
Life Long Learning System Plays an Important Role in Leading Corporate World

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Abstract

In the past several decades, we have witnessed unprecedented social and technological change that has had profound implications for the nature of work. Such acceleration of change necessitates flexibility, the ability and ambition to continuously learn, and a willingness to experiment and take risks. In response, many national governments and industry leaders have emphasized the virtues of facilitating lifelong learning at work. Indeed, facilitating lifelong learning has been touted as a solution to remaining competitive. However, lifelong learning is only a concept. For it to be practical, it must be operationalized into steps from which organizations can follow.

The extant research literature is scant in telling us how organizations actually implement lifelong learning practices and policies. Hence, the purpose of this paper is to describe how lifelong learning is grounded in practice. We do this by introducing a new conceptual framework that was developed on the basis of interviews with a number of leading edge corporations from Canada, the USA, India and Korea.

At the heart of our model, and any effective lifelong learning system, is a performance management system. The performance management system allows for an ongoing interaction between managers and employees whereby challenging performance and learning goals are set, and concrete plans are made to achieve them. Those plans involve three types of learning activities. First, employees may be encouraged to engage in formal learning. This could be provided in-house, or the employee may take a leave of absence and return to school. Second, managers may deploy their subordinates to different departments or teams, so that they can take part in new work-based learning opportunities. Finally, employees may be encouraged to learn on their own time. By this we mean learning after organizational hours through firm-sponsored 5 programs, such as e-learning courses. Fueled by the performance management system, we posit that these three learning outlets lead to effective lifelong learning in organizations. Our model also stipulates that the three avenues of learning are mutually reinforcing. Formal training may enable an employee to participate in a work assignment in a different department. A work assignment may encourage employees to complete e-learning courses to support their work-based learning. Learning on one's own time may lead to a promotion, and more formal training. In sum, the three ways of engaging in learning are mutually reinforcing. They are directed by the performance management system to ensure that learning is focused on organizational objectives.

This paper provides texture to our theoretical model. We demonstrate how leading organizations use performance management systems to encourage lifelong learning. We also provide examples of how formal training is used to meet organizational goals, how work assignments are leveraged so that individuals have the ability to learn, and how organizations are increasingly providing opportunities for individuals to learn on their own time.

1. Introduction

Life-long learning has become a key operative concept in the development of individuals, organizations and economies (Johnson & Sharman, 1998). Human endeavor and ingenuity has brought knowledge to a level where the pace of change is faster than ever before (Smith, 2004). This means that current organizational systems and procedures are forever adapting to a changing marketplace, changing technology and newer products and services. So, learning has become a part of our lives whether at work or at home (Portwood, 1993). It is important, therefore, to understand the dynamics of learning in a post-industrial economy. What motivates people to learn new skills on a continuous basis? How do people find out what is relevant to learn? What role does one's employer or the workplace play in this process? Life-long learning is only a concept. To be practical, it must be operationalized in steps that can be followed. National governments, corporations, community groups and individuals all play a role in implementing the ideas of life-long learning into jobs, careers and personal growth. Arguably, one of the most important domains where lifelong learning is carried out is at the workplace. Indeed, while national public policy frameworks may support and encourage learning, it is in organizations where most of a country's lifelong learning occurs (Smith, 2004). Hence, this article focuses on lifelong learning at work.

At work, life-long learning can be conceived of as a partnership between individuals and organizations (Pate, Martin, Beaumont & McGoldrick 2000). Individuals possess specialized knowledge of their aptitudes and learning capacities (Allen & Hart 1998) and have better knowledge of their own motivation (Thite, 2001). Organizations, on the other hand, have better information regarding trends in technology, market shifts and the business opportunities offered by markets. Thus, each party brings something unique to the partnership. Life-long learning can take place when these two parties to the employment relationship join hands in a series of mutually rewarding behaviors (Boeing, 2001; Garavan, Heraty, & Barnicle, 1999; Petridou & Chatzipanagiotou, 2004) This study investigates ways in which lifelong learning as a concept is operationalized in leading corporations. At the level of the firm, effective and continuous learning depends on a set of mutually reinforcing policies and practices. Theoretical and empirical work focusing on the learning organization?(e.g. Argyris & Schon, 1978)

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has emphasized the critical importance of facilitating employee learning directed towards organizational objectives, and how it is necessary for firm survival. However, the literature is scant in telling us how organizations actually implement lifelong learning practices and policies, based on a sound theoretical framework, positivist prescriptions that lack empiricism and theory (Garavan, Costine & Heraty, 1999). Hence, the purpose of this paper is to fill the gap in the research literature by describing how lifelong learning is grounded in practice. We do this through a new conceptual framework that was developed on the basis on interviews with a number of leading edge corporations from Canada, the USA, India and Korea.

This article has three sections. First, we introduce our model of lifelong learning and its primary concepts. The concepts include employee motivation and goals, the performance management system, and three types of lifelong learning practices: formal training, work assignments, and learning on one's own time. Next, demonstrate with explicit examples how these primary concepts are put into practice in organizations. Finally, we offer a discussion and caveats to our research.

2. Conceptual Framework

Both scholars and industry leaders agree that enhancing the potential of organizational members may be the key to achieving sustainable competitive advantage (Porter, 1990). Argyris and Schon (1978) suggested that to achieve such competitive advantage, organizations must constantly identify learning opportunities for their members and the organization, collectively share the information, and continuously transform the organization. Organizational learning has become a hot topic in recent decades. Senge (1990) popularized the notion of the 'learning organization.' Senge stated that learning would lead to sustainability and superior organizational performance and suggested that the learning organization occurs at two levels: at the individual and organizational level. From this, there have been a number of attempts to conceptualize and further understand learning in organizations. Pedler, Burgoyne and Boydell (1991) introduced the notion of a learning company and defined it as, one which facilitates the learning of all its members, and which continuously transforms itself. In a learning company, all of the organizational members must learn in order to be successful. Where learning was once seen as the province of professionals and knowledge workers, learning is now conceived as imperative across all jobs. Nonaka and Takeuchi (1998) suggested, everyone has, to some extent, become a knowledge worker. Leys, Wijgaerts and Hancke (1992)

introduced the term, learning oriented organization and defined it as organizations with a desire to become a learning organization (Tjepkema & Sheerens, 1998). Learning oriented organizations search for opportunities for informal learning, both on and off the job, and also assist employees in acquiring new skills, such as problem solving or analytical skills, so that they may enhance their capacity to learn (Tjepkema & Scheerens, 1998). Workbased learning refers to the types of learning that are directly related to people's jobs. This can include learning for work related purposes, learning at the workplace, and learning through work processes (Keeling, Jones & Botterill, 1998). Bottom (1993, p.58) defined work-based learning as, on-the-job learning and its application to work-related problems. It might be specific workstation training or general-education curriculum designed to improve knowledge and skills. It encompasses many of today's pop terms such as cross training, retraining, continuous improvement, employee empowerment, and trouble shooting. Work-based learning calls for a perpetual learning process and is seen as the central element to integrated quality systems.

Although these definitions vary to some extent, they all focus on encouraging employees to learn to meet organizational objectives. The abovementioned frameworks spotlight the importance of learning; however they fail to demonstrate how this learning is grounded in practice. Hence, the purpose of this article is to develop a theoretical framework to understand how lifelong learning is realized in firms today

This model begins with the performance management system. At the heart of any lifelong learning system is the interaction between the organization and the employee. In addition to providing rewards, the performance management system is used to provide developmental advice to employees. Employees and their managers set personal goals that are aligned with the strategic objectives of the firm. Employees also share their motivations and career aspirations. Next, managers show employees how to improve their performance and develop new skills that will lead them to achieve their goals and career aspirations. To do this, managers may point their employees in three directions. First, managers may suggest that employees upgrade their formal skill set through formal training programs offered in-house, or through an external provider. Second, managers may direct their employees to other departments or teams that can provide them with new learning opportunities in the form of temporary work assignments. Third, employees may be encouraged to learn on their own time. By this we mean learning after organizational

hours through firm-sponsored programs, such as e-learning courses. Fueled by the performance management system, we posit that these three learning outlets lead to effective lifelong learning in organizations. also demonstrates that the three avenues of learning are mutually reinforcing. For instance, formal training programs may provide an employee with the requisite skills to participate in a work assignment in an alternative department. Similarly, a work assignment may encourage employees to take the opportunity to learn on their own time in order to fulfill their new obligations and feel competent in a different department. Taking courses on one's own time may also highlight the need to take on more formal training. In sum, they are mutually reinforcing and directed by the performance management system to ensure that learning is focused on organizational objectives.

Another view of lifelong learning in organizations is that it is a process. We posit that this process can be conceptualized in a theoretical model whereby the performance management system is the driving agent (see Appendix B). Here, we see that individuals come into the workplace with a variety of motivations, goals, and career aspirations. Individual characteristics may determine how learning and development opportunities are perceived, how much individuals engage in learning and development, and the setting of personal goals, which can facilitate lifelong learning. Noe and Wilk (1993) investigated factors that influence an employee's participation in development activities. They found that the most important factor was individual motivation to learn. Motivation to learn had a consistent, significant, positive influence on different outcomes related to development activity. Hence, firms that are interested in development activities should ensure that employees have high motivation to learn. Hicks and Klimoski (1987) suggested that motivation to learn could be enhanced when employees are provided with realistic information regarding the benefits of development opportunities. Noe and Wilk (1993) also found that employees perception of the work environment influenced development activity. Specifically, they found that social support from managers and peers for development activity and the type of working conditions positively influence development activity. This finding suggests that organizations need to ensure that managers and peers are supportive of development.

Another aspect of the work environment that may impact an individual's willingness to engage in learning activities is the availability of resources. Employees with insufficient resources to complete work assignments, such as lack of time or poor equipment, may experience frustration and devote

most of their time, attention and energy towards daily work, whilst neglecting development opportunities. Individual characteristics also determine how personal and work-related goals are set, and how they can be achieved. The process of setting goals and making plans to achieve them has been described by Verma and Mann (2005) as a combination of three factors. The first factor is knowledge of learning opportunities that are available.

For some people, knowledge of availability can be limited due to low levels of one's social capital. The second factor is self-efficacy, a personal assessment of one's capabilities. The third factor is an expectancy that learning can lead to a better station in life.

All of these individual characteristics are brought into the performance management system whereby the manager and employee meet in a participative forum to discuss performance and developmental goals. Bevan and Thompson (1991) suggested that performance management could be conceived as a place to discuss rewards and recognition and one that emphasizes training and development. They argue that an effective development driven integration is necessary for long-term success. An important feature of the performance management process is goal setting. Goal setting has been linked to individual and organizational success (Locke & Latham, 2002). Some of the goals are learning goals whereby the employee desires to branch into a new area within the organization, gain a promotion, or upgrade his or her existing skill set for the current job. The manager is required to facilitate this learning by showing ways that the employee can reach those goals. As noted earlier, a manager could suggest formal training, work assignments, or learning on one's own time. Formal training has long been regarded as imperative to organizational success. Read and Kleiner (1996) presented the most commonly used formal training methods across non-industry specific companies in the USA. They found that the top ten training methods used in business were: (1) videotapes; (2) lectures; (3) one-on-one instruction; (4) role plays; (5) games/simulation; (6) case studies; (7) slides; (8) computer-based training; (9) audiotapes; and (10) films.

Mathews, Ueno et al (2001) surveyed 450 individuals in the UK, Portugal and Finland and found that the training methods most commonly used tend to be traditional, including external short courses, internal lectures and seminars, issuing of training manuals and materials to be self-taught, using training videos, and the delegation of training responsibilities to training consultants. Impersonal methods such as training videos or computer-based training were found to be the least effective. In contrast, personal

methods such as participative courses and seminars were viewed as the most effective. We advance that organizations must develop training programs that fit both the needs of their members and the culture of the company. Training programs should be developed on the basis of a needs assessment whereby Human Resource Professionals determine the necessary skill gaps and provide resources to meet those needs. Another avenue for learning is through work assignments. Work assignments refer to temporary assignments outside of an employee's domain of expertise with a specific beginning and end date. The provision of work assignments can be initiated by the employee or by one's manager. An employee that desires to upgrade his or her skills through a work assignment approaches their manager and requests a move. The employees job would typically be guaranteed until they return to ensure that employees will feel safe taking on a work assignment.

Alternatively, managers may suggest that particular high-potential employees take on alternate work assignments to upgrade their skills and visibility within the company. Work assignments may provide employees with the opportunity to try a different role within the organization. This will not only increase the inter-departmental learning, but also improve morale and retention. A final route to learning that organizations can supply is learning on one's own time. Here, employees are provided with the resources to learn after working hours. This may include e-learning courses, weekend courses, Lunch and Learn, bursaries, or temporary leave allowances to take on more formalized education. Merriam and Caffarella emphasized the importance of self-directed learning and stated, Learning on one's own, being self-directed in one's learning is itself a context in which learning takes place. The key to placing a learning experience within this context is that the learner has the primary responsibility for planning, carrying out, and evaluating his or her own learning. Adults engaging in self-directed learning do not necessarily follow a definite set of steps or linear format. In essence, self directed learning occurs both by design and chance--depending on the interests, experiences, and actions of individual learners and the circumstances in which they find themselves self-directed learning does not necessarily mean learning in isolation--assistance is often sought from friends, experts, and acquaintances in both the planning and execution of the learning activity. Hence, there are numerous ways that organizations can facilitate lifelong learning in their organizations. Although learning has been emphasized as crucial to organizational success, there is little research on how organizations make learning a reality. The purpose of this research is to explain

some specific policies and practices that are used by organizations to facilitate lifelong learning.

3. Methodology

Interviews were conducted with human resource managers from companies in Canada, the USA, Korea and India. Companies operating in Canada include Ford Motor Company, Bombardier, General Electric, Statistics Canada, and Manulife Financial. Companies operating in Korea include M Bank, P&C, Yuhan-Kimberly and POSCO. The company that is based on India is Tata Consulting Services Inc.

3.1 Tata Consulting Services

Company Profile

Tata Consultancy Services Limited (TCS) is a world-leading information technology consulting, services, and business process outsourcing organization. TCS is a truly global company with offices in 33 countries spanning 5 continents. At any given time, approximately 60 percent of software professionals are working at client locations in different countries. It provides a comprehensive range of services across a number of industries, such as energy, telecommunications, chemicals, engineering, and financial services. The nature of work at TCS is knowledge-intensive. Developing cutting-edge software, updating and maintaining a variety of programs, providing sound business advice for a variety of industries, and interacting with clients and colleagues across the globe are just some of the activities that employees at TCS encounter on a day-to-day basis. Like many IT professionals, employees at TCS are required to become experts in emerging technologies and software, work in teams effectively, and deliver excellent customer service. To do this, they must engage in continuous learning. TCS provides its employees with a wealth of learning opportunities, ranging from extensive formal training programs, to informal knowledge sharing initiatives. All of this is offered in the context of career enhancement. Employees are encouraged to take advantage of training programs in order to move between businesses and product lines. Project work is central to the workings of the organization. In order to ensure their employability, professionals tacitly learn on projects, while taking part in formal training programs to supplant their learning needs. TCS has created a learning system that emphasizes training and career development. In this way, knowledge is shared and remains inside the organization.

This outline begins by explaining how TCS lays down the foundations for a learning environment. Following is a discussion of how, through rotating projects, employees are encouraged to learn by doing.

Next is an articulation of how TCS provides employees with opportunities to learn on their own time. Finally, this outline demonstrates that specific HR policies and practices support a learning environment. Laying the foundations The foundation of a partnership for learning is immediately established for new recruits at TCS. All new recruits are assigned their own's lifeguard. The lifeguard program was designed to link up experienced employees, or lifeguards, with new recruits. The lifeguard encourages, mentors, and guides new recruits through a rigorous and intensive 2-month training program.

To ensure that their training is recouped, TCS asks each employee to commit to TCS for at least 2 years. Once this basis is established, employees are required to take two months of intensive training at a training facility in Thiruvananthapuram, India. Whether an employee is hired in North America, Europe or Asia, they will be sent to India to take part in this induction. The facility has 18 classrooms, a library, an auditorium, a conference hall and discussion rooms. It also has about 300 personal computers. The program is composed of three modules, namely, foundation, process, and life skills modules.

Foundation modules are designed to keep trainees abreast of new, emerging technologies, and to help them refine their computer engineering skills. Tailor-made training modules have been designed to serve the unique needs of each type of employee. For instance, the Initial Learning Programme is provided to all recruits from engineering colleges. It is designed to transform engineers from diverse disciplines into software engineers. The process module is complementary to the foundation module; the foundation courses provide students with the what, whereas the process modules provide employees with the how in IT consulting. The field of computer science is a relatively new discipline. There are no universally accepted principles. Thus, different IT consulting companies approach situations in very different ways. Process modules are designed to teach new recruits the philosophy used by TCS to create innovate solutions. TCS champions a systems approach to IT consulting.

A systems approach teaches people to have a holistic view of consulting. Instead of reducing problems to constituent parts, consultants at TCS are encouraged to think of solutions in terms of systems, and to develop holistic approaches to client requests. One way that this is accomplished is by assigning employees dummy projects. By working on dummy projects, employees can make mistakes and learn from them, and experience firsthand the businesses and culture of TSC. The third module teaches new

recruits the soft skills necessary for success at TCS. This module includes courses in effective communication, creativity, lateral thinking and self development.

4. Rotating Projects

Employees are continuously engaged in learning through frequent job rotation. Job rotation enables employees to know different parts of the business, to understand how business units connect, to establish a network within the company, and finally, a specific expertise. Project work allows employees the freedom to leave a project if it is not sufficiently challenging, and to seek out new opportunities at TCS offices in different countries around the world. The job rotation system ensures that employees don't get typecast or slotted into any kind of job permanently.

There is a systematic practice of job rotation whereby employees are exposed to different industries, service practices and software platforms. During their first three years at TCS, employees are encouraged to change projects every 6 months. This enables new employees to gather information about their likes and dislikes, their strengths and weaknesses, and can offer them a unique opportunity to work with a variety of people on a number of projects. After the first three years, employees are encouraged to specialize in a particular field, service, or firm project. Although employees are encouraged to specialize, they do not remain in the same job.

Lateral movements are encouraged approximately once every 3 years for experienced employees. A centralized body called the MATC organizes employee rotation. The MATC records, organizes, and maintains a list of the talents and competencies of each employee. MATC acts as an internal headhunting body, placing employees in projects where they are needed, and taking requests for project moves. If an employee wishes to move to a different project, they may either go to the MATC, or to the leader of the project that they would like to join. In short, people are encouraged to learn by rotating. A part of job rotation may include relocation. Depending on project requirements, employees typically get a chance to participate in overseas assignments. Anecdotal evidence suggests that most employees go abroad within 36 months of joining the organization. Since TCS has offices around the world, foreign language acquisition and retention are valued skills. The Foreign Language Initiatives Group and the Learning and Development Committee work together to provide employees with the opportunity to learn new languages, such as Japanese and German. Further, TCS organizes special cultural events so that employees can learn about the nuances of different

cultures. For instance, in 2005, TCS organized an event called 'doing things Wafuu' which introduced participants to Japanese culture and 'kafee mit Kuchen' which taught participants German cultural nuances. TCS also supports the wives and families of their relocated families.

In 2010, the spouses of employees created 'maitree' to bring together the large and geographically widespread community. Maitree is an organization with a number of purposes. It serves as an information sharing body whereby employees can gather information about living in a foreign country. It is also a forum where a wide range of socially relevant activities are explored, such as environmental and poverty issues. Facilitating Individual Excellence: Self-Initiated learning a component part of lifelong learning is taking ownership of learning by seeking out new learning opportunities. An organization can facilitate this by offering courses and avenues for employees to learn on their own time. At TCS, employees are provided with a range of learning opportunities outside of their formal job requirements. For instance, employees are encouraged to participate in one of hundreds of e-learning courses. TCS encourages employees to take e-learning course on their own time, even if it is not immediately applicable to their current job. Employees can also access thousands of e-books, role-plays and simulations on the intranet. TCS also publishes case studies so that all employees can learn about the various successful projects carried out by colleagues around the world. Furthermore, open-house sessions and engagement programs enable associates at all levels to meet and discuss various work-related issues. Employees are also encouraged to apply for managerial training at the Tata Management Training Centre (TMTC). Managerial training at TCS is highly competitive. Candidates are assessed according to their past performances and future potential. TMTC is located in Pune, India and is designed to develop leadership competencies for executives and high performers. It has national and international ties with other educational and training institutes. Its objectives include improving organizational performance by disseminating the latest knowledge and skills among managers; facilitating attitudinal and behavioral change; finding solutions for complex organizational problems; and developing a learning culture.

Employees are also encouraged, and given opportunities, to share what they learn with their co-workers. Web-casts and on-line chat sessions are one tool used by employees to discuss corporate or technical issues on a real-time basis. Information can be shared across time and space. For instance, a team in the USA who is known for its excellence in one computer technology instigated a web-chat once a

week. On their own time, this team shares their knowledge and expertise with other TCS employees in different parts of the business, and in different parts of the world. There are also periodic chat shows with the CEO whereby employees are encouraged to ask questions and learn about the corporate strategy. Another way that employees share what they learn is through publishing a 'white Paper'.

Topics of White Papers include financial services, insurance, retail and consumer goods, transportation, e-business, and process solutions. Hundreds of papers are accepted and reviewed each year. Once a year, outstanding papers are chosen to enter a contest, whereby the authors have the opportunity to travel to different conferences, showcasing their papers. Members from academia and industry are invited to the conferences to comment on new ideas, and to enrich the discussion. Employees are also encouraged to provide innovative solutions and suggestions to improve processes and/or customer services. To do this, employees fill out a 'process Improvement Proposal' (PIP).

The PIP is sent to a supervisor, assessed, and if feasible, the ideas are implemented. Awards are granted to individuals that provide excellent PIPs and contribute to firm success. Another way that employees are encouraged to learn on their own time is by going on a sabbatical. Employees who have worked with the company for more than three years are given the opportunity to take an unpaid sabbatical (oftentimes to enrich their skill set through a degree program). Employees are guaranteed their job when they return. TCS provides loans for personal computers. It also provides assistance in school admissions for transferred employees and those returning from overseas assignments. There is also a welfare trust that provides grants for the achievement of higher education.

TCS also values networking as a form of learning. For instance, it subsidizes its consultants to become members of institutions and societies such as the Institute of Electrical and Electronics Engineering, ACM and others. This enables consultants to receive information to keep abreast of the latest technology and science.

5. A Learning System

In order to support formal, informal and self-learning initiatives, TCS has created a learning system whereby human resource practices facilitate lifelong learning. As noted earlier, learning begins on the first day on the job at TCS. Hence, recruitment is extensive and competitive. It carefully selects its consultants from top universities and professional backgrounds. Selection is highly competitive and rigorous. On joining, entrants are required to sign

service agreements in which they accept to stay with TCS for the two years following their initial training. As noted earlier, all new entrants are sent to a training facility for approximately 2 months. After successfully taking exams to ensure knowledge retention, employees are assigned to a project and given an additional 4 weeks of classroom training that is specific to their projects.

Performance appraisals are also linked to learning. They are conducted bi-annually and focus on the training and developmental needs of the employees. Employees are encouraged to search out new learning opportunities, whether it is formal courses, e-learning courses, or informal on-the-job learning, and express those needs to their supervisor. With the guidance of the supervisor, the employee devises a plan to reach learning and development goals. Employees are appraised on whether they met those goals. Because the employees at TCS are highly skilled, they have considerable leverage in the employment relationship. In order to ensure that their employees are being heard, TCS has an extensive and formalized grievance procedure. Should there be any friction between an employee and his or her manager over training assignments, the employee has the option of speaking directly with HR to rectify problems. In order to meet the demands of the business, the structure of TSC optimises skills across the enterprise. Senior managers are encouraged to collaborate on a project, rather than merely form specific project teams. The organizational hierarchy is modelled along the lines of a fishnet, rather than a classical pyramid structure. A fishnet structure provides the opportunity to intermesh diverse skills and people in a meaningful grid.

As noted earlier, employees engage in extensive formal training programs. Over 4 percent of total revenue is dedicated to training each year. Training modules have been developed to service the specific needs of individual employees based on their stage of development within the organization. Employees take part in Continuing Education Programs that cover over 300 topics and can be delivered over a variety of channels, such as classrooms, computers, audio-video, contact sessions, seminars, conferences and workshops. Employees can initiate training by asking their line manager for permission to enter a program. Alternatively, line managers oftentimes require an employee to participate in a training program to meet the needs of the team.

TCS takes time to evaluate its training programs from a number of perspectives. First, employees rate both the course content and faculty teaching on a scale from 1 to 4. If the average scores for either the course or faculty rating fall below 3.2 for any class, it is re-evaluated by the Learning and Development

Committee. If the score reaches above 3.8, the course may be provided to additional employees. Second, supervisors are asked to report on the progress of their employees six months after the training program. A Learning and Development Committee is charged with overseeing the learning at TCS. It tracks the external environment, discovers the learning needs within the company, and ensures the curriculum that is taught matches what is required for success.

6. Results

On the basis of in-depth interviews with Human Resource managers from a variety of companies, we found that most companies adhere to our model of lifelong learning in organizations. Companies realize that their members bring different motivations and career goals into the performance management system. Managers are encouraged to work with their employees to help them achieve their goals during the performance management process. Further, employees are provided with a wealth of learning opportunities in the form of formal training, work assignments and learning on one's own time. The following sections will highlight different policies and practices related to performance management, and the three avenues of learning. Performance Management In all of the companies under study, the performance management system was viewed as fuelling the learning process. For instance, at Bombardier, employees are provided with a performance appraisal once a year whereby a needs assessment is carried out. Training and development opportunities are considered and agreed upon between the manager and the employee. The head of HR at Bombardier commented that there are three facets to their performance management system. First, employees define their objectives. Second, the supervisor suggests ways in which they can meet their objectives. Third, the two jointly determine training and developmental gaps that must be addressed to reach the objectives.

Similarly, employees of General Electric meet with their supervisor once a year to determine goals, which include learning and development objectives. It is a self-directed process whereby employees are encouraged to think about their goals before meeting with their supervisor. The supervisor and employee then devise a plan to meet the goals. Further, GE conducts an annual Leadership Business Review whereby high potential employees are identified according to the results of the performance appraisal. The members of the Leadership Business Review analyze the current climate of the organization and its financial outlook. From this, they allocate appropriate work assignments and training and development courses to their most promising employees. At the

same time, management must also decide who will leave the company. The lowest performers (approximately 10 percent) will be put on a Performance Improvement Plan. The supervisor has the responsibility for engaging in a candid conversation with his or her employee about how they are performing and how they can improve. This oftentimes involves more learning and development. Employees at Ford are also accustomed to a thorough performance management system.

Career management is emphasized during the performance management system at Ford. Both the HR department and individual supervisors are prepared and willing to engage in career planning discussions with their employees. Although employees typically speak with their direct supervisor about their career, HR often coaches individuals at pivotal career junctures and may help prepare individuals for a conversation with their supervisor by providing personal advice, as well as online resources. The online personal tools help employees in their career planning. The tools include personal worksheets to assist employees in recognizing the gaps in their skill base, suggestions on how to overcome challenges, and tips to prepare them for a conversation with their supervisor. Further, personnel development committees meet approximately once a year. For high potential employees, a special committee composed of cross-functional managers, assists in their career planning. The committee typically provides promising employees with appropriate work assignments and any necessary training. Company Yuhan-Kimberly in Korea conducts an annual self-development and goal management system for each employee. Individuals establish goals early in the year. Supervisors discuss three categories of employee performance: mutual action skills, informed thinking skills, and personal character related skills. In this way, employees and their supervisors can jointly determine appropriate goals, and means to achieve them. At Statistics Canada, performance appraisals take the form of a structured year-end interview with an emphasis on job performance and training and development needs. Most performance appraisals are conducted orally, with no formal documentation. The performance appraisal is designed to be frank and non-threatening. Employees are also given the opportunity to have a 'skip-level' interview with the supervisor of their supervisor. This is meant to assist the employee in choosing training and development opportunities that would facilitate opportunities for progression. Statistics Canada also provides information on different 'streams of careers' within the organization. Career streams are clusters of jobs that serve similar functions and require similar competencies. The

Committee on Career Streams has created career path documents to help employees and mentors in planning and selecting options for career development. The career path documents outline the knowledge, abilities, training and rotation required to build up required competencies for progression. To assist with this process, Statistics Canada provides its own in-house development counselor. As a seasoned employee of Statistics Canada, the counselor is knowledgeable about all the training and developmental opportunities provided both within and outside the company.

Employees are encouraged to identify their own learning style and customize a personalized learning plan. The counselor also teaches employees how to create a resume, maintain and broaden a network of contacts, and gives advice on how to succeed in an interview. Manulife uses its performance management system to identify young, high-potential individuals. Each year, an internal talent review identifies high-potential individuals who have demonstrated unusual promise. Such individuals would be invited to join an express career track. They receive initial training in a program designed specifically for high potential general managers. Subsequently, these individuals receive certain work assignments designed to give them opportunities for personal development. The idea is to provide exposure to new challenges and opportunities in the hope that the person can learn new skills and competencies through such experiences. Some examples would include international assignments, multi-divisional assignments and taskforce assignments. Hence, the performance management system is the driver of the lifelong learning system in many organizations. It is the center point of discussion regarding the skills an employee possesses, where he or she wants to go, and how to get there. Goal setting is inherent in this process. Supportive learning and development practices and policies have a pivotal role to play in encouraging employees to meet those goals. However, performance management systems are not enough. It is insufficient to set learning goals without providing a means to achieve them. Thus, the next part of the model displays three ways that employers can facilitate lifelong learning in their organizations.

7. Formal Training

Individuals typically engage in formal learning at two points in their career with an organization. First, it may occur at the induction period, and second, when making important vertical or lateral moves within the company. This section will begin with a discussion of how companies use formal learning in the induction process, and subsequently discuss some of the innovative formal training programs in place

for seasoned employees. TCS, an IT consultancy firm based in India, invests heavily in its induction process, which includes both formal and non-formal training elements. The foundation of a partnership for learning is immediately established for new recruits at TCS. All new recruits are assigned their own 'lifeguard' The lifeguard program was designed to link up experienced employees, or lifeguards, with new recruits. The lifeguard encourages, mentors, and guides new recruits through a rigorous and intensive 2-month training program. To ensure that training expenses are recouped, TCS asks each employee to commit to TCS for at least 2 years. Once this basis is established, employees are required to take two months of intensive training at a training facility in Thiruvananthapuram, India. Whether an employee is hired in North America, Europe or Asia, they will be sent to India to take part in this induction. The facility has 18 classrooms, a library, an auditorium, a conference hall and discussion rooms. It also has about 300 personal computers. The program is composed of three modules, namely, foundation, process, and life skills modules. Foundation modules are designed to keep trainees abreast of new, emerging technologies, and to help them refine their computer engineering skills. Tailor-made training modules have been designed to serve the unique needs of each type of employee. For instance, the Initial Learning Programme is provided to all recruits from engineering colleges. It is designed to transform engineers from diverse disciplines into software engineers. The process module is complementary to the foundation module; the foundation courses provide students with the 'what', whereas the process modules provide employees with the 'how' in IT consulting. The field of computer science is a relatively new discipline. There are no universally accepted principles. Thus, different IT consulting companies approach situations in very different ways. Process modules are designed to teach new recruits the philosophy used by TCS to create innovative solutions. TCS champions a systems approach to IT consulting. A systems approach teaches people to have a holistic view of consulting. Instead of reducing problems to constituent parts, consultants at TCS are encouraged to think of solutions in terms of systems, and to develop holistic approaches to client requests. One way that this is accomplished is by assigning employees dummy projects. By working on dummy projects, employees can make mistakes and learn from them, and experience firsthand the businesses and culture of TSC. The third module teaches new recruits the soft skills necessary for success at TCS. This module includes courses in effective communication, creativity, lateral thinking and self-development. Similarly, formal training plays a role in

the induction process at GE. There are a number of different entry points at GE. The first is the 2-year Corporate Leadership Program, which provides new recruits with on the job training and experience. These programs are rotational in nature and combine work experience with classroom training. Although the rotations are somewhat pre-established, employees have a chance to request certain assignments to suit their learning needs and interests. New recruits typically experience 3 to 4, 6 to 8 month rotations. They have both entry level programs that require a bachelor's degree, and an experienced level program that require either an MBA, masters or a bachelor's degree with 3 to 6 years of

experience. The second entry path is the Business Specific Program. This program is also rotational and is offered at select GE businesses. These are also typically 2 years in length and include hands-on training. The training will vary by the program and will always involve some kind of training outside of the employees core competence. For instance, an HR recruit may participate in a rotation in HR, finance, and corporate audit. This will enable the employee to gain a broader experience with the company, learning its values and strategies from different perspectives. The training is on the job and is always action oriented. This program has both entry level and experienced level programs. A third way is designed for senior level new employees. There is a 3-week program for senior level employee called the Management Development Class. This class is a prerequisite for the advanced Executive Development Program, which includes a variety of training and development courses. Most of the training is in the classroom so that participants have a chance to network and share information.

The classes are taught by experienced executives and also by university professors and external consultants. At M Bank in Korea, new recruits are enrolled in a training and development program. The induction program is designed to give mock experience of working in the bank to employees, and at the same time stress the importance of learning and training throughout their career. The induction program guides new recruits through an intensive training program for 7 weeks to familiarize themselves with the diverse activities of the bank. Role-playing, brain storming seminars, and group talks are emphasized. After the intensive 7 weeks induction program, which includes 1 week training at the branch, employees are assigned to their positions in branches and headquarters. Further, during the induction program, new employees are allocated a mentor. After the employees have been allocated at the branch, the mentor programs are practiced as a means of on the job training given by the senior

employees. A number of different induction programs are offered at Ford's US sites. For instance, Ford has a 32-month rotational program for individuals wishing to work in product development. The program begins with the trainee choosing a home organization based on their own interests and the company's business needs. Trainees are assigned a mentor to advise and guide the participant through a set of assignments at the home organization. Once the program is completed, trainees can choose from a variety of assignments within their home organization. Formal training does not typically end after induction. Companies also offer formal learning opportunities throughout an individual's career with the organization. For instance, TCS employees are encouraged to apply for managerial training at the Tata Management Training Centre (TMTC).

It is designed to develop leadership competencies for executives and high performers. It has national and international ties with other educational and training institutes. Its objectives include improving organizational performance by disseminating the latest knowledge and skills among managers; facilitating attitudinal and behavioral change; finding solutions for complex organizational problems; and developing a learning culture. Pantech and Curitel (P&C) run a Pantech Academy that is in charge of employees learning and development. They offer over 95 different training programs, including leadership training, customer satisfaction programs and management techniques. Every employee is required to complete 40 hours of learning per year. The learning sessions and courses are all credit based. As well as acquiring the credits, employees are required to achieve high grades in the courses. Otherwise, they must take the course again. P&C has three learning programs: the Pantech Leadership Program, Pantech Expert Program and the E-learning and Special Program. Statistics Canada offers two managerial training programs. First, the Senior Management

Development Program is a menu-based, flexible program that personalizes training programs for new and existing members of senior management. The Program was designed to increase the awareness of social and economic issues, develop skills, strengthen the management group, and foster the concept of continuous learning. Senior management enrolled in this program take courses provided by the Canadian Center for Management Development, listen to a program of speakers from the field, and participate in a mentorship program. The second program, the Middle Management Development Program, is designed to enhance managerial competencies at the middle management level. Statistics Canada has emphasized 9 different competencies. Each participant in the program is given an individual

assessment based on the 9 elements. Participants are subsequently given training in workshops that match their learning needs. For instance, one workshop focuses on how action learning can help managers understand the corporate decision making process. POSCO has established a separate Lifelong Learning Department in 2005 that manages the learning system by maintaining detailed records of training opportunities. The company developed the database to support formal training, which they plan to relate with other management systems to maximize performance. POSCO plans to establish a formal training center to expand training and to support it effectively. To do this, it has established a Human Resources Development Training Center, which focuses on developing leadership, technical skills, foreign language skills, and managing change. Further, there is a Study Program in Overseas & Korea, which offers the opportunity to travel and study abroad. POSCO also supports employees to acquire certificates that are related to their job. In doing so, the company hopes new certifications will prepare employees for their second career after retirement. It also provides a cash bonus to take offline learning programs such as health and safety. For online learning, syber money is given to those who have received over 70 marks on chosen curriculum. Through the e-Professional curriculum, employees can attain IT certification when they pass over 860 marks or level 1. And to support this, a laptop computer is given to employees who have gained the certificate. At Manulife, there is an extensive training program for executives. A corporate team is responsible for their development and organizes activities and programs to assist executives. The primary vehicle for assisting executives is a Leadership Program. This program has three components. First, approximately 380 managers do some work prior to a conference that is held 2-3 times a year in different parts of the world. Each executive is given 360-degree feedback, which is used to identify areas of learning and personal development. The second component is the conference, which is held over 4 days, and the CEO attends it. Both internal and external speakers are invited to present theoretical frameworks as well as their application to Manulife issues, problems and opportunities. The third component is a post-conference program, which allows each participant to follow-up on ideas and connections made during the conference. The office at the headquarters creates various services for the alumni to stay in touch and to follow up on new ideas and learning with their colleagues. On-line resources are made available to the alumni along with a list of participants so that they can easily contact each other.

8. Work Assignments

Work assignments are typically temporary assignments outside of an employee's core competence area with a specific beginning and end date. They enable an employee to visit a different part of the organization, network with colleagues, and learn a variety of new functions. Work assignments can either be an inherent part of one's job, or it can be organized by the firm to encourage learning. An example of how learning through work assignments is inherent in one's job was found at TCS. Here, employees are continuously engaged in learning through frequent job rotation. Job rotation enables employees to know different parts of the business, to understand how business units connect, to establish a network within the company, and finally, to develop an expertise. Project work allows employees the freedom to leave a project if it is not sufficiently challenging, and to seek out new opportunities at TCS offices in different countries around the world. The job rotation system ensures that employees are not typecast or slotted into any kind of job permanently. There is a systematic practice of job rotation whereby employees are exposed to different industries, service practices and software platforms.

During their first three years at TCS, employees are encouraged to change projects every 6 months. This enables new employees to gather information about their likes and dislikes, their strengths and weaknesses, and can offer them a unique opportunity to work with a variety of people on a number of projects. After the first three years, employees are encouraged to specialize in a particular field, service, or firm project. Although employees are encouraged to specialize, they do not remain in the same job. Lateral movements are encouraged approximately once every 3 years for experienced employees. A centralized body called the MATC organizes employee rotation. The MATC records, organizes, and maintains a list of the talents and competencies of each employee. MATC acts as an internal headhunting body, placing employees in projects where they are needed, and taking requests for project moves. If an employee wishes to move to a different project, they may either go to the MATC, or to the leader of the project that they would like to join. In short, people are encouraged to learn by rotating. However, not all organizations are structured like TCS. Some organizations are naturally more bureaucratic in nature and are not organized around project work. However, bureaucratic companies can still engage their employees in temporary work assignments for the purposes of learning. For instance, Statistics Canada has a Corporate Assignments Program, which encourages employees

to seek alternative temporary assignments within the organization. All employees are eligible to participate after four years in the same position, or with their manager approval. All employees, including managers, professionals and clerical workers can ask for assignments in another part of the company for a period from 6 to 24 months. The employee's boss cannot refuse a request for a corporate assignment and the employee can move to the new department permanently if a permanent vacancy exists. A key element is that employees are guaranteed the security of returning to their original position if they so desire. This program encourages ongoing learning and career development by enabling employees to acquire new work experiences with minimal risk. Corporate assignments are taken for a variety of reasons. For instance, employees can practice second-language skills, explore different areas of the company and gain experience that may lead to transfers or promotion. Although there has been no formal evaluation of the program, both managers and employees who have participated in the program are satisfied with the result. Further, anecdotal evidence suggests that those who have participated in the program have higher rates of career success. Learning on One's Own Time Providing employees with opportunities to learn on their own time was an important theme in many of our interviews. For instance, employees at TCS are encouraged to participate in one of hundreds of e-learning courses. TCS encourages employees to take e-learning course on their own time, even if it is not immediately applicable to their current job. Employees can also access thousands of e-books, role-plays and simulations on the intranet. TCS also publishes case studies so that all employees can learn about the various successful projects carried out by colleagues around the world. Furthermore, open-house sessions and engagement programs enable associates at all levels to meet and discuss various work-related issues.

Further, since TCS has offices around the world, foreign language acquisition and retention are valued skills. The Foreign Language Initiatives Group and the Learning and Development Committee work together to provide employees with the opportunity to learn new languages, such as Japanese and German on their own time. Further, TCS organizes special cultural events so that employees can learn about the nuances of different cultures. For instance, in 2005, TCS organized an event called 'doing things Wafuu' which introduced participants to Japanese culture and 'mafee mit Kuchen' which taught participants German cultural nuances. At POSCO, employees are given incentives to engage in this type of learning. For instance, free books are supplied to a learning group that has achieved 50 hours of learning. This

policy encourages individuals to learn on their own time. Also, for those who have achieved 70 hours of learning or more, POSCO provides outside learning opportunity for all members, such as skiing, paragliding, and wind surfing. The HR department at Bombardier organizes an optional Lunch and Learn program. After discussing some of the current needs within the company with line managers, HR invites a seasoned employee or external specialist to discuss issues related to the business. For instance, if a number of employees require training in negotiation skills, HR asks a line manager, or hires an external consultant, to speak at a Lunch and Learn about this topic. The HR function is constantly looking for opportunities for invite outside experts to share their knowledge in interesting subject areas. External speakers may be employees from different companies, from a supplier, or a professor from a university. At Bombardier, there is generally more demand for Lunch and Learns than they have to accommodate. Ford Canada also organizes a Lunch and Learn series. Employees can listen to a variety of topics from experienced Ford employees, employees from other companies, suppliers and external consultants. For example, Lunch and Learn topics have focused on stress management, balancing work and personal life, managing change, negotiating strategies, customer service, and on the broad economic outlook for the automotive industry.

A second way that companies have encouraged learning is through opening up avenues for information sharing. In this way, individuals can share the knowledge that they have gained either on the job, or through formal training program with their colleagues. For instance, employees at TCS are encouraged, and given opportunities, to share what they learn with their co-workers. Web-casts and on-line chat sessions are one tool used by employees to discuss corporate or technical issues on a real-time basis. Information can be shared across time and space. For instance, a team in the USA who is known for its excellence in one computer technology instigates a web-chat once a week. On their own time, this team shares their knowledge and expertise with other TCS employees in different parts of the business, and in different parts of the world. There are also periodic chat shows with the CEO whereby employees are encouraged to ask questions and learn about the corporate strategy. Another way that employees share what they learn is through publishing a white Paper. Topics of White Papers include financial services, insurance, retail and consumer goods, transportation, e-business, and process solutions. Hundreds of papers are accepted and reviewed each year. Once a year, outstanding papers are chosen to enter a contest, whereby the authors

have the opportunity to travel to different conferences, showcasing their papers. Members from academia and industry are invited to the conferences to comment on new ideas, and to enrich the discussion.

Similarly, employees at M Bank share what they learn with their co-workers. They do this on the company portal knowledge management system. Issues range from general operations of work, personal know-how, and word dictionary to experts Q&A can be found on the company portal. However, like many companies that were interviewed, informal learning is often overlooked because employees lack the time and resources to spend sufficient time on the portal. Although M Bank encourages information sharing through the portal, high workloads prevent employees from fully engaging in any online discussions.

9. Conclusions

To summarize, we suggest that lifelong learning can be conceptualized as a system with a number of integrating parts. It begins with a performance management system whereby employees and their supervisor jointly determine career goals and aspirations. This involves a lengthy discussion that is oftentimes framed and guided by the Human Resources department. Once goals have been determined, the supervisor and employee design plans to reach the goals. One way to reach the goals is through learning. Learning can take three forms: formal training, work assignments, and learning on one's own time. We suggest that it requires a combination of the three types of learning to maintain an integrated learning system. There are two clear implications for management. First, managers in learning-oriented organizations view their performance appraisal process as a performance management system. There is sufficient support provided to both employees and their supervisors in this process. The Human Resources department plays an integral role in this process, as seen in the GE case study. Here, the Human Resources function provides the supervisor with training on mentoring and career guidance. The Human Resources function also provides information for the employee to prepare him

or herself for the performance management meeting. Second, managers in such organizations understand the value of formal training, encouraging employees to take on work assignments, and to engage in learning on their own time. Recent research suggests that formal learning is only 10 to 20 percent of what employees learn at work, although a majority of the training budget is allocated to formal training programs. Although formal training is important, and oftentimes mandatory, it is not a panacea (Skule, 2004). Other forms of learning opportunities must also be made available in order to maintain a fully integrated learning system. These case studies show us that effective life-long learning is a multi-dimensional process. It builds on the traditional forms of employer-paid, employer-sponsored training for job skills. From this core it builds out in two directions. First, it engages individuals in self-initiated and self-motivated learning activities. The employer can abet this process but it is the individual who is in-charge of their own personal and career development through learning. Second, lifelong learning happens when the learning processes are closely integrated with work itself. It is the work assignments, stints on taskforces and time spent on projects that makes life-long learning both possible and effective by creating a synergy between work and learning.

Looking to the future, the principal policy issue for organizations is not whether life-long learning is necessary for creativity, innovation and competitive advantage but rather how best to operationalize it. Our study suggests that effective life-long learning is a partnership between employers and employees that utilizes the synergy among opportunity, work and learning. Employees can participate in this partnership only if they understand and commit to the strategy of competing through learning, a process that will be incomplete without the proactive and interactive engagement of managers. The good news is that many leading-edge organizations have shown the way to creating effective life-long learning. The challenge ahead is to implement what we know and to tackle the barriers that keep us from taking advantage of life-long learning in organizational and personal life.

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