinn began operations in 1997 and was headed by a 50 year-old Finnish CEO who had over 20 years of work experience in the Finnish retail industry. As the CEO and his top management team believed that internationalization was key to the future economic success of the organization, they created a sense of urgency to begin. As one leader stated, "we were trying to hurry." The sense of urgency created a drive to begin country entry quickly (two quarters after founding). But, it also allowed leader to begin proactively in that they deliberately chose Sweden as their first country entry. Being known and geographically proximate, Sweden was a market where the firm could gain understanding of how to do business abroad and, at the same time, reduce the number and scale of mistakes. The Chairman recalled, "We were quite conservative in this process (internationalization) because we didn't know much about international business. So we started with Sweden, which is closest here." He continued, "I remember when all these analysts were blaming us that we are too conservative because the markets are in the US. I said

that we have to have the learning process.” Proactive entry into known Sweden allowed leaders to effectively learn about internationalization as they were able to mitigate the impact of cultural distance. As one senior leader remembered, “The first three years couldn’t be much better.”

Purposeful path dependence continued as executives created a pattern of experience. After entering their first country, Sweden, leaders intentionally entered increasingly larger and more strategically important countries over time (i.e., Sweden then Norway then France then Germany then U.K. then the U.S.). Such an order allowed for more effective learning as each new country entry was a logical extension to and natural beneficiary of the previous one. For example, a senior executive explained the benefit that entry into France had when the firm later entered the larger U.S. market.

“The entry in the U.S. happened after we got a very big project in France, which was our biggest project... And this big project has been pushing us to organize and develop processes and methodology much more than before. And I think this big project has been much more help to us to go into U.S. because we improved a lot more process in terms of methodology, version management, and so on.”

Purposeful path dependence also occurred at Singapore-based e-Secure, an information security services company. Founded in 2000 by two individuals who together had over 13 years of international work experience, e-Secure’s software solutions were geared towards helping customers identify and manage risks related to information technology security. Because the founders believed that internationalization was, “very important” and “one of the key components in the firm’s expansion plan,” they felt a sense of urgency to begin country entry. As a result, one quarter after founding leaders proactively entered Hong Kong. This country was selected not only because of its ultimate strategic importance for entering China (e-Secure’s ultimate market destination), but also because leaders had familiarity with the market such that

they could learn more about how internationalization should take place. One of the founders stated, “I know Hong Kong very well because I am from there.”

Purposeful path dependence also continued with pattern building. After the firm’s proactive start in the known market of Hong Kong, leaders followed with an entry into Malaysia, a country geographically proximate to Singapore and also well known to the CEO. “I go there very often. In fact, I talk to my relatives at least every week. Because my wife is Malaysian, I talk to people in Malaysia every day. It is my second home; it is very close.” Such a familiarity with the first two country entries allowed leaders to learn more about how to improve their overall business model. As one executive added, “Technology wise they (Hong Kong and Malaysia) are more or less the same. It is only the design of the command center that is getting better and saves us money. So it started off on a very good foot.” Such purposefulness in the way leaders accumulated experience continued as leaders systematically entered larger potential markets over time such as Japan (third entry) and China (fourth entry).

In contrast, at firms in which the internationalization process was not learned, purposeful path dependence did not exist. Executives began internationalization late, rather than soon after founding. Leaders also chose initial experiences opportunistically based on the prospect of an easy sale, not proactively and strategically based on the ability to learn a process. Finally, managers accumulated subsequent experience haphazardly with little if any underlying thought for how each new country entry would serve to benefit and reinforce a pattern of experience. Digi-read, a U.S.-based medical imaging software company, illustrates. While leaders believed internationalization was important, they felt no sense of urgency to begin. Therefore, 15 quarters elapsed between time of founding and the firm’s first country entry. When internationalization did begin, it occurred opportunistically and reactively. For example, it was only after the firm

was unable to get FDA approval for their technology in the U.S. that senior leaders decided to internationalize. One founder explained, “We first decided to go international after we could not get FDA approval in the way that we wanted.”

Besides lack of urgency, little thought was given to where and how experience would begin. As a consequence, country entry began randomly, not proactively, as leaders entered Sweden based only the known presence of an influential doctor who agreed to try Digiread’s solutions. As one leader commented, “The reason for going in...what was it? More like grasping at straws.” Without a focus on process or a deliberate intention to build a pattern of experience leaders continued to randomly enter large, unfamiliar markets instead of systematically building up from smaller more familiar ones where the firm could leverage current understanding. A senior leader explained, “Entry decisions were completely open.” A founder concurred when he said, “Did we have an international strategy? Honestly speaking, no.” Thus, entry proceeded into a series of random, large, unfamiliar, and geographically distant markets (i.e., Germany then Japan, then UK, then China, Australia, and Mexico). Finally, failure to create a pattern of experience led leaders to enter many unrelated countries instead of select set that mutually reinforced and built off each other. Leaders followed a corporate mandate of “go sell wherever you can,” that led the firm to rapidly and heedlessly enter 10 countries, several of which took place within the same quarter. An early member of the top management team recalled, “I think we saw the United States market just go crazy and we said, ‘It is going crazy here, it has got to go crazy there.’” It was only after several years of very disappointing results that firm leaders decided take a more meaningful approach to accumulating experience. As one senior leader later confessed, “We're trying to focus our efforts rather than being in many countries.”

Bioprime is another example of a firm that did not learn an internationalization process. Bioprime, a Singapore-based firm focused on bioinformatics, began internationalization with an opportunistic entry into India, a country totally unfamiliar and “eye opening” for both founders. Leaders were engaged in academic research in their home country of Singapore when they were approached by an Indian firm wanting to collaborate. The CEO described the situation in the following way: “It seemed like there was a fit. They liked what we had done in R&D. So we went ahead and did some clinical trials systems together. It was sort of ad hoc.” With no deliberate thought about when or where future country entries would take place, the “ad hoc” philosophy for selecting the firm’s first country entry continued with equally opportunistic and unconnected entries into Japan, Australia, and Malaysia. One founder summed up the firm’s random approach to experience accumulation when he stated that new countries were decided “sort of by fate.”

Why is purposeful path dependence related to variations in learning? Purposeful path dependence focuses learning. Prior studies indicate that urgency narrows cognitions (Darley and Batson, 1973). For example, in their classic study of bystander intervention Darley and Batson (1973) described how subjects’ feelings of hurriedness caused them to rivet more attention on existing tasks. Thus, urgency focuses learning by controlling extraneous variation such that management can more directly approach a specified experience, and once there, identify the kind of information to be collected. This in turn makes mistakes and surprises more salient and transparently observable.

The importance of purposeful path dependence suggests that those firms which learned a key strategic process (i.e., internationalization) reflect a posture wisdom. Wisdom focuses on monitored variance creation and the useable distillation of experience, not just variance reduction

and experience accumulation. Thus, by carefully selecting experiences, leaders display wisdom in their use of analogic reasoning where solutions and/or logic uncovered in previous experiences (i.e., country entries) can be applied to new and varied, but related ones (Schilling, Vidal, Ployhart, and Marangoni, 2003; Gavetti, Levinthal, and Rivkin, 2005). For example, since Singapore was ahead of Hong Kong and Malaysia on the technology life cycle, HQ leaders at e-Secure were able to share best practices about becoming ISO1779 certification (i.e., what the auditors will be looking for and the questions they will ask) with leaders in those countries. Purposeful path dependence also helps reflect a posture of wisdom in that it avoids cognitive overload. Recent research suggests that the number of new experiences introduced in a given time may in part regulate their benefit (Gersick, 1994; Brown and Eisenhardt, 1997; Vermeulen and Barkema, 2002; Zott, 2003). Thus, the rapid internationalization of the “non-learner” firms in this study may have in part prevented them from learning an organizational process firms due to time compression diseconomies.

Our data on purposeful path dependence also suggest that learning can be viewed as heedful relating to affect. Research shows how affect such as urgency facilitates the initiation and continued pursuit of action (Zirkel 1992). It indicates meaningfulness about future events which helps create the impetus and passion for action. Zirkel (1992), for example, described how affect spurs behavior and motivates individuals to achieve goals, even though it is often unclear before hand how those goals might be achieved. Affect also heightens awareness (Huy, 1999, 2002). Thus, emotions like urgency increase managerial abilities to consider greater numbers of elements (e.g., country entries) and the associations among them (Simonton, 1999). This in turn improves executives’ initial selection and continued accumulation of experience across the range

of possibilities as each discreet experience becomes subject to a test of process creation usefulness.

External conduits

Research suggests that variations in learning relate to a firm's stock of superior internal knowledge for how tasks should be accomplished (Lieberman, 1987; Barney, 1991). In contrast, the data here indicate that learning was associated with an inferior, not superior, stock of knowledge. Specifically, data show that in firms that learned a process leaders sought to supplement limited internal understandings with *external conduits*, which we define as independent but harmonizing sources of outside knowledge. External conduits emerged from the data and took the form of (1) *vicarious learning* (i.e., observation of competitors and peer organizations about what to do and how to do it); and (2) *guided learning* (i.e., personal input from consultants, non-employee advisors, and pilot customers about what to do and how to do it). Table 4 summarizes this finding.

Mobichip relied heavily on external checks. Mobichip is a U.S.-based firm incorporated in 2000 that focused on semiconductor solutions for GPS-enabled mobile devices. Before entering its first four countries, management used guided learning from an outside consultant who had worked with the CEO in two previous companies. For example, when entering the firm's first country, China, the consultant "spearheaded the whole thing" and worked to teach Mobichip's management about how to develop relationships with local distributors. When the firm later entered Korea and Japan, leaders also relied on the consultant as a source of valuable information since leaders didn't "understand the language, the culture, and the people." As one VP commented:

"His role has really been introducing us to distributors and customers and teaching us how to think about approaching these companies. He will go with us on a customer visit

because he has old friends and he knows the distributors pretty well. But he's pretty much playing that initial introductory role, helping us spearhead our efforts into a country for the first time."

Guided learning at Mobichip also came from pilot customers. For example, prior to entering Japan, Mobichip's VP of Marketing and VP of Business Development had several discussions with a U.S. affiliate of Alpine, a large and prominent Japanese automotive stereo company. These discussions with a prototypical large customer proved valuable for helping Mobichip management understand the Japanese market dynamics and what the firm needed to do to effectively enter the country. One senior leader recalled, "That kind of spear-headed a lot of how we should set-up because Alpine told us you got to be ISO-certified, you got to have this and this product certification before our engineers will talk to you. And since Alpine is number two in the world, we use them as a proxy." Mobichip also used discussions with U.S. counterparts of prototypical large organizations before entering Germany. A country sales manager added:

"Alpine in Southern California has a very good relationship with Alpine in Germany. I think the same for Delphi in Detroit. It has a very good relationship with Delphi in Germany. So talking with the U.S. counter parts...those are usually the product planning groups so they figure out the direction a product should go in and then the engineers in the respective countries actually do the implementation. We get a lot of guidance from them as to what features they are looking for...We had them educate us on where the groups were, who the key decision makers were, and then what is specific about Japan, what is specific about Germany. Then we take that feedback and integrate it into our overall product strategy."

Matrix also used external conduits to learn. For example, in the company's first country, Taiwan, leaders relied on vicarious learning. After watching the success of other organizations in the market, the country manager realized that Grand needed to have an American base to signal legitimacy. An early TMT member stated, "One of our competitors in Taiwan at the time

was (company) and they had a strong American presence. They had a Taiwanese reseller for them. They were an American company with a Taiwanese reseller. So, it somehow worked out really well for them, because their Taiwanese reseller was able to leverage the American image in the Taiwanese market.” Leaders likewise used vicarious learning when entering the U.S. and Japan. After observing the behavior of other tech firms in the U.S., management discovered that timing was crucial and overly rapid entry could be extremely dangerous. One leader recalled: ‘I think as a young company you don’t want to expand too quickly...Having learned from companies like (company) who had management clashes when American management tried unsuccessfully to expand abroad, we decided that that was not a strategy we wanted to pursue...We would do business development gradually, with sort of a soft-sell approach.’”

Matrix also relied on more “high-touch” guided learning to improve understanding of how to successfully enter new countries. For instance, prior to entering Japan, one of the co-founders made several trips to test market the company’s products and gauge local interest. He remembered, “We made about two or three visits to Japan where we spoke to a variety of banks, potential customers, investors, as well as potential partners to get a sense of the market, what they were looking for, and what they were interested in.” The company also relied on investors as a form of guided learning. When entering the U.S. and Japan, country managers turned to the company’s venture capitalists for advice about the economy, customers, and how to establish a strong presence from the start. The U.S. country manager stated, “We actually have American investors, like Draper Fisher Jurvetson (DFJ) and Walden International, so we spoke with them a lot as well. They gave us some great advice about who to work with, what to do, and what to start with.” Likewise, a co-founder in charge of Japan remarked, “We started going into Japan partly because of our investor - DFJ...They had some contacts in Japan and they arranged some

meetings.” Finally, guided learning occurred through the use of consultants who could shed light on particular aspects of the local market. For example, when entering Japan, the CEO looked to the advice of an executive whose expertise was helping non-Japanese firms enter the market. He said, “We were introduced to this guy called Koto who is now one of our advisors for the company. Koto was working for a spin-off of Toshiba and he was very well known in Japan for being a guru at XML. Through him and DFJ, we started talking to quite a lot of different companies. We got the sense that Japan was very interested in the kind of product that we were able to offer.”

In contrast, in firms that did not learn an internationalization processes leaders did not rely on external checks. Rather, they appeared to rely exclusively on their own stock of knowledge. For example, several executives as ScanTech believed they already knew how to do business in many countries and therefore required no additional insights from outside parties. As one regional director remarked, “I’m doing it my way...I knew pretty much everything before, so I haven’t learned many new things.” Another leader conveyed a similar view when he said, “I have a long experience of many sectors, and therefore I have a wide understanding of many different problems. Due to my experience I can many times read between the lines. That’s an effort which I have and which I use...I pretty much know the culture in these countries which I cover. I know the good and the bad habits.” The CEO also was supremely confident in his understanding for how internationalization should take place. Speaking of the firm’s sales approach when enter new countries he stated, “very often I would go in and would listen to what they were doing...I would listen to the CTO for 15 minutes and then I would tell them how they should do it... My job was to convince their technical experts that this was what they should do.”

In a like manner, statement from leaders at Cyber Gate reflected hubris. For example, the CEO coolly described his role as “Grey eminence.” Likewise, a central country manager revealed an air of self-assurance when he asserted, “This is the third or fourth startup that I’ve been involved with so I obviously understand what it takes to set up an office and create demand and also all the legal implications of doing everything here.”

As suggested by these cases, external conduits play a role in the learning of an organizational process. The data suggest several reasons why this is true. First, external conduits help better assess the value of what is learned. Research in psychology shows that an important aspect of human behavior is that self-assessment is very often determined by comparison to others deemed socially relevant (Festinger, 1954). In other words, people learn about their own abilities by comparing themselves to other people (Tesser, 1980). This suggests that people are often our sources of information about the world (Ross and Nisbett, 1991). If a situation in question is ambiguous, such as how a leader should enter a country, the opinions of outside people should be taken into consideration as, over the long run, the average of opinions from multiple people is likely to prove more correct than the opinion from any one individual. Indeed, Asch’s (1951; 1955) experiments on conformity explicitly show that one of the reasons people do not simply dismiss outside opinions during learning is because they have usually proved useful to them in the past.

External conduits also reflect wisdom by improving the accuracy of learning. Multiple complementary learning perspectives better grounds lessons by creating converging lines of inquiry. In essence, external checks act as a means for triangulating data. Hence, any finding or conclusion carries more weight and is likely to be more convincing if based on several distinct, but corroboratory sources of information (March, et al., 1991). In addition, the convergence of

multiple learning sources through external conduits helps leaders better discern fact from fiction and sharpen key take-aways by essentially providing multiple measures of the same phenomenon. At the same time, conflicting perspectives keeps organizational leaders from being lead away by salient, but possibly false impressions. Such learning advantages from multiple perspectives are consistent with prior studies showing that evidence from research based on multiple sources was rated higher in terms of overall quality than those that relied on only single sources of information (Yin, Bateman, & Moore, 1983).

More broadly, we observe that the use of external conduits is associated with affect and the characteristic of humility, not excessive confidence. This finding is consistent with prior research showing that while superior knowledge and skill is important, too much can lead to hubris which can substantially reduce a firm's ability to learn from heterogeneous situations (Hayward and Hambrick, 1997). More specifically it indicates that over confidence stifles the very behavior organizations need most to learn from their heterogeneous experience – that is curiosity, inquisitiveness, and openness – as leaders come to believe they already “know it all”. This suggests that variation in learning may be more related to an affective state of humility and a posture of wisdom (Weick, 1993) than specialized skills (Barney, 1991), or a stock of codified knowledge (Kale, et al., 2002; Zollo and Winter, 2002; Zollo and Singh, 2004). For example, in his analysis of the Mann Gulch disaster Weick states that, “what explains why most organizations fail to learn is that reality backs up while it is approached by the subject who tries to understand it. Ignorance and knowledge grow together,” (Weick, 1993: 641). Thus, according to Weick, “learned” organizations are those where leaders are humble rather than haughty as they recognize that knowledge of events is idiosyncratic to time and space. Collectively, these observations indicate the central point that differences in learning may stem from organizational

members' deep and sustained belief that current understandings are not necessarily true or valid, nor are they "an exhausted set of those things that could be known," (Meacham, 1983: 187).

Bridging levels

A number of studies suggest that variations in learning may be related to roles. That is, firms are more likely to learn from their experience when there is clear understanding about who in the organization is skilled in particular areas and when leaders assign tasks appropriately (Argote, 1999). While roles may be important for learning, our study suggests that relationships may be more critical. In particular, data show that leaders in firms that learned a process relied on strong social associations in order to bridge individual and organizational levels of learning. Bridging levels emerged from the data and is defined as improving generalization of lessons through rich vertical and horizontal communication fueled by positive affect. We measured the generalization of lessons by assessing the frequency and richness (e.g., face-to-face vs. email) of communication between country teams and HQ management (using the average responses across informants on a 10-pt. Likert scale rating) as well as the frequency and mechanisms for sharing knowledge among country teams. We measured positive (negative) affect by the affirmative (disapproving) statements of HQ management towards country teams, and that of country teams towards other country teams and HQ management. Table 5 summarizes this finding and shows that higher positive (negative) affect towards organizational members led to greater (less) learning as executives were more willing (less willing) to share unique, but valuable knowledge needed for helping the organization learn to internationalize.

Finland-based Pharmatron provides a good example. From the time the firm started internationalization positive affect towards others was evident. Country leaders described other country leaders as "high energy," "hardworking" and "very strong" Likewise, country leaders

described headquarter leadership in Finland as “proactive and driven,” “very good,” and “kick-ass.” These appraised values of organizational leaders produced positive affect which in turn increased motivation to engage in frequent and rich knowledge sharing activities within and across country contexts. For example, after entering their first country of Sweden, leaders improved the number and type of mechanisms used for communicating back to Helsinki. One TMT member noted, “We set up different mechanisms at that stage, and improved the company intranet and the email list.” Similarly, while in the U.S., leaders communicated with HQ several times a day. A founder recalled, “We learned to communicate at the management level extremely actively.” U.S. country managers also used “tons of email” to transfer key information back to headquarters. Leaders at headquarters complemented email and voice dialogue by having meetings “face-to-face” almost every month. For instance, the CEO (based in Helsinki) noted that he was spending “about one week a month in the United States.”

Positive affect towards others in the organization also helped Pharmatron learn a process by facilitating the cross-fertilization of ideas across different countries within the company. To illustrate, after the firm’s entry into the U.S., executives decided to create weekly meetings where all country managers would participate. These meetings provided a venue to discuss strategy for each country’s operations and the means by which country-specific best practices could be implemented in other geographic regions. As one of the founders described, “We are very active in having weekly meetings...That is where they (country managers) share the information...The weekly meetings are the main media for sharing knowledge.”

Positive affect also helped e-Secure also bridged individual and organizational levels of learning. Top management team members were “happy” about the performance of different country teams. They described country managers as “great” with “good attitudes,” which helped

reinforce their beliefs that their employees were key in helping the firm respond effectively when entering new countries. Such positive affect for other country leaders within the company increased the motivation of leaders to share ideas across regions through “informal conferences to share information that go on all the time,” or “formal conferences in Singapore every six months where all the country people fly out to discuss strategy.” To illustrate, Malaysia country members taught Singapore and other countries “how to focus more attention on solutions instead of just services,” and “about account management” by helping define standards for how information is presented to customers. Finally, the team in Japan helped other country managers become detail oriented and consumer friendly. For example, one country manager stated that “whenever there are new version upgrades, the Japanese point out things that Singapore and Malaysia miss. The amount of improvement is tremendous.” The CEO added, “That’s why sometimes I say that our product has a lot of Japanese blood.”

Positive affect with headquarters also improved the ability of e-Secure to bridge individual and organizational learning. Since country managers believed that HQ was “dynamic” and “very enterprising” more encouragement of frequent visits from TMT members occurred. This resulted in face-to-face opportunities to opportunities to share information with the CEO “about once every two months.” Likewise, positive affect boosted the rate and effectiveness of communication from each country operations to headquarters. The country manager of Malaysia, for example, described his communication with headquarters when he said, “We communicated almost every second, every minute through e-mail about how the market is developing, what the market wants, and who is driving the market.”

In contrast, organizations that did not learn an internationalization process did not bridge levels. They reflected negative, not positive, affect. This resultant negative affect for others

within the organization reduced an individual's willingness to share valuable knowledge for how internationalization could more effectively take place. Digi-read illustrates these points well. Through most of the firm's entries little communication between country employees and HQ took place. Country leaders believed HQ leadership acted as "a bully". They also believed that some corporate executives were cold, impersonal, and hardly worth approaching. For example, one manager described the early CEO as someone who, "Could probably alienate anyone. He could probably alienate Mother Teresa." Together, these sentiments combined to reduce the motivation among country leaders to share valuable knowledge with headquarters.

The actions of top management team members further reinforced negative affect causing low motivation to share knowledge to drop even further. While TMT members believed that country leaders had "a good perspective" and were "very nice," little attention was paid to the recommendations given by those individuals. For example, one leader described his experience after returning from a European trip. "We come back and feed that to the rest of the organization. And the rest of the organization says 'Oh, but it's peanuts anyways. We will do what's right for the US market.' So they don't change it. In other words, the true product adaptations necessary to capture market share in Europe don't happen. Instead, somebody says we really need to sell 15 units in Europe next year, and they just throw that out on the table, and that's what Europe is supposed to do. When that doesn't happen, they axe the guy who's responsible in Europe and hire somebody new." Another regional manager described a similar experience when he coolly lamented:

"I'm not a big communicator in the sense that they don't expect that from you. I think the management rather doesn't want to deal or doesn't have time to deal with day to day activities and problems...you highlight results and problems in the monthly report and want to resolve them, but you never get a question or reaction. You communicate with people and try to solve them on an individual basis, but nothing happens. I'm used that and it's typical."

Likewise, at ScanTech, little bridging between levels occurred due to negative affect. On the one hand, HQ leaders revealed negative affect when they stated that the U.S. team “got a little too free with expenses and power,” while “In the Japanese office there may not have been enough top management level attention.” In fact, the CEO expressed his general sentiment for foreign country management teams when he said, “One of the lessons is that they will cheat you.” On the other hand, country managers showed their discontent with HQ when they stated that they had “a bad CEO,” that senior leaders were “not developing some major opportunities,” and that top management had not “figured it out yet.” For example, one country manager vented his frustration with HQ management when he described how his seasoned sales approach, “has been all the way, and still is, a huge resistance (from HQ).” He also noted how a HQ requirement of using what the CEO described as “contracts approved by the Finnish legal department,” frustrated efforts to enter new countries and was considered “a pain in the ass.” He stated, “You don’t do it normally...you have to actually localize the agreements according to the local laws, local conditions. In Germany, for instance, this contract has no value because it’s not written in German. But they (HQ) think it has value.” In general, such negative affect reduced motivation for country leaders to share information with others within the firm that could have resulted in increased understanding for how to successfully enter new countries. As the regional manager of Eastern Europe commented about his working style, “I’m not doing it according to the policy which is normally done here. But to be honest I don’t care. I know I’m doing the right thing...I don’t ask them...they’re happy with their results.”

As these examples indicate, bridging levels is related to variations in learning in several ways that are consistent with learning as heedful relating to affect. One is that positive affect improves learning by making heterogeneous experiences less, not more, challenging. For

example, studies in neurobiology find that when people engage in activities that stimulate positive affect, their brains actually “relax” (Csikszentmihalyi, 1990). In contrast, when the brain is stressed, a state caused by negative affect, the precision in cortical effort drops, resulting in a highly distracted neural state (Hartmann, 1973). Research also shows how positive affect broadens leaders’ range of understanding (Staw, Sutton, and Pelled, 1994), fosters creative problem solving and opens people up to new lines of thinking (Amabile et al., 2005). Fredrickson (2001), for example, described how positive affect increases not only individuals’ scope of attention (which boosts the ability to consider more elements relative to a particular situation), but also their scope of cognition (which improves the breadth of alternatives gathered and analyzed to help solve specific needs). To illustrate, a senior leader at Matrix described how inter-organizational positive affect helped increase motivation for vertical and horizontal communication needed for effective organizational learning:

“There is need for us to synchronize a lot of the deals that we are pursuing. Some of the big companies tell us different stories, different sides, so we all hear different things, so we want to put the stories together so that we have a complete picture of all the players involved. We all leverage each other as much we can...”

A final reason is that bridging levels improves the likelihood of organizational learning since positive affect increases people’s motivation for social engagement (Carlson, et al., 1988; Staw and Barsade, 1993). Carlson and colleagues (1988), as one illustration, found that when individuals’ feelings towards events reflected positive affect, they were more likely to engage in task relevant actions that improved the general understanding of co-workers around them. Similarly, Graebner and Eisenhardt (2004: 379) found that positive affect between managers and investors in entrepreneurial firms led to greater pooling of resources designed to create “joint gain.” This indicates that individuals in firms where positive affect is absent are less likely to

transfer valuable individual level knowledge as learning is often done in secret and hence never makes it to the organizational level. For example, one county manager with negative affect towards HQ said privately, “I’m pretty much in Poland, but you are not allowed to say.” Negative affect therefore provides a needed explanation as to why many organizations fail to learn due to due to distortion or suppression of knowledge (Huber, 1982). In contrast, firms with positive affect exhibited greater propensities towards pro-social behavior, that is, they were more communicative with headquarters and created greater numbers of opportunities to share ideas with colleagues in other countries. As the experience of one country manager illustrates:

“There isn’t a sense that it’s corporate, it’s just one... The rest of the company was always behind me and I knew that everyone would be very responsive if we needed something. If I had any technical questions everybody was 100% behind me and that was the type of team that we really needed as a small company because they were people that we could count on for information (e.g., technical, marketing, corporate turnaround). Caliber is important but enthusiasm is too. Sometimes you can get very good people but they make lack the enthusiasm and passion.”

Switching curves

A fundamental premise in most learning research is that as organizations continue pursuing a specific course of action, they become better and better at it (Argote, 1999). Changing the course of action has negative implications since it effectively starts firms back at the top of a new learning curve (Van de Ven and Polley, 1992). Yet surprisingly, data revealed that in firms with a strategic process learning appeared to be more a result of switching curves than staying on the same one over time. How did this occur? Two patterns emerged from the data. The first was strategic pull-outs. This consisted of managers exiting poorly performing opportunities and entering new promising ones. The second was deliberate re-starts. This consisted of leaders stopping an existing method for internationalizing and replacing it with a new one designed to more effectively capture the same opportunity. Table 6 summarizes this finding.

AutoFinn provides a good illustration of switching curves. As noted earlier, AutoFinn executives decided to begin internationalization in small and known markets. Their first entry was an acquisition into Sweden followed by an acquisition into Norway. However, after two years of doing business directly in Norway, leaders realized that the market was too small to justify a physical presence. Top management therefore decided to alter their strategy for Norway by selling their subsidiary to local management but then having that management group act as the AutoFinn's distributor in the region (re-start). This change would allow leaders to retain customers in an easy market, but also free up managerial attention such that more resources could be channeled toward larger revenue opportunities in big European markets like Germany and France. The CEO stated, "...it (Norwegian subsidiary) was not making losses but not making too much profit and taking too much management time. So we decided last year to sell it to the management, so they are now our distributor in Norway. And it's running ok."

AutoFinn management also switched learning curves through a re-start when entering the United Kingdom. After AutoFinn entered the U.K. in 2000 through an acquisition, the overall market slowed down. The CEO considered opening an affiliate branch at the time, but one senior management member suggested otherwise. He stated, "my recommendation was no, the market's not moving enough. They're all sort of in shock mode after Y2K...my recommendation was not go in at the time and delay by two years." AutoFinn management therefore decided that its current method for entering the U.K. (i.e., enter now with an office) was wrong and agreed to wait two years in order to do it correctly (re-start). Thus, according to plan leaders opened the affiliate office during the second quarter of 2003.

Finally, AutoFinn switched learning curves through pull-outs. During the second quarter of 2001, management had decided that the best way to enter the U.S. would be through a

distribution agreement with VoiceStream's wireless distribution channel. According to the agreement, AutoFinn would supply its Mobile Transaction Server, mobile ordering, payment and customer relationship management system. "We believed in mobile," said one top management team member. Unfortunately, while the mobile product was good, the dot.com slump in the U.S. at the time caused a general reluctance to purchase new mobile technology. Instead of hoping for the mobile market to rebound at an unknown point in the future, management made the decision to switch from learning about a mobile product that was failing onto a new learning curve that focused on supply chain. The CEO remembered, "We decided to sell that product...but we kept our man in the U.S. and I asked him to start research the supply chain management market...a totally different area." A senior leader added, "there is a huge need and there is not too much competition...it looked good for us."

e-Secure likewise switched learning curves. For example, in March, 2003, only one month of after setting up a service office in Shanghai in order to enter China, SARS occurred. Although the local salesperson in Shanghai tried to visit customers no one wanted to see him. After experiencing "literally no activity," e-Secure management realized that China was not a promising opportunity at the time and that the firm should pull-out and focus attention on other strategic markets such as Japan where the firm could capture immediate sales. The Chairman summed it up when he said, "We decided to close it down."

e-Secure also used deliberate re-starts. For example, after entering Malaysia in 2001, the country manager's first objective was to promote the firm's core 24X7 security monitoring service – the same objective pursued in the home market and first country of Hong Kong. After about a year, the country manager began to realize that growth was flat due to the fact that the technology infrastructure of Malaysia was relatively underdeveloped in relation to Singapore and

Hong Kong. Thus, while customers believed in the importance of 24x7 security monitoring, they first needed security infrastructure. Leaders at e-Secure hence decided to re-start the firm's method for internationalization by backward integrating into infrastructure offerings that could then be monitored. The country manager recounted:

“Malaysia is basically still a developing country and there is a lot of security infrastructures that was not set up. Either firewall or IDS is not set up, i.e., there is nothing for us to monitor. It gives us a lot of opportunities to actually go in to do things like security system integration. That is where we help them to set up an infrastructure like firewall and IDS. Then, we will make all these devices to be monitored by us.”

e-Secure management likewise used a deliberate re-start for its internationalization as a whole. As the world-wide economy in 2002 was slowing down, leaders believed that its current strategy of quickly entering many new countries would not lead to success. Therefore, e-Secure management decided to halt further internationalization and instead put greater energy into strengthening existing country operations in order to ensure profitability and customer satisfaction. One senior leader recounted the decision. “We decided not to grow in 2002. Now in hindsight I think it was the right move. Customers are happier.” Twelve months later, in 2003, when the global economy began to show signs of improvement, e-Secure actively resumed foreign expansion with entries into China and Saudi Arabia (re-start).

In contrast, firms in which the internationalization process was not learned did not switch curves. Not only did they stay committed to the same course of action, but they also did so far after those courses turned to losing causes. For example, when Digi-read began entering internationalization, it decided to enter regions with nationalized health systems. One of the founders recalled, “We looked at the different markets in Europe, we looked at what part of Europe they had mammography screening in, and we decided to start placing some units in some of the major clinics in those countries.” According to plan, management first entered Sweden, a

country known for its nationalized health. As one leader stated, “We thought that it would be a large market since they do formalized screening in Sweden.” However, while the technology was cutting-edge the Swedish doctors were reluctant to use what they considered a new technique for a proven method. The result was that the firm “could not sell into Sweden.” Or, as another leader stated less diplomatically, “They ran off a cliff. They went nowhere.” Yet, even with such poor experience with a nationalized health entry approach, Digi-read leaders quickly entered Netherlands using the same approach. In other words, Digi-read entered the country because it supported nationalized health. Not surprisingly, results in the Netherlands followed those of Sweden. More specifically, the firm “couldn’t break into the system” and therefore sold “nothing.” A member of the entry team into both Sweden and Netherlands remembered the outcome:

“We could not sell into Sweden possibly for the very reason we chose Sweden as a likely good place to start. And that was their socialized medical system in which there was compulsory screening. That meant big market, however it also meant they were very established in their processes. Everything was already set down, well-defined, and established and everyone knew what they did from nine to five everyday. And they were extremely intolerant of anything new and different. So in the beginning we noticed a lot of skepticism on the part of radiologists that it even worked...This was actually also true about the second place we went into shortly after, which was the Netherlands. Again, a well-established system...You could not make the workers, the technologists and everything, put another step in their process.”

Incredibly, Digi-read executives continued to enter other countries such as Japan and U.K. all based on the previously established intention of entering countries with nationalized health. The results in both geographic areas mirrored those in Sweden and the Netherlands. Japan had “no revenues,” and leaders stated that for the U.K. they had “not yet found the key for successfully competing.”

ScanTech management also did not switch curves despite poor performance. For example, leaders remained in Germany for almost two years despite “no success.” One leader

vividly described the company's failed efforts in the country when he joked, "...you can't call it sales. It's good if I can buy a pack of cigarettes with that." Likewise, executives remained committed to staying the course in the United States, a geographic region the firm continually struggled to make work. As the CFO insightfully noted, "Maybe we'll break even next year, although we have been saying that for some time already."

One key reason why is switching curves relates to variations in learning is that it helps avoid escalation of commitment. While staying on the same learning curve is important for leveraging prior experience, research also shows that continued emphasis on the same course of action can lead to escalation of commitment and make it hard for firms to flee from losing situations (Janis, 1983; Ross and Staw, 1993). Switching curves therefore facilitates learning that is more efficient yet adaptive. It lets firms continue to leverage off prior experience while at the same time avoid the countervailing psychological forces towards escalation that tend to build up as leaders continue to pursue non-optimal courses of action over time. For example, Bioprime leaders failed to switch curves in Australia, one country, among several others, where the firm had experienced no sales for several years. Rather than pull-out and re-direct limited organizational resources into more promising country venues, affective strains towards over commitment kept leaders believing the market was just "slow" and that efforts would be better rewarded through persistence. Overall, such behavior is consistent with prior research describing psychological determinants of escalation where those in top leadership positions are often prone to reinforcement traps; that is, deeply feeling that because of one's prior success the losing course of behavior will soon reverse (March, 1978).

A second reason congruent with a posture of wisdom is that switching curves helps leaders take advantage of critical learning opportunities. Research shows that learning often

consists of local hill climbing within a firm's immediate landscape (Gavetti and Levinthal, 2000). While valuable, such incremental adjustments in learning often result in failure to identify opportunities of greater import and reward. Pull-outs and re-starts allow leaders to learn by probing emerging areas which may be present during a particular experience and which may lead to a new line of thinking. It encourages leaders to consider strategic moves beyond those that are local and incremental to those that are more global and optimal. This controlled opportunism helps organizations to take advantage of unique insights and chances for learning that emerge during a specific experience and which help improve resultant understanding of how to engage in subsequent events.

At a more general level, switching curves is linked to heedful relating to affect. Amabile and colleagues (2005) for example, described how feelings such as challenge can motivate individuals to experiment with new options that depart from their traditional way of doing business. Likewise, Huy (2002) found that proper response to affect improves the likelihood that an organization will effectively realize radical change. He noted that when executives begin action, they often find that the outcomes of their behavior differ from expectations. Because organizational members often are emotionally invested in such actions, variations in outcomes trigger affect and sensemaking. When individuals feel that changing a firm's traditional pattern of behavior will *not* improve organizational outcomes responses can lead to defensiveness, rigidity, and fear (Schein, 1992). However, when individuals feel, or train themselves to feel, that changing a firm's traditional pattern of behavior will improve organizational outcomes, responses can lead to increased receptivity for novelty and confidence to modify institutionalized actions (Staw, et al., 1994).

DISCUSSION

While many studies suggest that organizations learn from their experience (Argote, 1999; Anand and Khanna, 2000; Edmondson, Bohmer, and Pisano, 2001), many others contend otherwise (Haleblian and Finkelstein, 1999; Hayward, 2002). The findings from this inductive study form an integrative framework for why some firms learn strategically important organizational processes from their experience while others do not. First, our data show that firms in which an organizational process was learned were purposefully path dependent. That is, leaders created a sense of urgency which created the impetus for action and sharpened focus on accumulation of specific experiences needed for building a process. Thus, while path dependence is important variations in learning may relate more to the way leaders proactively construct those paths with affect and high degrees of exigency not with inertia and low levels of intentionality (Nelson and Winter, 1982). Second, firms that learned a process bridged levels. High positive affect among organizational members encouraged pro-social behavior such that valuable individual insights were shared and later infused into organizational level understandings for how to internationalize. This suggests that the reason why some firms learn is likely to be more influenced by personal relationships than a personal roles. Third, learning differences appear to be more affected by attitude than a superior stock of knowledge as the former fosters openness and receptivity to newness while later often leads to close-mindedness and wisdom-stifling hubris. Finally, data show that variation in learning relates to switching learning curves through strategic pull-outs and deliberate re-starts. This contrasts with existing literature which suggests that organizations should remain on the same learning curve over time (Van de Ven and Polley, 1992).

A posture of wisdom

A central theoretical contribution of this study is reframing learning from heterogeneous experience as a posture of wisdom. From this emergent perspective, differences in learning relate to holistic patterns, social associations, open-mindedness, dynamic learning trajectories and overall norms that encourage variance creation, not just variance reduction. Table 7 summarizes our findings and contrasts them with the traditional variance reducing view for why firms learn from their experience.

First, under a perspective of wisdom, experience does not reflect routinized movements towards increased specialization (Ingram and Baum, 1997; Haleblan and Finkelstein, 1999). Rather, it reflects meaningful assembly of *holistic patterns* that improve future learning. Examples include AutoFinn's early entries in Sweden and Norway before subsequent entries in France, Germany, the U.K. and the U.S., or e-Secure's entries into known countries like Hong Kong and Malaysia before entries into relatively unknown countries such as Japan. Such moderated introduction of newness, rather than the persistent emphasis of sameness, is key as heterogeneous events (acquisitions, internationalization, alliances) usually take place in environments characterized by flows of unpredictable opportunities of unclear duration (Davis, Eisenhardt, and Bingham, 2005; Eisenhardt and Bingham, 2005). In general, this suggests that, in heterogeneous experience, continued refinement and leverage of similar lessons from the past can negatively, not positively, impact learning (Haleblan and Finkelstein, 1999).

Second, wisdom is reflected in the use of *social associations*. Many studies suggest that differences in learning stem from the effective use of regimented impersonal roles (Argote, 1999). As a whole, these studies imply that social associations may be harmful to learning as they introduce partiality and favoritism into decision making (Seo and Barrett, 2005). For example, Diamond (1984) described how some organizations attempt to avoid interpersonal associations

through the creation of highly structured roles. In contrast, a perspective on wisdom emphasizes that a firm's ability to learn from experience is highly dependent on interpersonal relations since associates improve sense making in unfamiliar heterogeneous settings (Weick, 1993), expand alternatives for action (March, 1991), reduce conformity in the presence of a majority (Asch, 1955; Asch, 1956), and improve inferences when firms lack comparable events from history (March, et al., 1991). More specifically, data show that the sharing of experience through social associations fosters a common memory, solidifies a sense of "groupness," and stimulates a fuller appreciation for co-workers as congenial and supportive *people* rather than as cold and sterile *role occupants* (Ashforth and Humphrey, 1995). This in turn improves individual-level knowledge sharing and collaboration which in turn facilitates strong organizational-level learning.

Third, wisdom manifests itself in being open not insular. In particular, our data show that open-mindedness is reflected in the extensive use of external conduits while being insular is reflected in an attitude of excessive internal confidence. Open-mindedness is reflected in statements such as "We are no longer relying on information we think we have," or "we don't understand the language, the culture, and the people, so we started working with several distributors," not, "Nobody helped me learn what to do," or "Selling is selling whatever you sell, even if it's a toothbrush." Such statements of insular thinking resulting from overconfidence are reminiscent of findings in earlier work describing the maladaptive nature of close-mindedness. For example, Weick (1993) described how firefighters inability to learn from their Mann Gulch experience was partly related to crews "belief that all fires are 10:00 fires," (Weick, 1993: 641) . Thus, open-mindedness is the ability to suspend personal judgment in order to more fully understand the subtleties and nuances in focal experience that make it different from the past. In particular, it is the ability to subject ideas to consideration from many different angles and

perspectives in order to improve understanding and insight. The leader in one Finnish firm illustrated this point when he stated, “FinnPro explained what was going on in the market, and then they gave us some general advice in terms of expectations...We also spoke to some consulting firms...We had some good sessions with partners as well.” The combining of different and overlapping learning mechanisms (e.g., experiential, vicarious, and guided learning) through open-mindedness helps triangulate experience and hence provides a stronger, more grounded base for the discovery of new lessons (Strauss and Corbin, 1998). Thus, while a majority of studies portray a view where improved learning stems from enlarging the amount (Argote, 1999; Anand and Khanna, 2000) and/or variety (Hayward, 2002; Schilling, et al., 2003) of experience to be observed, our study portrays an alternative view where learning benefits accrue to enlarging the amount and variety of observers for a single experience – a perspective that prior research suggests is often more effective when trying to learn from the history of heterogeneous events (March, et al., 1991).

Finally, from a wisdom perspective, variations in learning relate to dynamic trajectories. Traditional accounts for why firms learn from experience contend that learning is inertial (Argote, 1999; Baum, Li, and Usher, 2000). In other words, the more experience a firm amasses using particular behaviors to accomplish tasks, the more likely that firm is to repeat or reinforce that same behavior for tasks in the future (March, 1991; March, et al., 1991), even if it not in the organization’s best interest (Repenning and Sterman, 2002). In contrast, this study shows that learning trajectories were dynamic not inertial. Rather than continue to pursue stagnant courses of actions, leaders in firms that learned a process purposefully pulled-out and re-started action in order to take advantage of more attractive opportunities or means for capturing those opportunities. Data shows that such switching of learning curves reflects wisdom as it provides

needed “learning recesses” where executives can re-assess corporate direction and re-calibrate methods for accomplishing key tasks. In general, these findings are consistent with research in psychology which shows that individuals who work on problem unsuccessfully are likely to have inappropriate representations of the problem. However, by leaving the situation and re-starting later, effectiveness in problem solving increases as individuals are able to see key issues in a fresher, more revealing light (Eysenck and Keane, 1995).

Collectively, these insights help reveal why some firms learn from their experience while others do not. More specifically, they point to a richer view of the factors underlying variations in learning that goes beyond the usual view of increased routinization (Joskow and Rozanski, 1979), and refinements to existing products and technology (Darr, et al., 1995; Chung, 2001) where learning involves specialization in experience, impersonal roles, and stable learning curves to include holistic patterns of experience, personal relationships, and learning curves that switch. In other words, a view of wisdom suggests that while learning through variance reduction may accurately reflect why leaders learn from homogenous experience, variance creation more accurately reflects why they learn from heterogeneous experience.

Towards an affective view of organizational learning

A broader theoretical contribution is a fresh view of organizational learning, an area of major import. Traditional views of learning emphasize behavior and cognition. In other words, most research defines learning as a regular shift in behavior (e.g., change in routines) (Levitt and March, 1988) or knowledge informed by prior action (e.g., change in ideas) (Argote, 1999; Miner, et al., 2001). However, while this dominant perspective of learning addresses the hands (behavior) and mind (cognition) of individuals, it overlooks the critical role of the heart (affect). From an affective view that emerged in this study, learning is highly influenced by an emotional

connection to the work performed¹. More specifically, it involves evoking urgency, interplaying valence, humility, and devotion, and building emotional contagion. Table 8 summarizes our affective lens of learning and contrasts it with traditional behavioral and cognitive views (Cyert and March, 1963; Levitt and March, 1988; Argote, 1999; Miner, et al., 2001).

From an affective perspective leaders set the stage for learning by sowing urgency. Managers fostered a persuasive belief that beginning internationalization was a pressing concern and that by delaying country entry their firm would miss out on revenue enhancing opportunities at best or be displaced by competitors at worst. For example, the founder in one organization that learned an internationalization process stated, “It’s very critical for us to internationalize.” A leader in different firm that also learned to internationalize concurred when he remarked, “We just look at internationalization as the only way to go forward.” Previous literature indicates that feelings of exigency and pressure can be an effective means for initiating learning since individuals often cope with such emotive tenseness through action (Aronson, 1969; March, et al., 1991). This suggests that learning by *doing* may in reality have roots in *feeling* and thus provides a possible reason as to why learning is sparked by performance gaps (Cangolesi and Dill, 1965) and failure to achieve aspiration levels (Cyert and March, 1963). Urgency may also lead to increased learning by signaling a greater sense of seriousness (Sutton, 1991). For example, Sutton (1991) described how bill collectors’ deliberate evoking of urgency when talking to debtors was believed to help debtors pay their bills in order to escape from unpleasant situations. One skilled collector asserted, “I know when I talk that way, my voice, it does project urgency, and that makes things happen.” Together, these observations contrast with existing views of learning which imply that affect may be harmful, not useful, to organizational

¹ Affect and emotion are often used interchangeably and are defined as the experiencing of subjective feelings (Ashforth and Humphrey, 1995)

learning as it fosters unwanted personal bias and favors short-term enhancements over long-term benefits (Seo and Barrett, 2005).

An affective view also shifts the focus of learning from improving causal models and changing routines to marshalling emotions. In particular, it indicates that the greater emotional engagement at work the greater the likelihood that learning will occur. Since emotions are often correlated, our data imply that such engagement manifests itself in leaders' ability to thoughtfully interplay urgency, positive affect, humility, and tempered devotion in order to improve overall learning. For example, since research shows that pleasant moods improve the likelihood of openness to new ideas (i.e., humility) (Staw et al., 1994) and propensities to rapidly begin problem solving (i.e., response to urgency) (Isen and Means, 1983), learning is improved as managers ensure positive affect among organizational members. However, since positive affect also increases tendencies towards persistence, even in the face of failure (Bandura, 1982), managers must also ensure tempered devotion such that escalation of commitment does not ensue. In general, emotional engagement is important as it reflects high motivation to learn. In other words, prior studies shows that while the lowest forms of motivation are behavioral (i.e., operant conditioning) and cognitive (i.e., traditional cost/benefit rational choice thinking), the highest form is emotional, a state where individuals become behaviorally, cognitively, *and emotionally* absorbed in actions (Kelman, 1958). Overall, this points to the key insight that while changing behavior is important to learning, it may be conditioned by affect (Weick, 1991; Smith and Lazarus, 1993; Barsade, 2002). Likewise, while cognition is valuable, our study shows that affect may produce behavior that no codified rule book or rational choice model ever could (Van Maanen and Schein, 1979).

An affective lens also suggests that learning is related to emotional contagion, not exploiting a corpus of knowledge or fine-tuning routines as prescribed in cognitive and behavioral learning models. Emotional contagion is a conscious or unconscious “tendency to mimic another person’s emotional experience,” (Hatfield, Cacioppo, and Rapson, 1992; Barsade, 2002). Our data show that emotional contagion leads to higher learning by generating greater empathy, solidarity, and incentive for accomplishing internationalization. Sharing mutual emotions (e.g., urgency, positive affect, and humility) binds members phenomenologically such that learning improves through the creation of a collective mind (Ashforth and Fried, 1988; Weick and Roberts, 1993; Martin, Knopoff, and Beckman, 1998). One country manager at Matrix described the learning benefits of such contagion in her organization when she observed:

“Everybody is very enthused that we want to take this to the world stage... We have not diluted our enthusiasm, there is no bitterness. Everyone is needed and they recognize that... We have worked so successfully as a team right now that it doesn’t make sense to break that in any way. Everybody plays a different role and everybody who comes on is willing to learn. It sounds so idealistic.”

However, our study also reveals that emotional contagion can work in the opposite direction. That is, when individuals experience feelings of apathy, negative affect, and hubris, these emotional states can rapidly disseminate throughout the organization and end up resulting in a destructive emotional atmosphere that reduces an organizations ability to learn. Thus, general feelings among ScanTech country leaders that top management “started from scratch, but didn’t get much farther than the scratch level,” created a negative feedback loop where top management in turn began to feel that country leaders “didn’t understand” and were not to be trusted. For example, the CEO described how he often sent “trusted spies” from Finland to different countries. He said, “I call unofficially to get their reading, confidentially, that things were going right and that what I was hearing officially was true.” Collectively, these

observations indicate that individuals feed off the emotions of colleagues to construct their own feelings (Schachter and Singer, 1962) and that emotional contagion may enable or restrict organizational learning. In other words, our study shows that learning is often fuelled by affective states that exhibit few ties with the behavioral routines, or cognitive causal models used for task accomplishment.

Overall, our findings point to why some firms learn processes while others do not. They show that variations in learning relate not just to changes in cognition (Burgelman, 1994; Miner, et al., 2001), or shifting the composition of a firm's behavior (Cyert and March, 1963; Nelson and Winter, 1982). Rather, they relate to sowing urgency, fostering valence, maintaining humility, and tempering devotion. More simply, they relate to the inducement and mobilization of affect.

CONCLUSION

This study examines why some firms learn strategic processes (e.g., internationalization, acquisitions, alliances, product development) from their experience while others do not. At a fundamental level, this study promotes a perspective where the heart may take preeminence over the mind and body. It sets forth a paradigm that combines field insights with psychology, sociology, and neurobiology, to describe how affective states are essential guides to organizational learning and that a firm's ability to learn a strategic process from experience owes much to their existence. Overall, these inductive insights help extend organization theory beyond a largely emotionally devoid conception of learning, where learning takes place based on changes in behavior and/or cognition, to view that emphasizes the role of emotion and that is more consistent with and grounded in human life.

Table 1: Description of Cases

Company	HQ country	First entry	Entries	Order of country entries	2003 sales	2003 empl.	Avg. age of founders	Interv.	Informants
AutoFinn	Finland	1999	6	Sweden Norway France Germany U.K. U.S.	\$93M	495	48	6	Founder CEO VP Marketing and Sales Country manager
Mobichip	U.S.	2001	5	China Taiwan Korea Japan Germany	\$1M	100	60	4	CEO EVP Deputy CEO VP Marketing Country manager
e-Secure	Singapore	2000	5	Hong Kong Malaysia Japan China Saudi Arabia	\$3.2M	100	43	4	Founder and CEO General manager Country manager
Matrix	Singapore	2000	6	Taiwan U.S. Malaysia Japan China Philippines	\$1.8M	55	34	6	CEO and President Founder VP Strategic Operations Director Bus. Dev
Pharmatron	Finland	2000	5	Sweden U.S. Czech Republic Germany U.K.	\$9.3M	75	26	5	Co-founder and CEO Co-founder/VP V.P. of Operations VP of Bus. Dev.

Table 1: Description of Cases cont.

Company	HQ country	First entry	Entries	Order of country entries	2003 sales	2003 empl.	Avg. age of founders	Interv.	Informants
Sing Game	Singapore	2000	7	Japan Hong Kong Taiwan China Philippines Malaysia Thailand	\$1.2M	16	40	5	CEO Chairman VP of Engineering and Co-founder VP of Marketing
ScanTech	Finland	1998	9	Sweden Germany U.S. Japan Korea Taiwan Switzerland Poland C. Republic	\$13.9M	104	25	10	Founder CEO Former Chairman CFO U.S. CEO EVP Director - Europe
Cyber Gate	U.S.	2000	6	China Germany Switzerland U.K. Singapore Japan	\$11M	100	50	4	CEO and President Founder and CTO Country manager
Digi-read	U.S.	1997	10	Sweden Netherlands Germany Japan U.K. China Australia Mexico Brazil Argentina	\$70M	192	46	9	Co-founder CEO COO Principal Engineer Country manager EVP Sales VP Eur. and L.A. Director of Sales
Bioprime	Singapore	2001	5	India Japan Australia Malaysia U.S.	\$1.8M	10	34	5	CEO and founder VP of Bus. Dev. Country manager

Table 2: Organizational processes

Company	Total rules	Total types ²	Rules for internationalization
AutoFinn	15	5	<ol style="list-style-type: none"> 1. Target wholesalers 2. Promote retail software 3. Focus on Europe and U.S. 4. Emphasize entering large first world retail markets 5. Priority should be on grocery segment within the larger retail industry 6. Entry should be done through acquisition (then Greenfield then distributors) 7. Use direct then indirect sales approach 8. When doing acquisitions be sure target management is behind you 9. Hire a local country manager 10. Localize sales and marketing 11. Conduct a basic market study 12. Sales approach: Reducing stock, controlling inventory, and improving replenishment 13. Create stepping stones to larger markets (i.e., US) 14. Synchronize sales according to the retail industry lifecycle of each country 15. Event pace: take one continent at a time
Mobichip	14	5	<ol style="list-style-type: none"> 1. Focus on promoting low cost chip for mobile devices 2. Enter countries that have ODMs or OEMs for mobile devices 3. Move towards entering tier one countries 4. Emphasize mobile device that is biggest and least competitive (automotive) 5. Use prototypical large customer to provide intros and insight about local market 6. Segment customers into Tier 1, Tier 2, and Tier 3 7. Use direct sales if the country culture is known indirect if it isn't 8. Clarify value proposition and adjust for rigor of evaluation 9. Create partnerships with other chipset and software providers 10. Use Japanese distribution contract as template 11. Get references from tier-two/three countries then leverage those to enter tier-one 12. Synchronize sales of processor according to engineering expertise 13. Pace new chip features according to one-year auto industry design cycle 14. Emphasize mobile devices that are in less competitive industry segments
e-Secure	11	5	<ol style="list-style-type: none"> 1. Stay China focused 2. Target large organizations with proprietary information and the ability to pay 3. Sell security services 4. Use partnerships based on unique business environment 5. Target auditors 6. Segment customers into platinum, gold, or silver accounts 7. Focus on consultative selling 8. Work towards China 9. Use Hong Kong as a springboard to enter larger future markets 10. Enter one country at a time 11. Synchronize entry with pace of macro economy
Matrix	12	5	<ol style="list-style-type: none"> 1. Emphasize B2B e-collaboration software 2. Focus on Asia and U.S. 3. Target large MNCs or their mfg suppliers 4. Place emphasis on entering RosettaNet countries 5. Enter large markets 6. Leverage use of standards body 7. Use a TMT member to oversee local country operations 8. Creation of business case for entry 9. Identify partner(s) who share vision, understand product, and can work together 10. Work closely with partner on first deal (identification through implementation) 11. Start indirect sales later hybrid 12. Pace entry according to market readiness and resources

² Out of five types possible: boundary, how-to, temporal, elaborations, abstractions

Company	Total rules	Total types²	Rules for internationalization
Pharmatron	11	5	<ol style="list-style-type: none"> 1. Target pharma companies 2. Enter markets with big pharma HQ 3. Promote multi channel clinical data capture solutions 4. Be U.S. driven 5. Place priority on top 20 global pharma companies 6. Send in one young aggressive Finn in sales capacity to open new country 7. Use direct sales to pharma companies 8. Promote active communication among HQ and country employees 9. Qualify customers with template 10. Move from small reference accounts to top 25 pharma references 11. Create success in major pharma markets before entering smaller markets
Sing Game	6	3	<ol style="list-style-type: none"> 1. Focus on telcos 2. Stay centered on Asian countries 3. Promote mobile content and solutions 4. Enter regions with large population and possibility for future growth 5. Use mobile content from Japanese providers 6. Promote subscription model
ScanTech	3	2	<ol style="list-style-type: none"> 1. Emphasize enterprise products 2. Do indirect sales 3. Rely on Finnish contracts and restrictive IP liability
Cyber Gate	3	2	<ol style="list-style-type: none"> 1. Target large MNC enterprises 2. Emphasize security solutions 3. Rely on distributors to help in total solution
Digi-read	3	2	<ol style="list-style-type: none"> 1. Promote mammo product 2. Enter countries with boutiques for the wealthy 3. Use indirect sales through distributors
Bioprime	2	2	<ol style="list-style-type: none"> 1. Concentrate on bioinformatics 2. Work with partners

Table 3: Purposeful Path Dependence

Company	Country	#	Purposeful Path Dependence	Quotes
AutoFinn	Prior	0	Instilling urgency Yes 2 quarters from founding to start of internationalization	“We were trying to hurry.” “We started with Sweden...I remember when all these analysts were blaming us that we are too conservative because the markets are in the US. I said that we have to have the learning process.”
	Sweden	1	Proactive start Planned start in known and proximate market of Sweden to get experience	
	Norway, France, Germany, U.K., U.S.	2-6	Creating a pattern of experience Systematic movement from smaller to larger European retail markets then to larger global markets	
Mobichip	Prior	0	Instilling urgency Yes 5 quarters from founding to start of internationalization	“Time-to-market is becoming more and more important.” “The first beachhead was China, and then Taiwan, and then Korea. Now it’s Japan and also Germany, and North America.” “You’re a start up, you’re trying to move quickly.”
	China	1	Proactive start Planned start in known market of China	
	Taiwan, Korea, Japan, Germany	2-5	Creating a pattern of experience Systematic movement from smaller to larger Asian wireless device end-markets and then to global markets	
e-Secure	Prior	0	Instilling urgency Yes 1 quarter from founding to start of internationalization	“I started immediately...” “Luckily I know Hong Kong very well because I am from there.” “They changed the law, so it seems that it makes being a foreign company there a lot easier. So we have to be fast enough.”
	Hong Kong	1	Proactive start Planned start in known market	
	Malaysia, Japan, China	2-4	Creating a pattern of experience Systematic movement to larger Asian markets over time	
Matrix	Prior	0	Instilling urgency Yes 2 quarters from founding to start of internationalization	“It’s very critical for us to internationalize.” “The opportunity is there, but is that in line with the strategy? If it’s not in line then we say okay let’s hold back, just focus on the US and Asian markets.”
	Taiwan	1	Proactive start Active start in known market	
	U.S., Malaysia, Japan, China	2-5	Creating a pattern of experience Strategic movement to larger Asian markets	
Pharmatron	Sweden	1	Instilling urgency Yes 1 quarter from founding to start of internationalization	“We just wanted to enter quickly.” “We just kind of realized that we needed the experience to become the global player. And the experience is just measured by the number of studies...we could easily get them in Sweden.”
	Sweden	1	Proactive start Proactive entry into known and proximate market	
	U.S., Germany	2,4	Creating a pattern of experience Strategic movement into biggest pharma markets	

Company	Country	#	Purposeful Path Dependence	Quotes
Sing Game	Prior	0	Instilling urgency Yes, but overly urgent 0 quarters from founding to start of internationalization	“We just go with the demand.”
	Japan	1	Proactive start Strategic start in known market	“There is no particular strategic reason more than trying to get some money.”
	Hong Kong, Taiwan, China, Philippines, Malaysia, Thailand	2-7	Creating a pattern of experience Somewhat opportunistic movement to other Asian markets	“Very often we fail to have very good strategy planning.”
ScanTech	Prior	0	Instilling urgency No 12 quarters from founding to start of internationalization	“No clear picture of what are the major countries that we should target.”
	Sweden	1	Proactive start Planned entry into known and proximate market	“I’m happy to see if they sell in 139 of the countries, I don’t say no.”
	Germany, U.S., Japan, Korea	2-5	Creating a pattern of experience No, random and serendipitous entry into big unfamiliar markets and then reckless expansion into many countries	
	Taiwan, Switz., Poland, Czech Republic	6-9		
Cyber Gate	Prior	0	Instilling urgency No 16 quarters from founding to start of internationalization	“It will take one or two years...then we will better understand whether we should adjust the current position about the internationalization about our business.”
	China	1	Reactive start Non-strategic start in known market (entered China mostly because of founder’s background)	“We are taking it opportunistically, not that there is a plan...It is like if our customers take us there fine.”
	Germany, and Switzerland	2-3	Creating a pattern of experience Random and serendipitous entries created little, if any, momentum	“We’ll go wherever the sales are...”
Digi-read	Prior	0	Instilling urgency No 15 quarters from founding to start of internationalization	“We first decided to go international after we could not get FDA approval in the way that we wanted.”
	Sweden, Norway	1-2	Reactive start Unplanned and opportunistic start in unfamiliar market	“The reason for going in...what was it? More like grasping at straws.”
	Germany, Japan UK, China, Australia, Mexico, Brazil, Argentina	3-10	Creating a pattern of experience None. Random entry into many large, unknown, and culturally distinct markets in the same quarter and then opportunistic entries into many random markets	“We’re now trying to focus our efforts rather than being in so many countries.”
Bioprime	Prior	0	Instilling urgency Somewhat 6 quarters from founding to start of internationalization	“We throw out our seeds and see which one will germinate fastest.”
	India	1	Reactive start Unplanned start in unknown market	“It’s ad hoc.”
	India, Japan, Australia, Malaysia	1-4	Creating a pattern of experience None. First four entries were all serendipitous with no forethought about the strategic connection among them. Then, entered as many countries as possible.	

Table 4: External conduits

Company	Country	#	External conduits	Quotes
AutoFinn	Germany, U.S.	4,6	Vicarious Identified potential competitors in local market and assessed internal strengths relative to them	“We have been looking at the experience of the companies who have been making a bit of the success in the US – the way they did it.” “FinnPro explained what was going on in the market, and then they gave us some general advice in terms of expectations and how Americans do that. We also spoke to some consulting firms... We had some good sessions with partners as well. They gave us their overview of their customers that they have today, what they were expecting...”
	Germany	4	Guided Used headhunters to find strong local talent	
	U.S.	6	Guided Used services of FinnPro to gain general market knowledge	
	U.S.	6	Vicarious Closely monitored two specific competitors that also had international presence that AutoFinn was particularly concerned with	
	U.S.	6	Guided Spoke to potential partners about market specifics before trying to establish local business	
Mobichip	China-Japan	1-4	Guided Used a consultant who worked with CEO in two previous companies to help introduce firm to local distributors and companies	“The VC ones generally being the highest quality but they cannot always hit all the main points. There are a lot of gaps... We have been in contact with analysts who specialize in automotive aftermarket and OEMs and handsets asking them what’s hot, what’s interesting, and who are good companies coming up in this area.” “We had them educate us on where the groups were, who the key decision makers were, and then what is specific about Japan, what is specific about Germany. Then we take that feedback and integrate it into our overall product strategy.”
	Japan-Germany	4-5	Guided Used prototypical large customer to provide intros and insight about local market	
	Germany	5	Vicarious Identified potential competitors in local market and assessed internal strengths relative to them	
	Germany	5	Guided Relied on VCs and analysts to supplement own information on local market	
e-Secure	Malaysia	2	Guided Test marketed idea for expanding beyond 24x7 security monitoring into security systems integration	“We noticed that there were good opportunities and started to talk to clients. ‘What if he cobbled to supply everything? Would you accept us as one of the partners?’”
	Saudia Arabia	5	Vicarious Closely monitored actions of three firms headquartered in the U.S. who were the company’s major competitors	
Matrix	Taiwan	1	Vicarious Watched how firms in Taiwan like Extricity with a strong American presence were able to leverage their American image	“We actually have American investors... we spoke with them a lot as well. They gave us some great advice on who to work with, what to do, what to start with.” “We actually did all of the market exploration quite early on. We started having some meetings with both potential customers and partners in Japan. Just to test the market.”
	U.S., Japan	2-3	Guided Relied on investors such as DFJ and Walden for information about entering the market	
	U.S.	2	Vicarious Learned from other firms like Ecnet that rapid expansion abroad can cause a lot of management clashes	
	Japan	3	Guided Relied on consultants who specialized in bringing companies into Japan	
	Japan	3	Guided Tested the market to gauge interest	
	Japan	3	Vicarious Knew from observing experience of other firms that a Greenfield would require a lot of money	
	Japan	3	Vicarious Knew from observing experience of other firms that a Greenfield would require a lot of money	

Company	Country	#	External conduits	Quotes
Pharmatron	U.S.	2	Guided Used FinnPro to gather information on the market before entering	“We just try to talk to a number of companies without any significant investments...and establish something with one or two customers before establishing a sales office somewhere.” “We are no longer relying on information we think we have...We are more heavily reliant on headhunters...They understand the true local circumstances that we do not understand.”
	Czech Republic	3	Guided Used FinnPro to gather information on the market before entering	
	Germany	4	Guided Piloted ideas to make sure there was demand for products and services	
	Germany	4	Guided Used headhunters to find strong local talent	
Sing Game	Japan	1	Vicarious Imitated big name Japanese competitors	“We try to learn from very big competitors like Tyco, Namco, Bandai and their networks.” “We relied on EDB for contacts..we do get good leads and meetings out of that.”
	Japan	1	Vicarious Watched Japanese companies like NTT DoCoMo iMode, KDDI and J-Phone to see if success in wireless industry was possible	
	China	4	Guided Used reference accounts from Singapore’s Economic Development Board	
ScanTech			None Relied primarily on own belief of knowledge for internationalization	“I’m doing it my way.” “Due to my experience I can many times read between the lines. That’s an effort which I have and which I use” “I knew pretty much everything before, so I haven’t learned much new things.”
Cyber Gate	China	1	Vicarious Learned from watching other firms’ experience in entering China	“I saw many other foreign companies spend a lot of money and hire people who know how to spend money for a few years, then they had a bad experience.” “This is the third or fourth startup that I’ve been involved with so I obviously understand what it takes...”
	Japan	6	Guided Used consultant to better understand how to do business in Japan	
Digi-read	U.K.	5	Guided Influential doctors who were friends of the co-founder persuaded him to enter the country	“There are not many things that surprise me anymore.” “Nobody helped me learn what to do in (country)... I’ve picked up quite a lot experience in what to do or what not do or what may or may not work.”
Bioprime	Australia	3	Guided Turned to academic associates for information on the emerging biotech industry with the country	“We know people from academia...they provide us information about other institutions or other organizations looking into promoting bioinformatics and who might need such services, and how can we get them there to Australia.”

Table 5: Bridging levels

Company	Infusing positive affect		Improving generalization	HQ			
	Team	HQ		Team	Email/ phone ³	FtF ¹	Country
AutoFinn	“Really understands the retail market.”	“Open to new ideas.”	High “We do a lot of videoconferencing”	9	5	Sweden	1
				9	5	Norway	2
				9	3	France	3
	“Outgoing.”	“Creative in structure to reach targets.”	“We start to move the resources around the countries...share the resources and the knowledge within the group. It puts the glue between the people...establishing the firm’s strategy.”	9	5	Germany	4
				7	3	UK	5
				9	3	US	6
Mobichip	“The team is getting stronger and stronger.”	“Intelligent.”	High Frequent exchanges of key engineers across sites Weekly meetings with all countries to get updates and share information “We have tri-weekly meetings where we have outstanding topics...so we all chat about it.”	10	5	China	1
				10	5	Taiwan	2
				9	5	Korea	3
	“We have a very good team in Taiwan.”			9	3	Japan	4
				9	3	Germany	5
e-Secure	“He is a great guy.”	“Dynamic”	High All the centers share information “Informal conferences to share information go on all the time...Formal conferences in Singapore every 6 months where all the country people fly out to discuss strategy, R&D, best practices. Each country takes turn at sharing best practices.”	9	4	Hong Kong	1
				10	5	Malaysia	2
				7	5	Japan	3
	“Good attitude”	“Great side-view”		8	4	China	4
				8	3	Saudia	5
						Arabia	
Matrix	“The rest of the company was always behind me.”	“We are very blessed to have someone like him on the team.”	High “On a formal basis we have sales meetings every week, which involves all the countries.”	9	3	Taiwan	1
				9	3	U.S.	2
				8	3	Malaysia	3
	“Everybody is very enthused... there is no bitterness.”	“You always knew that whatever you observed on the ground would be taken seriously.”	“(CEO) is always open to change and discussion. You always knew that whatever you observed on the ground will be taken seriously and processed as a team.”	7	2	Japan	4
				7	2	China	5
				8	4	Philippines	6
Pharmatron	“High energy.”	“Proactive and driven”	High “Weekly meetings, company intranet and tons of email...They [all country managers] participate in the same weekly meetings. That is where they share the information...The weekly meetings are the main media for sharing knowledge.”	9	4	Sweden	1
				10	5	U.S.	2
				9	4	Czech Rep.	3
	“Very strong board of directors.”	“Kick-ass, get-it-done.”		9	4	Germany	4
				9	4	U.K.	5
“Hardworking”	“Very good.”						

³ Informants were asked the following question: “Some firms like to encourage communication between headquarters and country offices, others do not. For each country entry how frequently do you personally interact with headquarters and other country manager? (0=never, 1=annually, 3=quarterly, 5=monthly, 7=weekly, 9=daily, 10=more than once/day). Please rate how often you meet face-to-face on the same scale.” The number represented is the average response across all informants for that country entry.

Sing Game	“I will always have this distrust with them.” “They didn’t do much work themselves.”	“Aggressive.”	Low	9	3	Japan	1
		“Honest, trustworthy, reliable.”	“We don’t do it that much – maybe once every 6 months.”	7	3	Hong Kong	2
			“Very often we fail to have very good strategic planning.	9	3	Taiwan	3
			Sometimes I feel it is because we don’t really have the luxury to do that. If we had better strategic planning, we could do so much better.”	7	3	China	4
				9	2	Philippines	5
				8	2	Malaysia	6
						Thailand	7
ScanTech	“In the U.S. ...they got a little too free with expenses and power.” “They [German team] obviously didn’t understand” “In the Japanese office there may not have been enough top management level attention.”	“A bad CEO...”	Low	7	3	Sweden	1
		“Not developing some major opportunities”	“I’m not doing it according to the policy which is normally done here. But to be honest I don’t care. I know I’m doing the right thing... they’re happy with their results, although they don’t like how I do it.”	7	3	Germany	2
				9	3	U.S.	3
				7	3	Japan	4
				7	3	Korea	5
				7	2	Taiwan	6
				5	3	Switzerland	7
	5	2	Poland	8			
	5	2	Czech Rep.	9			
Cyber Gate	“We sent over people who were naïve...we had to pull those people out quickly.”	“Impatient...”	Low	8	4	China	1
		“Founder is not even aware that the firm has entered Japan.” “I am not aware of Japan.”		8	3	Germany	2
				8	3	Switzerland	3
				9	4	U.K.	4
				7	3	Singapore	5
				9	3	Japan	6
Digi-read	“... had a little bit of trouble actually getting down and talking about cash.” “Good perspective.” “a very nice person”	“A bully”	Low	8	3	Sweden	1
		“We had to retrain them.” “Could probably alienate anyone. He could probably alienate Mother Teresa.”	I’m not a big communicator in the sense that they don’t expect that from you...you highlight results and problems in the monthly report and want to resolve them, you never get a question or reaction. You communicate with people and try to solve them on an individual basis, but nothing happens. I’m used to that and it’s typical.”	8	3	Netherlands	2
				8	3	Germany	3
				8	3	Japan	4
				8	3	U.K.	5
				7	2	China	6
				7	2	Australia	7
	7	2	Mexico	8			
	7	2	Brazil	9			
	7	2	Argentina	10			
Bioprime	“We were concerned about the junior staff...” “Hardworking.”	“They had thought about coming into the U.S. but they did not really have any connections or network...”	Low	9	7	India	1
		“I haven’t seen them for a couple of months...I have actually not met some of the members of the team...”		7	7	Japan	2
				7	5	Australia	3
				7	4	Malaysia	4
				9	3	U.S.	5

Table 6: Switching curves

Company	Country	#	Switch	Quotes
AutoFinn	Norway	2	Re-start Went from subsidiary model to distribution model in market after realizing potential for revenue was too small	“He [CEO] did consider opening up a branch in the UK...My recommendation was not go in at the time and delay by two years.” “We decided to sell that product...but we kept our man in the U.S. and I asked him to start research the supply chain management market...a totally different area.”
	UK	5	Re-start Stopped efforts to establish a subsidiary as an initial entry mode and waited for over two years until the market matured	
	US	6	Pull-out Pulled out of entry into mobile market and shifted resources towards supply chain	
Mobichip	China	1	Re-start Waited to enter Tier one markets in Japan and Germany in order to get product right and the customers behind it	“Our experience in Korea and Taiwan clearly showed us that we needed to have partnerships with other chipset providers and software to provide the total solution.” “We realized that our product was not stable enough for what they required, so we held off on Germany until later on in Q1.”
	Japan	4	Re-start Held off entering cell phone market because it was too competitive and difficult to enter.	
	Germany	5	Re-start Delayed entry for two quarters until the product stabilized	
e-Secure	Malaysia	2	Re-start Decided to hold off on promoting 24x7 monitoring and push security systems integration first	“I pulled out.” “We decided not to grow in 2002” “We started to see a lot of opportunities aside from monitoring.”
	Japan	3	Re-start Stopped entry for six months to re-design terms needed to fit the Japanese market	
	China	4	Pull out Pulled out of China during SARS, focused on other countries like Japan, then re-entered after SARS cleared	
	China	4	Re-start Put further international expansion on hold during Asian crisis	
Matrix	U.S.	2	Re-start Spent about one year in stealth mode to better understand market before active entry	“We actually incubated here for awhile...we were here for six months before we did anything.”
	Japan	4	Re-start Originally thought about entering Japan at same time as the US, but decided to wait and focus on the U.S	

Company	Country	#	Switch	Quotes
Pharmatron	Czech Repub.	3	Pull out Exited the Czech Republic shortly after entering when the firm was unable to achieve sales	“We just have our hands full really. Japan is about 10% of the clinical R&D market, so if we wanted to capture that 10% we would need to be in Japan, but at the moment we are busy as we are.”
	U.K.	5	Re-start Decided to delay further internationalization into Japan until the firm was able to become leader in its current markets	
Sing Game	Japan	1	Re-start Switched from pushing own products to partnering with others	“In Taiwan, we were profitable at around mid point last year, but have since gone into the red with our change of strategy in that country.”
	Taiwan	2	Pull out Decided to change already successful strategy within the country thereby causing performance to slip	
ScanTech	Germany	2	Stay in Continued commitment to under performing country	“No success for a year and a half” “They actually started from scratch. They didn’t get much farther than the scratch level.”
Cyber Gate	Germany and Switzerland	2-3	Push Continued to use ineffective entry approach of flying employees in from U.S. HQ	“We figured it was important to put people on the ground rather than try to fly them in from here.”
Digi-read	Sweden, Netherlands, Germany, Japan, UK	1-4	Stay in Escalated commitment to several poorly performing countries	“We’re building the wrong product for the right market. There were some self denial internally- that can’t be right, they just don’t understand the benefits. That’s the problem, a typically American attitude – if you can get a bigger hammer, you can shove it down their throats. Guess what? We sold nearly nothing.” “We got to work with these customers whether they buy or not... You can’t pull in and out in these countries.”
Bioprime	India	1	Stay in Failed to exit/change strategy in poorly performing country	“We have not made any sales...it will probably take another two or three months before we figure out what to do.” “Hasn’t moved as fast as we anticipated... I think it will take awhile to move.”
	Australia	3	Stay in Failed to exit/change strategy in poorly performing country	

**Table 7:
Alternate views for variations in learning**

	Traditional view	Posture of wisdom
Factors related to variations in learning	<ul style="list-style-type: none"> ▪ Repetition with same experience ▪ Structured, delineated, and a personal roles ▪ Refinements in technology 	<ul style="list-style-type: none"> ▪ Formation of a holistic pattern of experiences ▪ Strong social and personal associations
Source of learning	<ul style="list-style-type: none"> ▪ Prior personal experience ▪ Internal trial-and-error ▪ Deductive reasoning 	<ul style="list-style-type: none"> ▪ Blend of prior experience and input from multiple external sources ▪ Inductive thinking
Learning trajectory	<ul style="list-style-type: none"> ▪ Stable – stay on same learning curve to leverage efficiencies 	<ul style="list-style-type: none"> ▪ Dynamic – switch learning curves to take advantage of emergent opportunities
Norm	<ul style="list-style-type: none"> ▪ Variance reduction 	<ul style="list-style-type: none"> ▪ Variance creation and reduction

**Table 8:
Alternate views of organizational learning**

	Cognitive view	Behavioral view	Affective view
Trigger for learning	<ul style="list-style-type: none"> ▪ Post mortem analyses ▪ Focus on the past 	<ul style="list-style-type: none"> ▪ Prior mistakes ▪ Focus on the past 	<ul style="list-style-type: none"> ▪ Sense of urgency ▪ Focus on the future
Continued learning	<ul style="list-style-type: none"> ▪ Reflection, hard analytics, and codified procedures to improve expertness 	<ul style="list-style-type: none"> ▪ Boundedly rational decision making geared toward achieving reliable targets 	<ul style="list-style-type: none"> ▪ Emotionally engagement (trading-off valence, humility, and tempered devotion) to achieve higher learning
Goal	<ul style="list-style-type: none"> ▪ Build superior stock of knowledge during experience 	<ul style="list-style-type: none"> ▪ Change routines after experience 	<ul style="list-style-type: none"> ▪ Marshal emotions before, during, and after experience
Management's role	<ul style="list-style-type: none"> ▪ Exploit corpus of understanding to increase efficiencies 	<ul style="list-style-type: none"> ▪ Fine tune behavior to improve predictability 	<ul style="list-style-type: none"> ▪ Build emotional contagion to improve learning dynamics
Attitude toward emotion	<ul style="list-style-type: none"> ▪ Harmful and biasing 	<ul style="list-style-type: none"> ▪ Distractive and disruptive 	<ul style="list-style-type: none"> ▪ Beneficial and useful

**Table 9:
Summary of why some firms learn from their experience**

Construct	Definition	Key affective dimension	Link to superior learning?
Purposeful path dependence	Proactive experience accumulation seeded by a sense of urgency that results in a pattern of reinforcing experiences	Urgency	<ul style="list-style-type: none"> * Initiates behavior * Heightens awareness * Maintains momentum
External conduits	Independent but harmonizing sources of outside knowledge used to supplement internal understandings	Humility	<ul style="list-style-type: none"> * Improves assessment * Increases accuracy * Leads to openness
Bridging levels	Improving generalization of learning through rich vertical and horizontal communication fueled by positive affect	Positive affect	<ul style="list-style-type: none"> * Fosters creative problem solving * Increases motivation for knowledge sharing
Switching curves	Exiting poorly performing opportunities and entering promising new ones or replacing existing methods for capturing an opportunity with new ones	Tempered devotion	<ul style="list-style-type: none"> * Avoids escalation of commitment * Takes advantage of new chances for learning

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