

Learning by Visiting as a Means of Building Technological Capability

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Enterprises must learn in order to survive and grow. The success of organizations, says Etienne Wenger, “depends on their ability to design themselves as social learning systems” (Wenger 2000, 226). New experience is necessary to take an organization—and the community surrounding it—forward. This experience can be obtained in various ways. Sometimes, says Wenger,

We are sent overseas. We go to a conference. We visit another department. We meet a “stranger” with a completely different perspective. . . We have an experience that opens our eyes to a new way of looking at the world. This experience does not fully fit in the current practice of our home communities. We now see limitations we were not aware of before. We come back to our peers, try to communicate our experience, attempt to explain what we have discovered, so they too can expand their horizon. . . We are using our experience to pull our community’s competence along. (Wenger 2000, 227)

Wenger calls such experiences “boundary encounters.” These encounters, he explains, “provide direct exposure to a practice”—allowing artifacts, discourses, and processes to contribute to the bridging of practices, the negotiation of relationships, and the connecting of perspectives (Wenger 2000, 236). A visit provides a powerful means of facilitating just such an encounter.

The idea of learning and of enhancing competence through a visit is by no means new. Academics and health professionals have long been taking advantage of periodic sabbaticals to visit and work briefly in different environments, hoping to gain new knowledge that they could apply to their own research and practice. Students are regularly encouraged, and often funded, to study or work abroad for a time, exploring new ideas that they then bring home and share, enriching their universities and communities. Governments support the visits of public servants, officials, journalists, and academics from other countries, wanting them to “gain a first-hand appreciation of. . . goals and policies, and to discuss matters of mutual interest” (EUVP Secretariat 2004). Multinational corporations transfer employees between country offices in order to promote the flow of ideas and knowledge.

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Can such learning through visiting be employed in the provision of assistance to developing countries? In the specific area of agriculture, the touring of demonstration plots by local farmers as well as farmers from surrounding areas is not uncommon. Western governments sometimes invite officials from developing countries to give them exposure to the workings of an efficient public administration. But there are signs that a particularly promising and not-systematically-researched application for learning visits is in industry and enterprise development, especially as it relates to the acquisition of technological capabilities. This paper seeks to piece together the existing evidence—much of it available in no library, and obtainable only from individuals¹—and to connect it with the literature on capability-building.

The paper begins with a discussion of how “learning by visiting”² might be understood in relation to the literature on technological-capability learning, and will then offer examples of the use of visiting for such learning. It examines how visiting can be promoted through networks or by individual firms, and how in the developing world it is most often initiated by business associations, by governments and NGOs, or by forward-looking entrepreneurs. The paper’s final section discusses the important potential of visiting for especially small enterprises in the developing world, which are often isolated from strong associations and neglected by technical assistance initiatives.

Visiting as a Hybrid of Searching and Doing

Learning occurs in a variety of modes, and visiting can thus contribute to learning in more ways than one. With regard to the acquisition of technical skills and knowledge, a distinction is often made between “learning by doing” and a more deliberate investment in the acquisition of capabilities. Learning by doing depends on experience and is a passive, almost automatic, and costless process; more deliberate learning additionally requires resources and effort (Bell 1984, 189–90). Learning by doing may involve learning by operating and changing technology; more deliberate learning may involve learning through training, hiring, and searching (Bell 1984, 190–201). By itself, explains Bell, learning by doing may not suffice—technological development may require firms to shift to very different types of technology, and doing-based learning is likely to be inadequate for this. A maturation process “may grind to a halt if ‘doing’ is the only mechanism used for augmenting change-capacity” (Bell 1984, 201). The acquisition and internalization of new knowledge from outside the firm—sometimes even from outside an industrial cluster—is tremendously important.

There are, of course, many ways firms can move beyond “doing” and gain access to new knowledge. But for some firms, especially in the developing world, where formal training and resources may be unavailable, or where firm size or a lack of capital precludes the

¹Additional material beyond that cited in this paper likely exists, but some sources who were contacted did not respond, and others were unable to provide access to internal reports.

²The term “learning by visiting” is not firmly established in the literature. Its first published use may be as recent as a 2002 report to the International Labour Organization by Henry Sandee, Brahmantio Isdijoso, and Sri Sulandjari (Sandee, Isdijoso, and Sulandjari 2002, 43). Hubert Schmitz uses the term again in a 2003 report for KRI International on clusters in Indonesia (Schmitz 2003, 7). The term then finds its way into the main report for that project, and is in fact referred to as one of four important stimulants for change in clusters (KRI 2004a, 3-18), and “the most effective means to reconsider the status quo” (KRI 2004a, 4-21).

hiring-in of knowledge embodied in individuals, a particularly appropriate bridge may be “learning by visiting.” Learning by visiting might best be regarded as a hybrid of learning by searching and learning by doing. Learning by searching is based on the recognition that “knowledge and information [that adds to technological capacity] very seldom just ‘arrives’,” and that active effort is required to find and apply new ideas (Bell 1984, 198). This sort of effort might take the form of technology contracts with consultants, producers, and suppliers, of competitive intelligence, or of investigation into modern production and management techniques (Bell 1984, 199). Learning by doing, by contrast, is a more organic process—a “flow” of learning “about problems encountered or opportunities perceived... about *how* change might be made... [and] about how the particular system ‘works’ ” (Bell 1984, 188). A visit to a friendly firm working in a related field is a search process that can provide a distilled assortment of “doing” knowledge—particularly if the visit lasts weeks or months rather than hours or days, and allows an extended opportunity to actually carry out work with the host. It is a “participatory research and learning process” (Afenyadu 1997, 7), and it may well be that, in the developing world, because of the “doing” knowledge they can share, “the best trainers are other entrepreneurs, and the best classroom is the real world” (Women’s World Bank, cited in Mead 1994, 18).

Why, one may ask, should the successful firms or entrepreneurs—the ones actually worth visiting—allow anyone, let alone potential competitors, access to what might be very valuable information? Part of the answer lies in the existence of networks or business associations. To take an example from the developed world, Toyota has successfully fostered an open knowledge-sharing network among its suppliers. Plant tours allow members of the network to learn about new processes at best-practice facilities, and Toyota even takes some American suppliers to Japan to visit others producing the same components (Dyer and Nobeoka 2000, 353). Dyer and Nobeoka quote an executive from one of these suppliers:

Toyota told us to work on cutting our changeover time from 2 hours to 30 minutes. I told them it was impossible. Then they sent me to visit a Japanese supplier in our same business that had changeover times of 15 minutes. I never would have believed it if I hadn’t seen it with my own eyes. My boss still doesn’t believe it. (Dyer and Nobeoka 2000, 355)

Executives explain that they allow other suppliers to visit their plants and learn from operations because it is ultimately beneficial to all the members of the supplier association (Dyer and Nobeoka 2000, 357). Indeed, if they want to receive consulting assistance from Toyota, participate in improvement groups, and have the freedom to visit any Toyota facility (except the new model design room), they have no choice—their plants *must* be opened up to other network members (Dyer and Nobeoka 2000, 358). The firms take advantage of this: Dyer and Nobeoka found that, before their involvement with the association, suppliers visited or were visited by other suppliers an average of 5.1 days per year; after joining the association, visiting days increased to 33.8 per year—almost sevenfold (Dyer and Nobeoka 2000, 362).

But what happens when there is no “lead firm” such as Toyota? Sometimes, a firm has the resources to make its own arrangements for extended periods of learning by visiting. Linsu Kim, writing about the development of the Korean vehicle producer Hyundai,

recounts how the company formed their style design department:

Hyundai formed a team of five design engineers, had them study literature related to auto styling, and sent them to Italy to participate closely with Italdesign engineers in the design process. . . For one and a half years, the engineers lived together in an apartment near Italdesign, kept a record of what they were learning during the day, and had group reviews every evening. Such intensive interaction among the team members resulted in a very rapid spiral process of knowledge conversion within the team, significantly expanding Hyundai's tacit and explicit knowledge in styling. The team [of] engineers later became the core of the style design department at Hyundai. (Kim 1998, 512)

In a similar fashion, notes Bell, the Korean Pohang Iron and Steel Company (POSCO) sent a huge number of engineers and technicians—1,308 of them—for several months of on-the-job training at developed iron and steel mills before they returned home to contribute to construction and operations (Bell 1984, 196).³ Sometimes, it is not even the producer engaging in the visit: Hubert Schmitz cites the example of the export agents for the Sinos Valley shoe cluster in Brazil, who not only negotiated sales, but improved business through an understanding of the market obtained by visiting shoe shops in the United States and Europe (Schmitz 1995, 14).

Perhaps just as often, and especially for smaller firms, a business association might organize visits—though typically of shorter duration. In Guadalajara, Mexico, for example, the local shoe-making entrepreneurs' association—the Camara del Calzado—used methodology from the United Nations Industrial Development Organization (UNIDO) to form “agrupamentos industriales.” Within these loose groups of firms, which grew over seven years into seven groups encompassing some 120 firms, members were required, as with Toyota's suppliers, to organize factory visits for each other. Indeed, observes Khalid Nadvi, “through these initial processes, aimed at facilitating inter-firm dialogue and raising technical and market related awareness, a regular process of knowledge exchange and discussion of common problems and technical issues begun to take place among group members” (Nadvi 1995, 25). UNIDO even suggests that these groups eventually increased innovation and collaboration among the small enterprises (UNIDO 2002, 130). In the ceramic tile cluster of the Brazilian state of Santa Catarina, the case is similar, and it is normal for firms to visit the factories of competitors. Active business associations, explains Jörg Meyer-Stamer, encourage the idea that “local firms should stick together to maintain their position *vis-à-vis* domestic competitors, especially from a cluster in São Paulo,” and the technology is standardized enough that competition is based around design and logistics rather than technical secrets (Meyer-Stamer 1998, 1505). The cluster, notes Meyer-Stamer, has also “found a role model in Italy's tile industrial districts”—firms developed close links in the 1980s not only with equipment suppliers and input manufacturers, but also with Italian competitors. Today, Italian representatives and technicians come calling regularly, and Brazilian managers and employees often return the visits and have “started to develop a notion of what things are like in industrial districts in Italy” (Meyer-Stamer 1998, 1506).

³One presumes that in the cases of both Hyundai and POSCO, significant incentives were provided to the host firms, but it is unclear from the literature what these were.

In the absence of a business association—or perhaps even of a mature cluster—a government agency or an NGO can sometimes take the lead and help organize visits to firms or clusters in other regions. Indeed, the distance may make this type of visit less threatening to the host because of the relative unlikelihood of competition. In the roof tile cluster of Kebumen, in Indonesia, for example, a pilot project supported by the Japan International Cooperation Agency (JICA) funded the travel costs of eight people for a five-day study tour to the Jatiwangi cluster and to the Bandung Ceramics Centre (KRI 2004b, 3-20). The tour, says Schmitz, “opened the minds of local entrepreneurs and made them more receptive to new ideas from elsewhere” (Schmitz 2003, 7). Participants, says a JICA guide to cluster development, “recognized differences in production and marketing practices and were actually shocked at the gap. They started to think of why they could not do what other Indonesians could do” (JICA 2004, 13). A similar success story from the same project involved two entrepreneurs from the Indonesian metal-working cluster of Sidoarjo-Waru who, funded by the Japanese International Cooperation Agency and by the Indonesian Ministry of Industry and Trade, participated in study tours to other East Asian countries. In fact, Schmitz notes that the Indonesian Ministry of Industry and Trade has some experience taking businesspeople on study tours: jewellery producers have visited Thailand and component makers have visited Korea and Taiwan, for example (Schmitz 2003, 7).⁴ It is worth noting, as well, that visits organized by governments or NGOs can be as much about the development or evolution of a business association: in the case of a German technical cooperation project between Brazilian chambers of commerce and industry and the Chamber of Craft and Trade of Munich, “visits to their German partner provoked a serious shock among representatives. . . as they noted the impressive size, the large number of employees, and the broad spectrum of services provided by the Chamber in Munich” (Meyer-Stamer 1998, 1507).

There is also the possibility that a particularly motivated and forward-looking individual could independently engage in learning by visiting. Henry Sandee and Piet Rietveld report that, in the case of the adoption of handpress technology in the Karanggeneng tile-producing cluster in Indonesia, much is owed to a young entrepreneur—a university drop-out, established as a traditional tile producer and with a long family involvement in tile production—who had travelled widely and worked in the big cities. He learned about the advanced production technology by visiting several clusters, though, according to Sandee and Rietveld, this alone was not enough:

It took a trip cofinanced by producers, local government and a university to give several *Karanggeneng* producers an opportunity to actually see the handpress technology with their own eyes, and assess *together* whether they were technically and financially able to adopt it as well. The visit convinced the producers that it was possible to introduce this technology in their cluster. (Sandee and Rietveld 1997, 8)

As a further example, in the case of the large firms of the Brazilian textile cluster centred around Blumenau, the initiative was similarly that of an individual—the president of the oldest and largest firm, who was later elected president of the local chamber of commerce

⁴He notes, however, that “these study tours tend to be for the leading enterprises. Perhaps the main lesson from the JICA project is that such study visits can also be very beneficial for entrepreneurs who are less advanced in their fields” (Schmitz 2003, 7).

and industry. He took the initiative, explains Meyer-Stamer, of “organizing a visit of local owners and managers of textile firms to Italian industrial districts in order to learn about best practice, particularly in terms of interfirm relationship and a highly developed supporting environment that creates ‘specialized factors’” (Meyer-Stamer 1998, 1504). It was highly beneficial for the cluster:

This visit gave rise to an ongoing dialogue among a number of medium and large firms on measures to create collective efficiency especially by improving information flows among firms. . . by stimulating the emergence of new training courses at the vocational schools, by creating a quality brand for products from the region, and by studying the feasibility of setting up a technology center.” (Meyer-Stamer 1998, 1504)

Despite the paucity of systematic assessments—due perhaps to the fact that visits are generally carried out as components of other projects, or using small amounts of discretionary funds—it should be clear that learning by visiting provides a powerful opportunity for capability acquisition.

Small Firms Learning by Visiting

But what of the truly small enterprises, often isolated from the associations and clusters that are better able to organize visits? Small firms might reap huge benefits from the sort of social learning offered by visiting, but normally lack the connections and resources necessary to arrange such visits. Furthermore, while firms of all sizes “have their unique contribution to make to the economic and technological development of industrializing countries,” small firms are typically neglected in the technological capability literature (Romijn 1999, 39). Henny Romijn suggests that this is perhaps due to a combination of circumstances: capability building can be more easily observed and studied in larger firms; there is a mistaken assumption that economic development can progress without small-scale capability-building; and given the economic conditions of many developing countries, this sort of capacity-building is often extremely difficult if not impossible (Romijn 1999, 34–36). As a result, small firms—especially somewhat isolated ones—are often also neglected in the provision of technical assistance.

One interesting initiative, piloted through the International Labour Organization’s FIT Programme, sought to address this neglect through what were called “enterprise visits.” The approach is one that is worth examining closely and perhaps replicating. In about two and a half years, through the supported efforts of a number of local NGOs, some 1,400 micro- and small-scale enterprises (MSEs) visited other enterprises in Kenya, Uganda, Tanzania, Ghana, Togo, and Burkina Faso. Because having an outsider identify training needs is expensive, and because “the interaction between technology innovation and management innovation is often not presented in subsectoral training activities,” it was hoped that the exchange visits would provide a short-cut to capability development (Afenyadu 1997, 5). Indeed, “the visiting entrepreneurs,” observes Dela Afenyadu, “identified new elements and ideas on enterprise management, production techniques, marketing, financing, work-floor organization safety and planning, organizing storage and material flow, process and quality controlling, technology innovation, as well as entrepreneurial capability and social/group dynamics” (Afenyadu 1997, 9). MSEs have been

“empowered to innovate” as a result of the visits, and neighbouring businesses have, on their own initiative, proceeded to organize visits of their own (FIT 2000, 8).

The FIT Programme differentiated between two types of visits: “peer visits” between MSEs, and “host visits” (or “matchmaker visits”) between MSEs and larger enterprises (Tanburn 1995, 4), and worked differently in different locations. In Kenya, for example, clients of one partner organization were offered an opportunity to purchase “vouchers” for 5- or 10-day visits, and the payment received was offered to the peer or host as compensation. Visits were arranged after a “brokering workshop” at which some exchange of knowledge had already begun: “donkey cart designs were traded, posho mill repairs were discussed, restaurant cleanliness was highlighted and cross sector dialogues occurred” (Cherono and Craig 1994, 9). The peer visits included ones between a bicycle repairer and a metal-worker, between small restaurant owners and butchers, among small restaurant owners, and among welders (Tanburn 1995, 5). Host visits included ones between a confectioner and a Cadbury-Schweppes plant, between bakers and millers and a large food manufacturer specializing in biscuits and crackers, between small restaurant owners and the Nairobi Safari Club Hotel, and between a small restaurant owner and a popular burger joint in Nairobi (Hileman 1995, 15). Besides offering new products and services and employing new management techniques, new technologies and production methods were often adopted by the visiting businesses:

Many new tools were noted in the businesses of participating MSEs, including tools to reduce dust generated by posho milling, a manual posho mill, a battery charger, a weighing machine, a machine to make animal feed, an ice box, a chip cutter, a fryer, a fuel-efficient charcoal stove, cooking utensils and a thermometer. Apart from the new processes inherent in this new equipment, several new production processes were also found, arising from the visits, including techniques for cleaning maize before milling, skills for making new bicycle parts, a technique for minimizing waste in a butchery, and the milling of dried fish. (Tanburn 1995, 13)

Some of the visits even turned out to be about “know-who”—for example, the confectioner who visited Cadbury-Schweppes reported: “Although I was unable to get access to recipes at the factory because factories have... secrets that they don’t wish to disclose to outsiders, I managed to convince one of their technicians to come to my place of work and teach me. It cost me Kshs 1,600 and was well worth it” (Craig and Oneko 1995, 23). Promisingly, the enterprises which had hosted—and in some cases even developed short training plans for—the MSE visitors, while acting mainly with philanthropic motivations, were interested in the project and eager to continue it (Tanburn 1995, 15).⁵

The implementation was different elsewhere, but also promising. In Ghana and Burkina Faso, for example, 24 women representing food processing groups, some from each country, toured together in both countries over a period of five days, sponsored almost entirely by the FIT Programme. They learned about new equipment, about novel design and installation techniques for their machinery, about innovative floor plan layouts that could increase safety, and an assortment of managerial skills (Afenyadu, Amenuvor, Munya, and

⁵Unfortunately, the staff of the partner organization who administered the exchange program left, and had not been replaced at the time of the evaluation. “Both clients and host businesses complained about the lack of follow-up after the visit,” says the report (Hileman 1995, 12).

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Figure 1: A fictional advertisement from the FIT “Facilitating Enterprise Visits as a Business Opportunity” manual (FIT 2000, 13).

Martine 1996, 4-5). “We have seen and acquired knowledge about models of machines,” the participants said, “which we [have] never seen and which we would never have ever seen in our lifetime” (Afenyadu, Amenuvor, Munya, and Martine 1996, 20). Yet another implementation of host visits, again in large groups and with more structure, was documented in Ghana for food processors and aluminum-bakery-can makers (Ainoo Ansah 1997).

One interesting aspect of the FIT Programme’s exchange initiatives, particularly in Kenya, was the attempt to make them sustainable. Besides having implemented a commercial and client-driven system for arranging visits, it was proposed that visits might eventually be facilitated by travel agents as package tours, with collaboration from interested equipment suppliers. Fictional advertisements for this sort of package tour were included in the FIT manual “Facilitating Enterprise Visits as a Business Opportunity,” and one is reproduced in Figure 1. In Uganda, an attempt was even made at developing such commercial tours to Kenya and South Africa, as a joint partnership between FIT and a travel agency. While it folded after selling only 28 tours, other agents and entrepreneurs did seek information on how to organize tours themselves (Tanburn and Hileman 2000, 49). It is encouraging to note that 85% of the respondents in the FIT Programme’s follow-up evaluation indicated that they would pay more than they had in order to participate again (Hileman 1995, 6). It is also interesting that women may be especially promising clients to pursue, for while only 30% of the participants at the initial Kenyan visit-brokering workshop were women, they earned 55% of the increased profits that were thought to have resulted from the exchange visits (Tanburn 1995, 13).

From the diverse experiences, the FIT Programme distilled and sought to disseminate a set of general principles for consideration when organizing MSE exchange visits:

- The further away the host, the more interesting the visit is for the visitor (and the less threatening it is for the host). Enterprises in neighbouring countries are generally the most attractive.
- MSEs are particularly drawn to visit other enterprises if they are aware of a process or skill which is of interest to them, and which is in use in that enterprise. . .
- The host enterprises should be in the same sub-sector as that of the visitor, or at least closely related.
- The degree of interest in visiting potential customers, suppliers or other types of enterprise varies considerably between countries.
- Entrepreneurs are not yet interested in making visits individually. They prefer to travel in a group which they have formed themselves. . .
- Facilitation should be carried out by an organisation which is seen as a commercial, rather than as a developmental, entity. Charging for the full cost of the service must be emphasised from the start.
- Facilitation can be offered on a minimalist basis. Intensive preparation and follow-up do not significantly affect the impact but do increase the cost very substantially.
- MSEs which already have access to credit, e.g. through micro-credit institutions, apparently make better customers for enterprise visits. . .
- Visits should last about one week. Entrepreneurs should be given 1-2 months notice so that they can save the money required. (FIT 2000, 10-11)

These principles, a valuable output of the FIT Programme, would certainly be worth examining as part of any effort to develop learning-by-visiting trips for small enterprises.

An Opportunity for Exploration

From the qualitative evidence, it is clear that organizing trips for learning by visiting can be very worthwhile. With the acquisition of new outside knowledge so essential for building the technological capabilities of firms, and given the limited avenues open to many firms and entrepreneurs in the developing world for acquiring such knowledge, there exists a gap that can be at least partially filled through learning by visiting. Whether promoted through networks, engaged in by individual firms or entrepreneurs, initiated by business associations, supported by governments and NGOs, or marketed by travel agencies, visits can make a tremendous difference—even for the smallest of enterprises. This paper has sought to bring together the evidence of this potential. Although there has been little systematic investigation or evaluation of learning by visiting, an opportunity exists for fruitful exploration.

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