# Three Essays on Generativity and Caring in Constructing Partnership Orientation in Learning Organizations and the Society

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Erikson is right in suggesting that our achievements and growth are the *validation* of previous generations' *generativity*. The present dissertation is not only my achievement, but also the achievements of the members of my doctoral committee. My work is indeed the validation of their generativity. Without their continual provision of support and motivation, I wouldn't have materialized this work.

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# Abstract

The three essays in the present dissertation build on and expand the notion of *generativity* in the context of a learning (i.e., knowledge creating) organization, and learning (i.e., knowledge based) economy in sequential progression with increasing levels of analysis. Essay One advances a view of individuals' *learning* motivated by their desire to grow, and the role of a *generative* individual in motivating and supporting such a desire in others to enable collective and cumulative learning processes in a learning organization. Essay Two expands upon Essay One by examining 1) the dominant value of generativity, "caring for the growth of others," as a core value of the organizational culture in a knowledge creating company to proliferate the generative interpersonal relationship examined in Essay One for enhancing the company's knowledge creating capability, and 2) the evolutionary progression from *ba* to *basho* that the company makes in order to amplify its internal creative processes through a partnership with a network of others, based on mutual growth and benefits to them by extending caring, beyond the company's organizational boundary. Essay Three empirically verifies the theoretical perspective of Essays One and Two through an in-depth case analysis of Qualcomm using a pattern matching analysis. We subsequently conclude the dissertation by reflecting upon our journey in the context of a view that a good society should enable and support individual constituents to live as contributing members achieving their individual and collective aspirations.

# Résumé

Les trois essais de cette thèse reprennent et élargissent la notion de *générativité* dans le cadre d'un apprentissage organisationnel (c'est-à-dire, la création de connaissances), et d'une économie de l'apprentissage (c'est-à-dire, fondée sur la connaissance), dans une progression séquentielle. L'essai numéro un présente une perspective de l'apprentissage individuel motivé par le désir de croitre, et le rôle d'un individu *générateur* qui motive et supporte le désir de croissance des autres, pour faciliter les processus d'apprentissage collectifs et cumulatifs dans une organisation apprenante. L'essai numéro deux étend l'essai numéro un en examinant 1) la valeur dominante de la générativité, "l'attention envers la croissance des autres", comme principe de culture organisationnelle dans une entreprise créatrice de connaissances, et 2) l'évolution progressive suivie par l'entreprise pour amplifier ses processus créatifs internes en étendant la générativité – ou l'attention – envers les tierces parties au delà des frontières organisationnelles. Le troisième essai vérifie empiriquement la perspective théorique des essais un et deux par une étude de cas détaillée de Qualcomm, en utilisant une analyse basée sur la comparaison de configurations. Nous concluons la thèse par une réflexion sur notre parcours, en avançant l'idée qu'une bonne société devrait faciliter et encourager les acteurs individuels à vivre comme des membres contributeurs en réalisant leurs aspirations individuelles et collectives.

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# Introduction to the Three Essays

Creativity is a distinctive characteristic of human beings that has enabled us to construct evolving social realities that include economic development or change. Maslow (1971) suggests that creative action is essentially linked with the notion of self actualization. Thus, we may state that society evolves by the creative actions of individuals motivated by their need for self actualization.

Creative actions are, however, not isolated events. Pragmatists, such as Charles Sanders Peirce, for instance, reject the notion of creation *ex nihilo* and argue that creative action is cumulative and a collective process, which progressively and continually builds upon the past creative achievements of others over time (Almender, 1980). Accordingly, social evolution is a cumulative and collective process that advances by the creative actions of self-actualizing individuals, who build upon the creative achievements of others that occurred in the past.

Adopting the above view of evolution, the present dissertation seeks to explore and further advance the less articulated aspects of social evolution surrounding a view of *generativity* as human profundity, which, Erikson (1950) argues, elevates human beings as evolutionary beings. By generativity, Erikson denotes the aspects, or tendencies, of a mature and far-sighted individual, who has already fulfilled his need for self actualization, to care for and nurture the growth of young and growing ones by providing them with the knowledge and wisdom that he accumulated in the pursuit of his own self development in the past. "Within the cross-generational settings of technologies and cultures", thus, generativity enables humanity to maintain what has been generated by the previous

generations, and to build further developments upon them (Erikson, Erikson & Kivnick, 1986: 37). In this regard, generativity enables humanity to achieve progressive and cumulative evolution, which continually builds upon the achievements of others that occurred in the past.

Inspired by the above aspect of generativity, the three essays in the present dissertation independently and as a whole seek to cast light on the role of far-sighted creative agents (i.e., creative individuals or organizations such as knowledge creating companies) in *motivating* and *supporting* the creative actions of others (young and growing individuals, and firms), and, correspondingly, *enabling* them to achieve their self-actualization and growth through engagement in such creative actions, thereby facilitating or even expediting a cumulative and collective creative process in the context of evolving social systems such as learning organizations and learning economies.

## 1.1 Philosophical and Theoretical Foundations of Generativity and its Implication for Social Evolution

In his first Encyclical, Benedict XVI (2005) draws attention to the historical emphasis on *agape* within Christianity in order to establish "an essential link between the love of God and the reality of human love". *Agape* is defined as "the experience of a love, which involves a real discovery of the other, moving beyond the selfish character". *Agape* is a type of love that enables "an ongoing exodus out of the close inward-looking self toward its liberation through self giving, and thus toward authentic self discovery and indeed the discovery of God" (*ibid*). While *agape* is the love that God lavishly bestows upon human

beings to reveal his presence, according to the Pope, God demands human beings to bestow it upon our extended neighbours as a way to encounter God. "Only if I serve my neighbours can my eyes be opened to what God does for me and how much he loves me" (*ibid*).

*Agape* is a mature love, achieved in love's quest for its definitive goal, *eternity*, which Plato articulated in terms of *eros*' ultimate desire. "Whoever seeks to gain his life will lose it, but whoever loses his life will preserve it" (Luke, 17: 33).[1] One achieves immortality by giving one's life to others. "The grain of wheat falls to the ground and dies, and in this way bears much fruit" (Benedict XVI). In the view of Benedict XVI (2005), *agape* is the type of love that enables human beings to achieve eternity through fertility. This was the essential message that Jesus Christ offered by surrendering his life to humanity. Thus, being a follower of Jesus Christ, or a Christian by definition, is to achieve a new dimension in life toward the care for others beyond the inward-looking self. This view of Christianity, therefore, does not demand belief in the strict theological doctrine, but underscores the common ideal of *human development* that is also shared by other great religions (Buckham, 1935).

Charles Sanders Peirce advanced the doctrine of continuity, or *synechism* as one of the main philosophical foundations of pragmatism, which includes the belief in immortality (Peirce, 1893b). However, Peirce argues that the belief in immortality is not a religious idea. Rather, he defines it as one's eternal presence in "the social consciousness, by which a man's spirit is embodied in others, and which continues to live and breathe and have its being very much longer than superficial observers think" (Peirce,

1 *Quoted* from American Standard Version New Testament.

1893b: 3). Therefore, *one achieves immortality in the continuity of the collective and cumulative social consciousness.*

This idea of immortality also underlies Peirce's (1893a) view of individual development. According to Peirce, immortality is the reward for the highest level of individual development, in which one comes to *integrate* his finite self consciousness with infinite social consciousness (Peirce, 1893a). In advancing this perspective, Peirce also draws upon the long Western philosophical tradition that has emphasized love as the power of individual growth since Plato's articulation of love in *Symposium* (Plato, 1925). Just as Benedict XVI (2005) regards *agape* as mature human love leading to the union with the *eternal* God, Peirce advances it as the type of love that leads to the highest level of development in individual consciousness and immortality through the integration with infinite social consciousness. *From this view of individual development, significantly, Peirce derives his unique evolutionary outlook.* This particular philosophical outlook held by Peirce (1893a) is advanced in the short essay, "Evolutionary Love". In that essay, Peirce advances *agape* as an evolutionary agent that enables the cumulative development of social consciousness or the Idea[2] over time (Peirce, 1892).

Peirce abstracts the view of *agape* from Saint John's famous phrase: "Sacrifice your own perfection to the perfectionment of your neighbours" (Peirce, 1893a: 178), meaning that one offers *his creative achievement in life as a scaffolding for others to pursue novel ends and growth through the pursuit of those ends.*[3] According to Peirce, this idea is the Golden Rule of social evolution characterized by the cumulative and

2 This Idea differs from Plato and Hegel's metaphysical conception of Idea. It rather refers to the historically accumulated human ideas or knowledge embedded in the social consciousness similar to the social constructivist view of knowledge in society.

3 Peirce expresses this view in relation to the notion of "developmental teleology", which we introduce in the first essay.

collective creative learning process over time, which continually builds upon the achievements of others in the past.

Peirce's view of *agape* resonates with Mayeroff's (1971) conception of *caring* as the main principle by which human beings organize their existence in the world and beyond. According to Mayeroff (1971: 1-5), "to care for another person, in the most significant sense, is to help him grow and actualize himself.... To care for someone is to help her to learn, to help her increase her awareness of important events and their consequences, and to help nurture her personal knowledge creation while sharing her insight". Hence, Mayeroff's conception of caring corresponds with Peirce's view of *agape* as "the ardent impulse to fulfil another person's highest impulse" (Peirce, 1893a: 178). Mayeroff further advances that caring for, and being cared for by others, are the essential elements of human existence in the world, in parallel with Heidegger's (1962) conception of "being with others" and recently, Taylor's (1991) conception of a dialogical self, which commonly emphasizes the essential connectivity of our existence to others and the moral responsibility derived from it.

The above existential perspective also underlies the individual developmental model advanced by Eric Erikson (1950). Similar to Mayeroff's (1971) view, *love* in the form of being cared for, and caring for, is the essential element in Erikson's epigenetic individual developmental model. While being cared for by others is the enabling factor leading toward an individual's rewarding adulthood, caring for others is a necessary developmental stage toward the highest level of individual development, *ego integrity*. Erikson characterizes this developmental stage by the notion of "generativity", which he defines as the caring of those who have already fulfilled their need for self actualization,

"in establishing and guiding the next generation" (Erikson, 1950: 266). By carrying the torch of life to the next generation, significantly, one begins to see the existence of a finite self beyond one's own limited time, space and capabilities (Yamamoto, 1998). In Erikson's developmental model, therefore, this aspect of generativity is the key to the *transcendental experience* by which one can envision his continuous presence in the lives of others as they grow. In other words, generativity paves the way toward the final stage of individual development, ego integrity, of which an essential element is the vision of finding the continuity between *the finite self and the infinite development of human beings as a species.* As previously noted, Erikson (1950) puts forth that generativity is a unique human profundity that elevates human beings as evolutionary beings, and enables the cumulative and evolutionary development of human beings as a whole, in parallel with Peirce's view of *agape* and its implication for the development of social consciousness.

Erikson's (1950) insight is echoed by Maslow's (1971) individual developmental model associated with the hierarchy of human needs and its underlying implication for social development. In his seminal contribution, *The Farther Reaches of Human Nature,* Maslow (1971) suggests that ego transcendence is the highest level of human need, which is followed by the need for self actualization in that hierarchy. Maslow characterized these two needs (i.e., the need for self actualization and ego transcendence) in terms of being-love or B-love, similar to Erickson's epigenetic individual developmental model. Being love denotes both the desire for self actualization and the desire of those who have already fulfilled the need for self actualization, for helping others to achieve self actualization on their own terms.

In parallel to Peirce and Erikson, Maslow also derives an evolutionary idea in the sphere of being-love when he characterizes the *synergistic society* in terms of its capacity to cultivate and promote individuals' need for self realization and enables them to fulfil such a need. Toward the construction of the synergistic society, Maslow emphasizes the role of eco-transcending individuals in providing the young and growing ones with motivation and support for achieving their own autonomous self actualization. This synergistic society *evolves* by ongoing creative actions of self-actualizing individuals *motivated* and *supported* by *eco-transcending* individuals in that society.

## 1.2 Progressive Extension: Overview of the Three Essays

From a pragmatic perspective, Peirce suggests that a generative individual offers his past achievements to others (i.e., growing and young ones) as scaffolding for their further creative actions *motivated* by his "ardent impulse to fulfill the highest impulse of others". Erikson emphasizes this "ardent impulse" of a generative individual, to argue that the dominant value of generativity is *caring* (Erikson, 1950) or helping others (i.e., young and growing ones) to grow and actualize themselves (Mayeroff, 1970). Thus, a generative individual offers his creative achievements to others to enable their further creative actions while *motivating and supporting their growth through creative actions.* In so doing, the generative individual can witness the progressive development of his achievement beyond his own limits in time and space in communion with growing and young ones. Therefore, generativity leads to the establishment of a synergistic relationship of mutual growth and benefits between the caring (i.e., established and

mature ones) and the cared for (i.e., growing and young ones) while enabling the evolution of the cumulative and collective creative processes and actions over time. The three essays in the present dissertation seek to elaborate and expand this view of generativity and its evolutionary implication in a sequential progression to provide processes and structure for realizing social evolution as cumulative and collective creative actions, especially in the context of a learning organization initially and beyond, eventually.

**Generativity in the Context of a Learning Organization.** In the first essay, we advance the notion of generativity in the context of a learning organization. To achieve this end, we advance a pragmatic view of a creative and learning organization by investigating the essential, and yet neglected, aspects of the pragmatic learning process and their similarities in the conceptualization of a knowledge creating company (Nonaka, 1994; Nonaka & Konno, 1998; Nonaka & Nishiguchi, 2001; Nonaka, Toyama, & Konno, 2000).

Nonaka and Konno (1998) enlightened management scholars by bringing the traditional view of individual growth and social evolution to scholarly attention from the perspective of Japanese existentialism (Nishida, 1970). They advance the concept of *ba*, or existential place, as the foundation of the knowledge creating company, brining the existential problem of self-actualization into the conception of the knowledge creating company.

Nonaka and Konno characterize Originating *ba*, in which knowledge creation begins, in terms of "love". Specifically, Nonaka and Konno advance Nishida's statement, "I love therefore I am", as the primary principle of Originating *ba* (Nonaka and Konno,

1998: 46). At one level, Nonaka and Konno interpret Nishida's statement as an epistemological metaphor that contrasts with Descartes' statement, "I think therefore I am" (*ibid*). At another level, Nonaka and Konno put forth love as the main principle that characterizes interpersonal relationships in Originating *ba*. Briefly, they characterize love as both 1) the commitment of individuals to create knowledge motivated by their need for self development and 2) caring for others that motivates and supports such commitment within a knowledge creating company.

Their view parallels the notion that *growth comes only from love.* In Western philosophy, there has been a long debate on categories and the nature of loves, and their relationships to the aspects of individual and collective growth. American pragmatism inherits and elaborates these historical perspectives in the creative evolutionary learning process. As previously noted, the originator of pragmatism, Charles Sanders Peirce (1893a), expands the traditional view to express that *agape* is a creative evolutionary agent that yields an evolutionary outlook in the pragmatic learning process. Notably, Peirce advances this idea in the extension of Plato's original view of *eros* as creative love. Specifically, Peirce contextualizes *eros*'s desire for growth under the generative interpersonal relationship, which Peirce explains in terms of the theoretical structure of *agape*. At the highest level of abstraction in terms of the philosophy of love, Pierce characterizes the evolutionary view of the pragmatic learning process in terms of the interplay between two types of love, *eros* and *agape*. Alternatively, the collective and cumulative process of pragmatic learning, in evolving social systems, is explained by the interplay of these types of loves upon which we elaborate a pragmatic view of a learning organization in the first essay.

In that elaboration, we begin by re-examining Garrison's (1997) reading of Dewey's pragmatism in his book, *Dewey and Eros*. Contextualizing Garrison's argument in the Greco-Roman (Foucault, 1988) philosophical tradition, we portray *eros* as the icon of a modern existential problem of creating an authentic self. Consistent with the Greco-Roman trilogy among self, practice, and knowledge (Foucault, 1988), we will show that *eros* has been the icon of desire for self development through engagement in creative actions and for the acquisition and creation of knowledge to enable that engagement. The desire for self development is endless. We characterize this endless desire for self development in terms of "growing aims", by which Dewey (1916) captures the continuous and cumulative pragmatic learning process at the individual level. Drawing upon Peirce's discussion of *agape*, we then extend the notion of a growing aim to argue for the same continuous and cumulative learning process at organizational levels through the generative relationship.

Consequently, the exploration in this essay also enables us to examine the parallel between the Eastern philosophical foundations in the Japanese knowledge creating company (Nonaka, 1994; Nonaka & Konno, 1998), and the Western philosophical foundations upon which we advance the pragmatic view of a learning organization.

**Leadership of a Knowledge Activist and Caring Organizational Culture in a Knowledge Creating Company.** The first essay calls for the leadership of a knowledge activist. Nokana and Nonno (1998) suggest that a knowledge activist supports and promotes creative actions of others by sharing his knowledge with them. The notion of *generativity*, thus, captures this aspect of a knowledge activist. Generativity combines agency and communion with others (Erikson, 1950; Erikson et al., 1986). "The

generative person expresses *agency* by creating products that extend the self in a powerful way and expresses *communion* by giving these products to the next generation" (Moberg, 2001: 319). Similarly, a knowledge activist achieves self realization through his own creative action and communion by sharing his achievement with others for their further creative actions toward the construction of *ba* in a knowledge creating company.

Leaders create organizational culture, which embeds their values and norms for an organization (Schein, 1983). Similarly, we put forth that the leadership of a knowledge activist, characterized by caring for the growth of others, or *generativity*, evolves into a distinctive organizational structure, *ba*, or a flexible and adaptive culture in a knowledge creating company – i.e., a knowledge creating company (Nonaka, 1994) under the leadership of a knowledge activist (Nonaka & Konno, 1998) promotes *the value of caring as a foundation for its organizational culture* to foster individuals' involvement in knowledge creation (von Krogh, 1998) for attaining the organizational mission of generating higher customer value through ongoing innovation.

Caring motivates individuals to grow (Mayeroff, 1971) through creative actions in a distinctive environment, *ba*. Caring can drive further expansion of *ba* to establish an extended *ba*, or *basho* that is larger than the organizational boundary of a knowledge creating company. By enabling that expansion, according to Nonaka and Konno (1998), a knowledge creating company can *amplify* its internal knowledge creating process.

The second essay investigates the theoretical grounds for such evolutionary progression. To achieve this end, as well as to extend the view of the first essay, we further elaborate the pragmatic view of generativity, which is closely related to a hermeneutic view of a creative action as a value augmenting process, to suggest that a

knowledge activist's caring for the growth of others is *motivated* by his desire to fully actualize his creative achievement(s) beyond his own limits. When such caring evolves into *a core value of the company's organizational culture* under the leadership of a knowledge activist, individuals are correspondingly enabled to draw upon each other's achievements in their further creative actions (von Krogh, 1998), which in turn will *actualize* the full potential of those achievements that no single individual can accomplish independently. Building upon existing literature in industrial dynamics and management, we similarly suggest that a knowledge creating company promotes the creative actions of others beyond its organization in order to actualize the full potential of the collective creative achievement put forth by its organizational members, and that the company extends caring to others in terms of the continual provision of support and motivation for their growth in order to *encourage and maintain their commitment to the creative actions* that company promotes for its own growth in the end.

**Toward the Construction of a Partnership-Oriented Economic System.** The perspectives that we put forth in the first two essays resonate with Eisler's (1987; 2007) view of a partnership-oriented economic system. Similar to Peirce's previously mentioned view, Eisler (1987) interprets the essence of Jesus Christ's preaching as a gospel of partnership that is based upon the value of caring for the growth of others as opposed to dominate others. In other words, caring for the growth of others is the essential element of a partnership orientation that Jesus Christ sought to establish.

Eisler (2007) posits that humanity in the post-industrial age characterized by a learning or knowledge economy is at a historical junction that calls for reconstructing a partnership-oriented economic system that is based on the cultural value of caring. In

order to further advance the post-industrial knowledge based economy, therefore, Eisler points to the need for a radical reorientation in economics as well as management for constructing a partnership-oriented economic system that builds upon and fosters a sociostructure of mutual growth and benefits among participating individuals in collective production.

To further elaborate upon the arguments in the previous essays in particular, and a view of a partnership-oriented economic system in the post industrial knowledge based economy, in general, we conduct an in-depth case study of Qualcomm's partnership with a large number of application developers and others in the third essay through pattern matching analysis. Based on the empirical findings of the case study, we suggest a synergistic division of labour between established large corporations and small entrepreneurial firms in innovation that is based on, and promotes, *mutual growth that benefits* both of them. While a technologically advanced incumbent *enables* the creation of entrepreneurial opportunities, the case study suggests that entrepreneurs in turn *enable* the incumbent to continually improve upon its major technological innovation and to grow. In parallel to *a pragmatic view of generativity that we put forth in Essays One and Two*, therefore, this synergistic relationship established at the strategic initiative of an incumbent to *achieve its own growth beyond its limitations* may result in the endogenous technological learning process, which builds on and actualizes the full potential of the incumbent's major technological innovation. This synergistic relationship may also result in a Schumpeterian view of a technological cluster around the incumbent's major technological innovation and endogenous economic growth as an ongoing reality.

## 1.3 Structure of the Dissertation

The three essays are structured in accordance with the above sequential progression with higher levels of analysis from interpersonal, intra-organizational to inter-organizational levels (*See* Figure 1). Immediately after this introduction, Essay One advances a view of individuals' learning motivated by their desire to grow, and the role of a *generative* individual in motivating and supporting such a desire of others to enable collective and cumulative learning processes in a learning organization. Essay Two expands the concepts put forth in Essay One to examine 1) the dominant value of generativity, "caring for the growth of others," as a core value of the organizational culture in a knowledge creating company to proliferate the generative relationships throughout the organizational boundary of the company to enhance its capability for knowledge creation, and 2) the evolutionary progression of "*ba*" to "*basho*" that the company puts forth in order to amplify its internal creative processes and actions by extending care to others beyond its organizational boundary and establishing a network of partnerships with them based on mutual growth and benefits. Essay Three empirically examines the theoretical perspectives of Essay One and Two through an in-depth case analysis of Qualcomm using a pattern matching analysis. After discussing the limitation of the dissertation, we subsequently conclude the dissertation by reflecting upon our journey in the context of the view that a good society should enable and support individual constituents to live as contributing members aspiring to achieve their individual and collective aspirations.

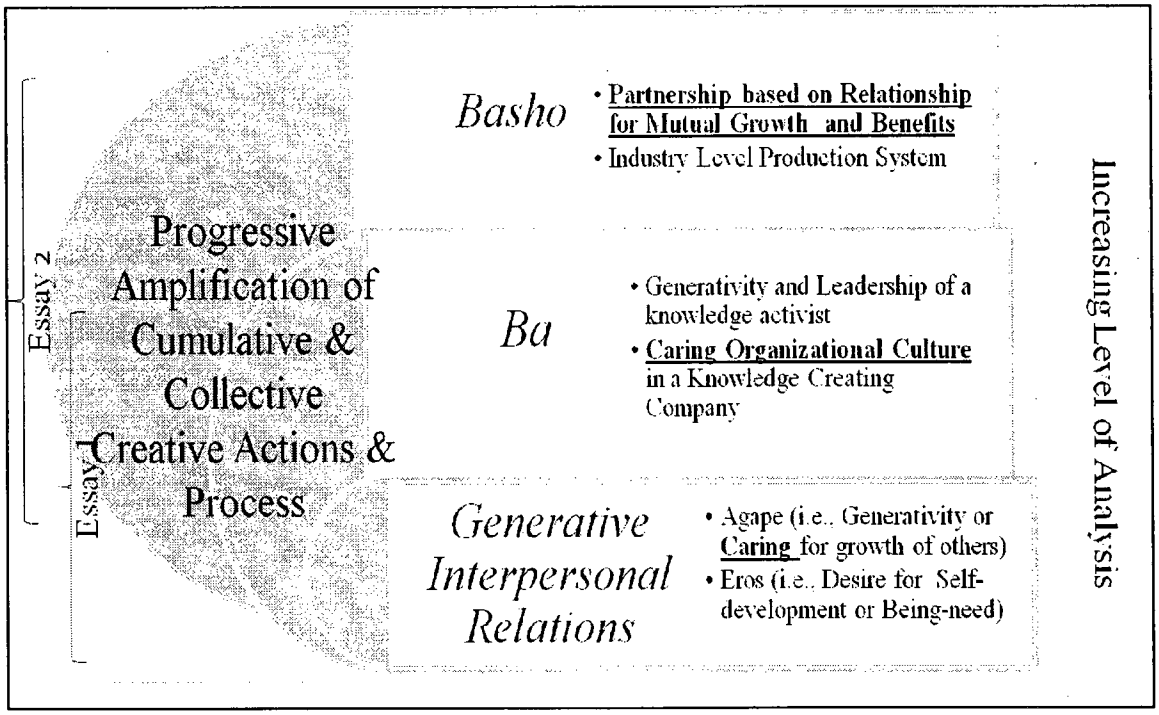


**Figure 1: Progress Theoretic Development in Essay One and Two**

*Essay 1*

# A Pragmatic View of the Creative Evolutionary Learning Organization: A Western Perspective on the Foundation of the Japanese Knowledge Creating Company

# I. Introduction

The primary objective of this essay is to advance the pragmatic view of the creative evolutionary learning organization. The pragmatic approaches to learning, in general, and the learning organization, in particular, are not novel. Dewey's pragmatic approach to education continues to attract a large audience (Garrison, 1997). Pragmatism also has been a dominant theoretical framework in the theory of the learning organization since Argyris and Schon's (1978) path-breaking contribution. Yet, we still believe that theorists in management often overlook some of the essential aspects of the pragmatic learning process. Accordingly, this paper seeks to make a contribution to the discussion of the pragmatic view of the learning organization in theory and in practice by examining those overlooked aspects.

One of the overlooked aspects in the pragmatic theory of the learning organization is that creative learning for innovation is a *continuous process*. Curiously, however, the notion of continuity is absent in widely-accepted pragmatic views of the learning organization advanced by Argyris and Schon (1978; 1996). For instance, they conceptualize the transition from a single- to double-loop learning process, which is necessary for organizational innovation, as a discontinuous process. From a different theoretical tradition, Nystrom and Starbucks' (1984) notion of "unlearning" reinforces a view that creative learning and innovation imply and accompany discontinuity. To a lesser extent, the view that the underlying logic of the exploitation and exploration are contradictory to one another (March, 1989) also appears to have contributed further to this line of thoughts.

In practice, however, Prahalad and Hamel's (1990: 92-93) competence view of a firm suggests the continuity between exploitation and exploration, and, accordingly, the view of creative learning in an organization as a continuous process. Furthermore, while the view of discontinuity is dominant in the West, largely rooted in the revolutionary view of creative action, in particular, and socio-economic change, in general, (Basalla, 1988; Toulmin, 1992),[4] Nonaka (1994) aptly argues for the continuity of the creative learning process in theory and practice in the context of a Japanese knowledge creating companies.

Another unfamiliar aspect of pragmatism is that it embraces the intuitively-compelling and yet conceptually illusive traditional view of individual growth and social evolution. This traditional view, however, is considered too idealistic according to the presently dominant *laissez-faire* socio-political doctrine and its scientific proponent, the Darwinian evolutionary view. This dominant view emphasizes externally induced force such as competition as a main driver of individual growth and social evolution. In contrast to this presently dominant view, Nonaka and Konno (1998) enlighten us by bringing the traditional view of individual growth and social evolution commonly shared in the East and the West at the heart of the continuous knowledge creating process within a knowledge creating company.

Nonaka and Konno (1998) advance the concept of *ba*, or an existential place, as the foundation of a knowledge creating company to bring the existential problem of self-

4 A critic of the modernity, Stephen Toulmin (1992) suggests that a revolutionary view of creative action and socio-economic change has been prevalent among intellectuals in the West. In his *Cosmopolis: The Hidden Agenda of Modernity*, Toulmin, for instance, observes: "Looking back over the whole inquiry, we see that the idea of "starting again with a clean slate" has been a recurrent preoccupation of modern European thinkers as the quest for certainty itself. The belief that any new construction is truly *rational* only *if it demolishes all that was there before and starts from scratch*, has played a particular part in the intellectual and political history of France – the English have usually been more pragmatic; but no one who enters into the spirit of Modernity wholeheartedly can be immune to its influence" (Toulmin, 1992: 175)

actualization into the conception of knowledge creation. To our enlightenment, furthermore, they characterize the originating *ba*, in which knowledge creation begins, in terms of "love". Nonaka and Konno advance Nishida's statement, "I love therefore I am", as the primary principle of the Originating *ba* (1998: 46). At one level, they interpret Nishida's statement as an "epistemological metaphor" that contrasts from Descartes' statement "I think therefore I am" (*ibid*). At another level, Nonaka and Konno advances love as a main principle that characterizes a social relationship in originating *ba*. In their view, briefly, love characterizes 1) the commitment of individuals to creative actions, 2) and the inter-personal relationship that *motivates* and *sustains* such commitment within a knowledge creating company.

Similar to Nonaka and Konno's view, the notion that *growth comes only from love* has a long historical root in the West. In philosophy, there has been a long historical debate on the nature and type of love since Plato's (1925) discussion in his *Symposium*. Plato advances the view of *eros* as a type of love that internally drives the growth of an individual. Hegel inherited this view to advance *eros* as an evolutionary agent. Similarly, one of the most comprehensive philosophers of our time, Ken Wilber (1995, 1996), also embraces this traditional view to suggest *eros* as the creative agent of the universe. Pragmatism elaborates upon this view further in the context of a learning process.

The originator of pragmatism, Charles Sanders Peirce (1893a), expands the Christian view of love to argue that *agape* is the evolutionary agent, i.e., a mechanism that yields an evolutionary outlook in the pragmatic learning process. Notably, while Peirce emphasizes a different type of love, *agape*, he also adopts Plato's view of *eros* as creative love in his evolutionary view of the pragmatic learning process. Specifically,

Peirce suggests that *eros*'s desire for growth is *motivated* and *nurtured* under the generativity of *agape*. At the highest level of abstraction in terms of the philosophy of love, therefore, Pierce characterizes the evolutionary view of the pragmatic learning process in terms of the interplay between *eros* and *agape*. More importantly, Peirce puts forth the continuity in the pragmatic learning process in evolving social systems in terms of the interplay between these two types of creative love. Accordingly, we seek to articulate these overlooked aspects of the creative and evolutionary pragmatic learning process in the present essay. In so doing, we also seek to advance Nonaka and Konno's (1998) view of the continuity of the knowledge creating process and of love in a knowledge creating company from the pragmatist's perspective.

The structure of the paper toward the achievement of the stated objective is as follows. Immediately after the introduction, section II examines Garrison's (1997) reading of Dewey's pragmatism in his *Dewey and Eros*. Contextualizing Garrison's argument into the Greco-Roman philosophical tradition, we portray *eros* as the icon of the modern existential problem of creating authentic self and pragmatic views of knowledge. Drawing upon the trilogy among practice, knowledge and becoming a self in the Greco-Roman philosophical tradition, we portray *eros* as the icon of "being-need", or the need for self-actualization, and the desire for acquisition and the creation of knowledge for engaging in the activities (or practices), through which an individual achieves self actualization. This desire for satisfying a being-need is endless. We characterize this endless desire for self development in terms of "growing aims", by which Dewey (1916) denotes the continuous pragmatic learning process at the level of the individual. In section III, we extend the notion of the growing aim to argue for the

continuity of learning in a pragmatic view of the evolutionary learning organization. In doing so, we suggest the continuity between exploitation and exploration and examine Argyris and Schon's (1978; 1996) view, accordingly. Section IV examines the qualifying condition for the extension we advance in section III. Section V summarizes the overall discussion to propose a pragmatic view of a creative evolutionary learning organization, and also lays out the theoretical link between the pragmatic view of the learning process and the evolutionary characteristic of the division of labour. Section VI concludes the paper with some reflection on the convergence of the thoughts in the East and the West, which calls for the enlightened leadership and management practice toward the construction of a learning organization.

# II. Pragmatic Reasoning and Eros in the Context of the Greco-Roman Tradition

## 2.1 DEWY and Eros

In his *Dewey and Eros* Garrison (1997) elaborates on and proposes a historically interesting idea. In his view, the fact that pragmatic reasoning is governed by the desire of the inquirer implies the hidden connection between the philosophy of love and logic in Dewey's pragmatism, similar to Nonaka and Konno's (1998) view of love and its epistemological significance.

Garrison builds on Plato's philosophy of love. As Demos (1934) interprets it, Plato's *eros* expresses itself as the desire for the final cause (the end or an object). The desire actualizes the end through the active establishment of the efficient causation,

linking a means-end relation. The fact that *eros* is attracted by and is committed to actualizing the end makes it sensible to understand *eros* as creative love (Demos, 1934; May, 1969; Wilber, 1995). From these considerations, Garrison observes that Dewey's pragmatism, which suggests the Aristotelian origin of the teleological and creative aspect of reasoning, cannot be comprehended without the human desire represented by Plato's *eros*.

However, we should also note that Plato's *eros* has been interpreted otherwise among modern intellectuals. The dominant epistemological position in Western philosophy interprets Plato's *eros* quiet differently from Garrison's pragmatic view. Philosophy by definition is the love (*philo*) of wisdom (*sophia*). The dominant modern epistemological position advanced by Descartes interprets Plato's *eros* as love of the abstract, timeless, and universal knowledge about the external reality, which exists independently from the disengaged and punctual knower. Garrison's interpretation of *eros* and its relevance to Dewey's pragmatism contradicts this presently dominant modern view of knowledge. Retrospectively, Garrison's interpretation resonates with the Greco-Roman philosophical tradition, which emphasizes *poiesis* (making or creating) and *techne* (productive knowledge) in relation to the notion of "*care of self*", thereby yielding a view of philosophy as a way of life (Flynn, 2005).

## 2.2 Greco-Roman Trilogy of Practice, Knowledge and Becoming a Self

Complaining about the inadequacy of the dominant view of knowledge advanced in modern philosophy, Brown and Duguid (1991) propose to reconstruct the theoretical link among practice, knowledge, and identity. Similarly, Crossan (1996: 201) calls for the

integration of "doing" and "being" in the process of the knowledge creating process in the theory of the learning organization. These authors, refusing to accept the Cartesian modern view of knowledge, unanimously emphasize the being need, and practice in the conception of knowledge and knowledge creation. In retrospect, Heidegger was at the frontier of this philosophical movement in the West (Taylor, 1995), which culminated in pragmatism. Criticizing the dominant Cartesian epistemology that favours *disengagement* and *atomism*, Heidegger argues that Western philosophy has to revisit the notion of an *engaged* and *dialogical* self by constructing an alternative view of knowledge (Taylor, 1993).

Foucault, who calls for a "Heideggerian turn" in the Western philosophy (Timothy, 2004), projects Heidegger's insight into the history of Western philosophy. According to Foucault's (1988) reading, there are two large branches in the Western philosophy, which originated from the same Platonian root: 1) the philosophical tradition, which is based on Christian spirituality and monastic principles, and emphasizes the Delphic principle, *gnothi sauton* ("know thyself") and 2) the Greco-Roman philosophical tradition, which emphasizes the Socratic notion of "care of self". The modern philosophy follows the former tradition. This tradition has hardened into a disengaged mode of reflective inquiry and an antiseptic notion of truth, which Foucault calls the "Cartesian moment" (Flynn, 2005). Following Heidegger, Foucault rejects this modern philosophical tradition, and proposes to retrieve the alternative view of knowledge from the Greco-Roman philosophical tradition.

According to Foucault's reading, Plato's *Alcibiades* is the most important philosophical elaboration of the Greco-Roman tradition. Foucault captures the three

major interrelated aspects of *Alcibiades* pertaining to this philosophical tradition: 1) one desires wisdom in order to take care of self; 2) "the *care of self* is the care of the activity" (Foucault, 1988: 25); 3) therefore, one desires wisdom in order to take care of the activity, by which he creates and defines himself. Stated differently, there is a reciprocal connection or trilogy among practices (*askesis*) or activities, the desire for knowledge, and "becoming a self" (Flynn, 2005: 612) according to Foucault' reading of *Alcibiades*. Accordingly, one's desire for the "truth" or "wisdom" is *not independent from* but *geared toward* the practices by which one defines himself in the Greco-Roman tradition, which is different from the modern epistemological position. For this reason, Flynn (2005) suggests that the philosophy or love of wisdom in this tradition was regarded as a "way of life".

## 2.3 Eros in the Context of the Greco-Roman Tradition

Now let us interpret Plato's *eros* in the context of the Greco-Roman philosophical tradition. Plato establishes a model of *eros* through the myth about the birth of *Eros* [5]as a son of *Poros* (immortal God of Resource) and *Penia* (mortal human being, Need).

> I'll tell you, she said, though it's rather a long story. On the day of Aphrodite's birth the gods were making merry, and among them was Resource, the son of Craft. And when they had supped, Need came begging at the door because there was good cheer inside. Now, it happened that Resource, having drunk deeply of the heavenly nectar--for this was before the days of wine--wandered out into the garden of Zeus and sank into a heavy sleep, and Need, thinking that to get a child

5 Eros here refers to the Greek deity.

> by Resource would mitigate her penury, lay down beside him and in time was brought to the bed of Love. So Love became the follower and servant of Aphrodite because he was begotten on the same day that she was born, and further, he was born to love the beautiful since Aphrodite is beautiful herself (Plato, 1961:555)[6]

The characteristics of *Eros* are derived from the opposite characteristics of the parents (i.e., *Poros* and *Penia*): fullness and emptiness, being and not being, wisdom and ignorance, and immortal and mortal (Demos, 1934). For instance, the passionate desire that characterizes *Eros* is derived from his emptiness (i.e., characteristic of *Penia*) and yearning for the fullness (i.e., characteristic of *Poros*) – i.e., the passionate desire of *Eros* is derived from his *need* to fulfill the emptiness, especially the lack of *essence*, to become like *Poros*.

*Poros* as a deity has his own unique essence or being. The essence of the deity is characterized by its distinctive practices or roles in the cosmic division of labour. Each deity has its own names or multiple names, depending on its significance in the maintenance of the universe. Greek deities are also the guardians of the wisdom or knowledge, which *empowers* them to take care of the specific roles. Wisdom of each deity is directly related to the specific roles or practices each serves in the cosmic division of labour.

By contrast to his divine father, *Eros* is lacking the essence. *Eros* is always *becoming* an intermediary between being and not being. Yet, *Eros* has the passionate desire to fulfill his own essence to become like *Poros*. The essence of *Poros* is already

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6 Love here refers to E*ros*.

*determined* in relation to the role he is supposed to play in the cosmic division of labour. By virtue of *Penia*'s *indeterminacy*, however, *Eros* is endowed with the *freedom* of choice in deciding the practices by which he will create and define himself. Therefore, *Eros* is not determined but *determining*.

*Eros*, recognizing his ignorance, longs for wisdom. His longing for wisdom, however, is not detached from his practical care for self – the creation and maintenance of a self. Within the Greco-Roman tradition, *Eros*'s longing for wisdom is directed to the practices of his own choice by which he seeks to create his own essence. *Eros*'s passionate *desire for knowledge* is directly related to the *practices* of his own choice by which *Eros* defines his *essence or being*.

Therefore, *Eros* within the Greco-Roman tradition symbolizes: 1) the modern existentialist problem of self realization, 2) the pragmatist conception of knowledge in relation to the practices by which one achieves self-realization.

Plato also presents e*ros* as *daimon*. In the view of existentialist psychologist, May, "[t]his (daimonizing *eros*) is a symbolic way of communicating a basic truth of human experience, that *eros* drives us to transcend ourselves" beyond what we are now and here (May, 1969: 76). The basic truth of the human experience is that the "self" to be taken care of is not given to us. "Man is nothing else but what makes of himself" (Sartre, 1957: 15). Human beings at birth do not have any ready-made nature or essence. Human beings have to create their own *essence* as they live in the world into which they are thrown into *existence*. Foucault, following Sartre, similarly, notes: "from the idea [of Sartre] that the self is not given to us, I think that there is only one practical consequence: we have to create ourselves as a work of art" (Foucault, 1983: 273). In this interpretative context,

thus, *eros* represents the passionate desire of human beings to create as well as transform a self through the engagement of activities of one's own choice. *Eros* also represents the human desire for creation and acquisition of productive knowledge (*techne*) through pragmatic reasoning to take care of the productive and creative activities (*poiesis*).

Despite the contextual change in present times, the Greco-Roman view of *eros* casts light on the unaltered essence of human existence. In fact, this historical perspective merits further elaboration in the context of the contemporary ideal of authentic self creation to provide a consistent view of creativity, learning, and identity. In this regard, we believe that Garrison's (1997) exploration of the hidden connection between philosophy of love and reasoning in Dewey's pragmatism provides us with an important starting point for recasting these historical perspectives in the contemporary discussion of creative learning and identity. That exploration has led Garrison to put forth the statement, "I become what I love," as the principle of learning, entailing the view that the primary concern of education should be to nurture the being-need of learners (Garrison, 1997: i). Similar to Garrison, Nonaka and Konno's (1998) interpretation of Nishida's existentialist statement "I love therefore I am" as an epistemological metaphor casts light on *the internal link between the being-need and knowledge creation, effectively bringing the existential problem of self-realization into the theory of a knowledge creating company.*

## 2.4 *Eros* and Growing Aims: Developmental Characteristic of Self

Self, portrayed in a symbolic way by *Eros*, is always *becoming for its* developmental characteristic. As Nygren observes, "*Eros* is an upward movement" (Nygren, 1989: 94).

*Eros* is a driving force internal to human beings, the force that constantly pushes a self toward a higher stage of development. May remarks (May, 1969: 78-79):

> In contrast to our contemporary doctrines of adjustment or homeostasis or release of tension, there is in *Eros* an eternal reaching out, a stretching of a self, a continuously replenished urge which impels the individual to dedicate himself to seek forever higher forms of truth, beauty, and goodness. The Greeks believed that this continuous regeneration of the self is inherent in *Eros*.

To the ancient Greeks, *Eros* was the symbol of the never ending desire toward the perfection of a self by achieving higher levels of development.

Within the Greco-Roman tradition, the view expressing the developmental characteristic of a self is found in Aristotle's (1962) *Nicomachean Ethics.* Aristotle notes: "Life is an activity, and each man actively exercises his favourite faculties upon the objects he loves most" (Aristotle, 1962: 12). Contemporary liberalist philosopher, John Rawls, calls this Aristotelian Principle to argue that human beings are naturally drawn to the engagement of more complex activities, and derive pleasure from the engagement. A developmental psychologist, Maslow (1971), characterizes this human nature in terms of the *being-need* or need for self actualization. In Maslow's view, the satisfaction of the need for self actualization is transitory. Unlike the deficiency needs such as the needs for food and sex, the "being-need" violates the principle of homeostasis. Once the deficiency need is satisfied, the desire runs into the original static state, which Freud identifies by the notion of the *Nirvana Principle* (May, 1969). By contrast, the being-need has no permanent equilibrium, constantly pushing a self toward a higher stage of development

through the engagement in more complex activities. Once one embarks on the journey toward the satisfaction of this higher level of need, the desire becomes even stronger without equilibrium.

The ancient Greco-Roman tradition symbolically communicated this internal and never-ending desire for progressive self-development through the engagement in more complex activities of one's own choice by the never ending desire of *Eros*. More recently, Dewey (1916) articulates this traditional view of progressive self development by the notion of "growing aims". The growing aim denotes the emergence of novel purposes from within the continuous and cumulative growth of an individual's activity accompanied by the pragmatic learning process. Dewey's main argument is that purposes should be defined from within the continuity of an activity instead of being imposed upon it externally. In other words, the definition of a new purpose "must be an outgrowth of existing conditions" (Dewey, 1916: 121) in the continuity of the activity over time. Importantly, Dewey notes that "an end which grows up...is always both ends and means, the distinction being only one of convenience" (Dewey, 1916: 124). This is so because every end serves as a means for pushing the activity further as soon as it is achieved. The end of the momentary past, once realized, becomes a means for the present time toward the establishment and achievement of a more complex and challenging end projected into the nearest future. Every end, once realized, enables one to constitute more complex and challenging objectives for the further development of a self.

To summarize, the developmental characteristic of a self is characterized by one's desire for the continuous engagement in more complex activities and the acquisition (or creation) of knowledge to take care of the ever increasing complexity of these activities

according to the Aristotelian elaboration of the Greco-Roman tradition. Dewey explains this traditional view in terms of the continuous pragmatic learning process by the notion of growing aim. The dynamic pragmatic learning process, however, may not be possible without the desire for the continuous development of a self, which the ancient Greeks symbolized by Eros. For the presence of the never ending desire for growth, Dewey's growing aim suggests that human beings are inclined to engage in more complex activities utilizing the realized ends in the past as a means for further development.

## III. Growing Aims in the Creative Evolutionary Learning Organization

Dewey (1916) applies the notion of growing aim only at the level of the individual. Within the tradition of pragmatism, growing aim is a derivative of the notion of "developmental teleology", advanced by the originator of pragmatism, Peirce (1892). In Peirce's view, developmental teleology is a general evolutionary logic, which applies to any evolving systems that continuously accumulates knowledge to support the engagement and attainment of higher and more sophisticated activities. In this cumulative evolutionary activity system, novel purposes constantly emerge progressively when the members of the system seek to exploit the realized *ends* by themselves as well as by others within the system as *means* for the pursuit of their own self-determined novel end. Hence, learning in this cumulative activity system is continuous, at least theoretically, and motivated by both the individual members' desire for the development of a self, as well as of the evolving system.

In the literature of organizational learning, exploitation and exploration are often regarded as separate or discontinuous processes. By contrast, Peirce's developmental teleology implies that exploitation and exploration are related and they are the continuous processes in the realization of a novel purpose, *which* emerges in the process of exploitation of what has been realized by others in the past. The novel purpose emerges as creative individuals seek to exploit the past achievement of others (or their own) in unrestricted generality in order to explore and achieve new ends. These ends have emergent characteristics: they may not be clear at the beginning but gain more clarity with further exploration. In terms of the relationship of means and ends, *exploitation and exploration are continuous processes to the extent that exploration builds on the exploitation of previous achievements as a means to pursue novel ends.* Therefore, exploration is not independent from exploitation. The exploration is dependent upon, and, enabled by, the exploitation.

The present perspective, thus, diverges from Argyris and Schon's (1978; 1996) organizational learning framework also rooted in the pragmatic theory of learning. The authors embraced Dewey's pragmatic learning in their conception of the "theory in use" for action. The theory in use is a pragmatic concept of knowledge that links the means to the ends, which is desirable to the inquirer. Despite their important steps to introduce the pragmatic theory of learning in the theory of organizational learning, however, Argyris and Schon missed an important aspect of the pragmatic learning process, *the continuity*, which Peirce (1893b) regards as the most important philosophical position of pragmatists. Within this tradition, Dewey proposes that learning is continuous, constantly building upon previous learning by the notion of the growing aim. Metaphorically, continuous

learning in pragmatism is like a rising building that constantly adds newer layers to the existing scaffolding. New learning builds upon the prior learning like scaffolding to take its place on the top.

Argyris and Schon overlooked the continuity of learning in the pragmatic tradition. Instead of staying in tune with Dewey's original message (1916), Agyris and Schon strangely wedded Dewey's pragmatic learning with Ashby's (1960) cybernetics in their development of learning models, notably, single- and double-loop learning models (*See* Argyris and Schon, 1996: 21, n.1). The single loop learning process is the *feedback* loop, which ensures the constant link between means-end relations. Interpreted through Dewey's growing aims, this cycle should operate as the scaffolding that enables a successor to take up and utilize this as a means to push forward more complex and challenging objectives. Hence, if we let the activity system of an organization grow in accordance with the original pragmatic view of learning, *a novel end must emerge from within* the organization through the exploitation of the "end" made available by the single-loop learning process. In contrast, Argyris and Schon regard the learning loop as a closed cybernetic system. The end of the single-loop learning process literally is its own dead-end, without the capacity to lead the learning to the next stage of development by itself. In their cybernetic learning model, higher level learning, which they call double-loop learning, takes place only by imposing the value beyond the limit of the single-loop learning cycle. Without the concrete links between the learning loops, learning becomes a discontinuous process – i.e., double-loop learning begins from a clean slate with no link to the prior learning loop. Yet, the original pragmatic view of learning suggests that the learning loop is a continuous and cumulative process. The continuous and cumulative

learning process within an organization's activity system manifests itself in terms of increasing specializations of individuals, and further interdependency among them, linked by means and end relationships. If our reasoning is correct, the activity system should possess evolving characteristics. This evolutionary view of the activity system is implied by Prahalad and Hamel's (1990) metaphoric presentation of a firm in terms of a tree that grows through continuous "exploitation of existing competencies" by the members of the firm to produce novel products and services. Yet, Argyris and Schon are silent about the evolving characteristic of such a system and also why such systems do (or should) characterize organizational learning. In the next section, we explore this topic further within the context of Peirce's discussion of the developmental teleology and its necessary condition for generalization. Specifically, we will address the way by which the notion of developmental teleology can be generalized as evolutionary logic of the pragmatic view of the creative learning organization.

## IV. *Agape* as a Logical Necessity for the Generalization of Developmental Teleology

As previously noted, Peirce regards developmental teleology as the general logic of the evolutionary process. Hence, we can state that the evolutionary learning process follows the same logic as the individual learning process. The generalization of developmental teleology as the general evolutionary logic, however, requires the introduction of a conditional or mediating factor. Peirce recognizes that the establishment of the continuity

in the evolutionary pragmatic learning process in social systems requires the introduction of another critical factor.

What is this critical factor for establishing the continuity of learning in the evolving social system? The question boils down to how is it possible that the evolutionary continuity can be established among the separate individuals pursuing their own autonomous self development. To move one step further, Peirce had to answer, 1) what *mediates* the independent individuals to weld together to form the basis for the evolutionary continuity, and 2) in what way, at the same time, the desire for autonomous self development can be preserved. Similar to Nonaka and Konno's (1998) existentialist view, the answer was *love*, which unites individuals, upon which evolutionary continuity can depend. Yet, Peirce moved one step further to embrace the notion of *individuality*, especially for his recognition that the evolutionary process requires autonomous self development as a critical element. This is why Peirce turned to the evolutionary logic of "*agape*", which *unites and at the same time preserves individuals as autonomous ones.*

**The Peircean View of *Agape* as Creative Love.** The conception of *agape* is an extremely difficult task. Yet, Peirce draws upon the simplest model of agape rooted in Christianity. Peirce summarizes his evolutionary theory by the statement: "sacrifice your own perfection to the perfectionment of your neighbours" (Peirce, 1992: 353). He regards the statement as the Golden Rule of the evolutionary formula that St. John proposed (*ibid*: 354). Peirce adds: "I will not say self-sacrifice, but from the ardent impulse to fulfill another person's highest impulse" (*ibid*: 354). Furthermore, "In general, *agapasm*, on the other hand, advance takes place by virtue of sympathy among the created springing from the continuity of the mind" (*ibid*: 362). He goes on to state: "The movement of love is

circular, at one and the same impulse projecting creations into independency and drawing them into harmony" (*ibid*: 353).

The above statements capture Peirce's conception of *agape*. Importantly, Peirce's view of *agape* does not imply selflessness or loss of a self. It has to be differentiated from the integrating principle based upon common sentiments or beliefs without the sense of autonomous self identity. Hence, the phrase "continuity of mind" in Peirce's statement above should not be interpreted in terms of such concepts as collective personality or identity. Critically, the continuity in Peirce's evolutionary view does not imply the recurrence of the sameness over time. It denotes the generality of the relations between distinctive things or objects (Locke, 2000). To be consistent with Peirce's conception of continuity, thus, the phrase should be understood as a generality of the relationships between autonomous and distinctive self-developing individuals. Clearly, *agape* is the antithesis to self-centered individualism or narcissism. Yet, it does not breed the collective identity in self oblivion. Instead, Peircean *agape* promotes the autonomous self-development of the loving and the loved ones.

First, Peircean *agape* demands the lover's clear sense of himself as well as that of the loved one as an autonomous self-developing individual. It requires the perfection of a self as a prerequisite condition for the loving relationship, by which the already-fulfilled person continues to develop a self at a higher level. In other words, Peircean *agape* is the love that is expressed by the already-fulfilled ones in their own terms for the further development of a self through the care of other selves. This, however, does not mean that the lover regards the loved one as an instrument for the actualization of his self-interested objectives. Peircean *agape* does not mean the loved one's loss of freedom of choices and

actions for his autonomous self development. It does not *direct* the growth of the loved one toward pre-defined ends, which may be motivated by the lover's self interest. Rather it promotes the loved ones to grow in *their own terms driven by their own internal desire for growth.* Secondly, Peircean *agape* encourages the loved one to grow as an autonomous self-developing individual. If we borrow Mayeroff's words, Peircean *agape* involves encouraging the loved one "to find and create areas of his own in which he is able to care" (Mayeroff, 1971: p.13, *out italic*). Hence, in terms of the philosophy of love, the Peircean view of *agape* motivates and nurtures *eros*'s desire for self development on the side of the loved.

Yet, Peircean *agape* does not preclude the *positive influence* of the lover on the loved. Peirce understands this positive influence in terms of *teleological sway* (Corrington, 1993; Hausman, 1993). The loving one helps the loved ones to be purposeful or teleological in their own terms. In doing so, the loving one offers the loved ones his own perfection to use as a means to establish novel objectives, and helps them to grow through the pursuit of the purposes. In other words, Peircean *agape* nurtures the loved one's desire for autonomous self development within the possibilities established by the perfection of the lover. Peircean *agape* puts forward the teleological sway on the loved one by encouraging him to be purposeful in his own terms in appropriation of the possibilities the lover has generated. Hence, *agape* situates the freedom of the loved one within the context of the possibilities the lover has established. The loving one does not leave the loved one alone to wander about the scary abyss of unrestricted freedom without the ground to step on, while not imposing the exact direction of the growth. Furthermore, caring for the loved one's needs, which arises in the actualization of the

possibilities, the lover furthers the perfection of his own end and grows with the loved one. For this reason, Peircean *agape* is far from the selflessness of the lover as much as it seeks to help the autonomous self-development of the loved. Rather, the loving one sees the continuous perfection of himself through caring for the loved one's desire for the growth.

In Peirce's view, these aspects of *agape* make possible the generalization of developmental teleology as evolutionary logic. In other words, Peirce argues that developmental teleology at a societal level operates within the generative interpersonal relationship established by *agape*. Developmental teleology characterizes the continuous pragmatic learning process. The continuity of the learning process of the individual may not be problematic. By contrast, the establishment of the same continuity at a societal level, however, requires a critical qualification. Drawing upon the structure of *agape* and its nurturing relation to *eros*, Peirce suggests that the developmental teleology may be generalized through the *generative interpersonal relationships* between the established and the growing ones.

# V. *Eros, Agape*, and the Pragmatic Theory of the Evolutionary Learning Organization

## 5.1 Summary of Discussion

Figure 1 provides the graphical summary of our discussion so far. The sequential developments of the discussion have proceeded from the left to the right of the diagram.

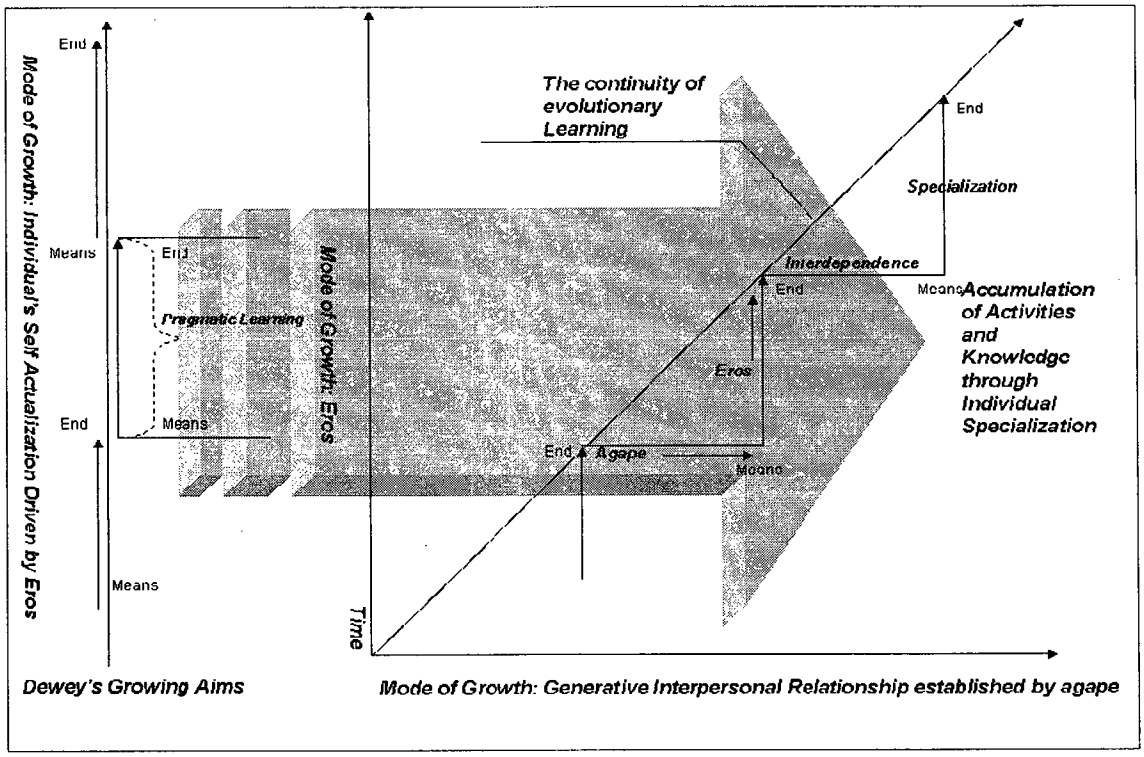


**Figure 1: Creative Pragmatic Learning Process in Evolving Social Systems**

First, we have discussed the significance of *eros* in pragmatic reasoning. Drawing upon the Greco-Roman tradition, we portrayed *eros* as a human desire for the creation of a self through engagement in the activities of one's own choice, and the desire for knowledge to enable the engagement. This desire for the satisfaction of the being need is endless. Subsequently, we advanced the view that Dewey's notion of growing aim captures the process of continuous development of a self from the pragmatic view of the learning process. By the notion of growing aim, we sought to explain the view that human beings are inclined to engage in more complex and sophisticated activities by exploiting the already realized ends as a means. Second, we suggested that the growing aim may be generalized to explain *the continuity of the pragmatic learning process in evolving social*

*systems*. We advanced this argument by drawing upon Peirce's evolutionary view of the pragmatic learning process. According to this view, a learning organization, similar to the individual learning process, continues to learn and grow as the members of the organization seek to achieve more complex and challenging objectives by exploiting the already realized ends by themselves or others within the organization. However, this generalization requires a critical qualification. Third, therefore, we argued that the introduction of *agape* was a logical necessity for the generalization of the developmental teleology as an evolutionary logic. Specifically, we suggested that the developmental teleology can be generalized through the *generative* interpersonal relationship between the established and the growing ones, which Peirce drew from the traditional view of *agape* as a principle of growth.

Indeed, an organization continues to learn and grow through the learning of its individual members. In a pragmatic view of the learning organization, learning is motivated by individuals' desire for self development. Nonaka similarly argues that we cannot account for the continuous creation of knowledge in a knowledge creating company without the "commitment of individuals" to achieve self-defined purposes (Nonaka, 1994). From the pragmatist's perspective, we portrayed this commitment of individuals in terms of *eros*'s desire for self development, leading to the articulation of Nonaka and Konno's interpretation of Nishida's existentialist statement "I love therefore I am" as an epistemological metaphor. Nonaka and Konno further promote the view that this commitment arises in an empathetic relationship characterized by love. The pragmatic view of a learning organization elaborates *agape* as a species of love that characterizes this generative interpersonal relationship. Within this generative social

relationship, the pragmatic view of a learning organization suggests that creative individuals motivated by their own self development continue to pursue novel ends in the exploitation of the already realized ends by themselves and others within the organization. Through the pursuit of novel objectives, the creative individuals learn, create knowledge, and develop a distinctive self. In turn, the organization continues to learn and evolve from their creative actions.

Briefly, the continuity of learning in the pragmatic view of the learning organization is explained by the interplay of the two factors – i.e., individuals' desire for self-development and the nurturing generative interpersonal relationship, which have been characterized by the two types of love, *eros* and *agape*, in the philosophy of love. In the figure, we presented this continuity of the organizational learning process with a straight line for analytical abstraction. In reality, however, the learning process is not a linear progression along a straight line. In fact, several directions of development are possible from one point of departure, progressing similarly to Prahalad and Hamel's (1990) characterization of the competence view of a firm in terms of a growing tree.

## 5.2 The Theory of the Learning Organization and the Division of Labour

Finally, we add that the pragmatic view of a learning organization accumulates knowledge through increasing specializations of individuals and functional interdependencies among them in terms of means and end relations. Society accumulates knowledge through the division of labour as individuals devoted to their specializations create and develop pragmatic knowledge (Berger & Luckmann, 1966). The history of the

continuous pragmatic learning process within an organization is stored or memorized in the deepening specialization manifested in the evolving structure of the division of labour. Indeed, the division of labour is one of the most visible and important aspects of any social organization, which the theory of organizational learning should not overlook. While leaving aside the detailed discussion to cast light on such important aspects as interactive learning and flexible specialization within the evolutionary view of the division of labour, however, this part provides a brief overview to suggest the possibility of the theoretical link between the theory of organizational learning and the division of labour.

Our own survey within the management literature and sociological literature reveals that the present theoretical discussion of the link between the division of labour and learning is dominated by Adam Smith's static view. In Smith's view, the division of labour is a closed system devoted to achieving an operating efficiency of producing predefined products or services. The individuals' learning, conceptualized by learning-by-doing (Romer, 1987), in this system is imposed by the logic of operating efficiency, and is estranged from the being need of individuals (Lave & McDermott, 2002). In contrast to Smith's static view, Durkheim (1984) argues for the evolutionary aspect of the division of labour (Peace, 1989). As Seigel (1987) notes, Durkheim's division of labour evolves by autonomous self-developing individuals, who seek to differentiate themselves from others through the engagement in self-determined activities. Increasing specialization, thus, is the product of increasing differentiations of the objectives that self-developing individuals seek to achieve. The deepening of the division of labour in society, correspondingly, refers to the increasing diversification of the self-defining

objectives that self-developing individuals pursue. Hence, in Durkheim's view, the evolutionary characteristic of the division of labour is rooted in the possibility for the pursuit of autonomous self-directed actions. Yet, Durkheim also argues that individuals become increasingly interdependent as a result of the division of labour. Division of labour "increases the concentration of society...because it multiplies intra-social relations" (Durkheim, 1984: 260). Thus, the division of labour results in social cohesiveness despite the increasing pursuit of individuality.

According to our interpretation of Durkheim inspired by Sawyer's (2002) reading, novel specializations emerge as self-determining individuals seek to achieve novel objectives in the appropriation of products and services provided by the existing specializations in society. Hence, the individuals come to *depend* upon those existing specializations for the continuous engagement of their creative activities. The existing specializations, in turn, can continue to engage in their specialized activities at a higher level of development depending on the novel demands generated by the emergent novel specializations. In this way, the functional interdependency between the existing specializations and novel ones is established to expand and deepen intra-social relations. Our present perspective puts forward this evolutionary view of the division of labour within a learning organization. The pragmatic theory of the evolutionary learning organization internalizes the dynamic social process of increasing the division of labour within its boundary. Within this organization, aspiring ones appropriate the perfections of the established ones as a means to create their own sphere of actions and thoughts, i.e., specializations, and establish a novel functional interdependency with the established ones in terms of means-end relationships. In other words, the *continuity* of the learning

process in the pragmatic view of the learning organization manifests in terms of the evolving interdependencies among specializations.

## VI. Concluding Thoughts:

## Convergence of Thoughts, the Challenge Ahead and the Promise

Indeed, an organization cannot learn by itself. It can only learn from its individual members. This begs us an important question of *why and how individuals learn*. In our view, a close examination of this question is the cornerstone for the conception of what a learning organization is. This view, in turn, informs us of what management should (can) do in order to induce individual learning before one can answer how management can translate individual learning into organizational learning. Naturally, theorists may have different views on this question. These diverse perspectives lead to different conceptions of a learning organization in theory, and recommendations for management in practice. Despite the crucial importance of this, however, the close examination of why individuals learn, on the one hand, and its link to the conception of organizational learning, on the other hand, appears to have received scant attention in the theoretical research to provide insight for management in practice. In the paucity of systemic theoretical developments in this area, we presented a pragmatic view of the evolutionary learning organization building upon the classical view of individual learning – i.e., learning aims at self-development. This view entails the view of the learning organization as *a place* in which individuals seek to actualize themselves through the engagement of creative activities and the creation of knowledge to support the engagement in the exploitations of the

achievements of others as well as their own. The learning organization, in turn, comes to acquire an evolutionary characteristic because of the individuals' creative actions motivated by their need for self actualization, especially in the generative relationship with other self-actualizing individuals. The by product of the collective learning of individuals must be viewed as learning in the organization – or popularly called organizational learning.

This pragmatic view of the evolutionary learning organization corresponds to Nonaka and Konno's view of the knowledge creating company, which is characterized by continuous knowledge creation. Inspired by Japanese existentialist, Nishida, Nonaka and Konno argue that Originating *ba*, or an existential place, is the foundation of a knowledge creating company. In effect, Nonaka and Konno have brought an existential problem of self-realization into a knowledge creating process of a firm in the recognition that creation of knowledge is essentially bound with the satisfaction for the being need. Nonaka and Konno argue that a dynamic knowledge creating company provides individuals with the existential place for self-realization in positive and dynamic interaction with other self-realizing individuals. This entails the view that a firm can claim itself as a social community specialized in knowledge creation to the extent that a firm provides individuals with a milieu conducive for self realization. Notably, emphasizing love as the central characteristic of the Originating *ba,* Nonaka and Konno emphasize the relational aspect of the continuous knowledge creating process. From this, they point out that the construction of the Originating *ba* requires the knowledge "activists", who are committed to create knowledge on their own and to help other fellow members to be creative (Nonaka & Konno, 1998). This view originates from and

supports the view of creativity as collective and interrelated events – i.e., an individual's creative action is not an isolated event because it always builds on the prior creative achievements of others. This view of creativity as a collective action is the foundation of the Japanese view of knowledge creation as a continuous process. In Nonaka and Konno's view, therefore, knowledge activists, who nurture the creative potentials of others, are the catalysts for this view of creativity in general and the knowledge creative process in particular.

The pragmatic view of the evolutionary learning organization that we developed in this paper is consistent with these aspects of the knowledge creating process in the recognition that 1) learning is essentially bound with the being need, practice and knowledge; 2) learning is a continuous process both at the individual and collective levels; and finally, 3) the continuity at the collective level builds on the generative relationship established by the already actualized ones' positive caring for the growing ones. Consequently, this paper has also provided the Japanese view of dynamics of knowledge creation in a firm with theoretical and philosophical underpinnings from the Western perspective, offering *the common foundation* for the consorted effort toward the construction of a humanistic view of a learning organization in theory and practice.

This common foundation points to the common ideal of what a fully developed person is. Both the Japanese knowledge creating company and the pragmatic view of the evolutionary learning organization call for fully developed individuals, who care for the creative potentials of others through their own perfection. This common ideal sharply contradicts the popular view in management, which assumes that human beings are opportunistic by nature, entailing the instrumental and calculative view of human

relations. Indeed, as Nonaka and Konno (1998) also note, the challenge ahead of us is the development of alternative views of leadership and management, which arise out of the enlightened view of human nature, and empirical support. Optimistically, there already exist the fruitful theoretical developments in management to support our view. In our own reading, Maslow is at the forefront. Maslow (1965), in fact, has offered us the foundation for management practices required for the construction of our view of the learning organization in his *Eupsychian Management* several decades ago. While the recognition of his farsighted vision is much overdue, we believe that the theoretical exploration into Maslow's visionary thoughts, which build on the same philosophical views as ours, should provide fruitful insight for management in practice aiming at the construction of a learning organization. This may also enable researchers to develop testable hypotheses for empirical research on the aspects of evolutionary learning organizations. Finally, Maslow is not alone. His writings are manifestations of long and historical traditions that were started by Plato and followed by Heidegger, Peirce, Erikson, among others. In the early part of this paper we adhered to their views that provide the theoretical and foundational support for what Nonaka and Konno popularized as the knowledge creating company, characterized by the concept of "*ba*". The challenge lying ahead toward the construction of a learning organization is to rediscover the views that have been obscured by other developments, and put them into practice.

*Essay 2*

# A Caring Organizational Culture in a Knowledge Creating Company and Construction of a *basho*: Evolutionary Progression from *ba* to *basho*

# I. Introduction

**Background.** In promoting a pragmatic view of a learning organization in the previous essay, we called for a leadership of knowledge activist with a similar view to that of Nonaka and Konno (1998) in their conception of a knowledge creating company in terms of Nishida's (1970) existential concept, *ba*. Nokana and Nonno (1998) suggest that a knowledge activist supports and promotes creative actions of others by sharing his knowledge with them. In so doing, a knowledge activist leads to construct *ba,* a shared place in time and space conducive to creative actions, within a knowledge creating company (Noṇaka & Konno, 1998; Nonaka & Nishiguchi, 2001; Nonaka et al., 2000).

The notion of *generativity* that Erikson (1950) puts forth in his epigenetic theory of individual development, captures the above aspect of a knowledge activist. Generativity combines agency and communion with others (Erikson, 1950; Erikson et al., 1986). "The generative person expresses *agency* by creating products that extend the self in a powerful way and expresses *communion* by giving these products to the next generation" (Moberg, 2001: 319). Similarly, a knowledge activist achieves self-realization through his own creative action and communion by sharing his achievement with others for their further creative actions toward construction of *ba* in a knowledge creating company.

According to Erikson, each of an individual's epigenetic developmental stages has its characterizing dominant value or adaptive strength (Erikson, 1950). A *dominant value* of generativity is "caring for the growth of others" (Erikson et al., 1986: 37). In

other words, caring is the *adaptive strength* of generative individuals in establishing productive and creative communion with others.

Erikson's view of generativity corresponds with Mayeroff's (1971) conception of caring. According to Mayeroff (1971: 1), "to care for another person, in the most significant way is to help him to grow and actualize himself". Borrowing Mayeroff's definition, von Krogh (1998) put forth a view that caring is an enabling factor for construction of a knowledge creating company. Caring promotes the creation of *indwelling social milieu* in which individual members of the company motivate and support the growth of one another by sharing their knowledge. Not surprisingly, this indwelling social milieu is a foundational characteristic of *ba* that fosters individuals' achievements of self-actualization through creative actions.

Leaders create an organizational culture by embedding their values that they have acquired through experiences in the culture in which they grew up, into an organization (Schein, 1983). Similarly, a knowledge activist embeds his value through his actions for, or towards, others in creating a distinctive organizational culture in a knowledge creating company that promotes the value of caring.

To summarize, at least three streams of the literature join to suggest that the leadership of a knowledge activist characterized by caring for the growth of others, or *generativity*, evolves into a distinctive organizational structure, *ba*, or a flexible and adaptive culture in a knowledge creating company. "An effective organization is likely to have a distinctive organizational culture that is adaptive, yet highly consistent and predictable, and that fosters high involvement, but does so within the context of a shared sense of mission" (Denison, 2006: 2). In parallel, a knowledge creating company

(Nonaka, 1994) under the leadership of a knowledge activist (Nonaka & Konno, 1998) promotes the value of caring as a foundation of its organizational culture to foster individuals' involvements in knowledge creation (von Krogh, 1998) for attaining its organizational mission to generate higher customer value through ongoing innovation.

**Research Question and the Key Premise.** Caring motivates individuals to grow (Mayeroff, 1971) through creative actions in a distinctive environment, *ba*. A knowledge creating company embraces and cultivates *ba* within its organizational boundary to enhance the company's innovativeness. Caring can drive further expansion of *ba* to establish an extended *ba*, or *basho* that is larger than the organizational boundary of a knowledge creating company. By enabling that expansion, according to Nonaka and Konno (1998), a knowledge creating company can *amplify* its internal knowledge creating process. Accordingly, the present essay seeks to investigate the theoretical grounds that support such amplification and, in turn, advance *basho* as structure that enables the amplification of creative processes and actions beyond the organizational boundary of the company in partnership with others.

A traditional theory of a knowledge creating company explains a cumulative knowledge creating process in terms of a dynamic transformation process between tacit and explicit knowledge over time (Nonaka, 1994). Correspondingly, the expansion of *ba* into *basho* may involve amplification of the transformation process beyond the organizational boundary of a knowledge creating company (Seufert, von Krogh, & Andrea, 1999). The present essay seeks to advance the state of the literature by building upon an alternative view of a creative action. Specifically, we will further build our

discussion upon a hermeneutic view of creative action that dates back to as early as the work of Aristotle in Western philosophical tradition, as reviewed in our first essay.

**Structure of the Essay.** We extend our discussion of Essay One by elaborating upon the pragmatic view of generativity that is closely related to a hermeneutic view of a creative action as a value augmenting process in section II. Through that discussion, we suggest that a knowledge activist's caring for the growth of others is *motivated* by his desire to fully actualize his creative achievement(s) beyond his own limits. When caring evolves into a *core value* of the company's organizational culture under the leadership of the knowledge activist, correspondingly, individuals will be able to draw upon each other's achievements in their further creative actions (von Krogh, 1998), which in turn will *actualize* the full potential of achievements that no single individual can accomplish independently.

In section III, we theoretically investigate whether a knowledge creating company can amplify this aspect of the creative process by enacting the construction of *basho*, into which the company embeds its organizational *ba*. To this end, we draw upon 1) the Schumpeterian view of industrial evolution characterized by co-evolution between a core technological breakthrough and complementary innovations to form a technological cluster, and 2) a corresponding management perspective that elaborates upon the strategic behaviour of a firm that leverages this co-evolutionary process to result in a novel industry level production system. In this process, we show that this literature also highlights the value-augmenting aspect of complementary innovations consistently with a hermeneutic view of creative actions. By actualizing the potentiality of a major technological innovation in terms of its novel uses, a family of complementary

innovations as a whole, augments the overall instrumental value of a major technological innovation from which they are derived (Kuznet, 1972). Correspondingly, a knowledge intensive firm creates a novel industry-level production system, a business ecosystem, to actualize the full-potential of its major technological innovation (Moore, 1996, 2006). This literature, thus, provides the theoretical grounds upon which a knowledge creating company can construct *basho* by extending the value of caring to others *with the aim to amplify the company's cumulative internal creative process.* Using Fombrun's (1986) analytical framework, we then interpret *basho* as *a combination of superstructure and sociostructure that are mutually reinforcing and enable the creation and maintenance of an industry level economic base (i.e., business ecosystem), by which the knowledge creating company amplifies its internal creative processes and actions in partnership with others* as addressed in section IV. We subsequently conclude our discussion in light of Eisler's (2007) argument that calls for construction of a partnership-oriented economic system based on the cultural value of caring toward further advancement of the post-industrial knowledge based economy.

## II. Hermeneutic Theory of Creative Action and Pragmatic View of Generativity

In this section, we explain the theory of actions associated with caring that a knowledge activist provides to others in order to establish *ba* within a knowledge creating company. To maintain a theoretical consistency with and to further expand our previous essay, we

will elaborate upon it from the pragmatic perspective of generativity that is closely linked to a hermeneutic view of creative action as a value augmenting process.

## 2.1 Hermeneutic Theory of Creative Action

Researchers of organizational learning and innovation (Nooteboom, 2000), product development (Piore, Lester, Kofman, & Malek, 1994), and recently international entrepreneurship (Seymore, 2007) increasingly draw upon the insight of hermeneutics to understand the essential element of human creativity and creative action. In the existing management literature, Heidegger is the most well-known philosopher among many contributors of hermeneutics. Heidegger (1962) articulated hermeneutic aspects of human creativity in the larger context of his inquiries on the essence of human beings living in conditions that were pre-interpreted by others in the past.

The cornerstone of Heidegger's hermeneutics includes inquires about quality or the essence of things in the world, and the ways human beings actually *experience* them. According to Heidegger, the world, into which we have been thrown into existence, consists of *potentially* useful things inherited from the past. Heidegger then put forth a view that human beings *primarily* experience and understand those historically inherited objects in terms of their instrumentalities or uses in taking care of practical concerns facing them.

Heidegger's hermeneutic view that emphasizes instrumentality in our primary way of experiencing and understanding things in the world, is echoed by Peirce's (1903b) concept of phenomenology that extends and elaborates further upon his pragmatic view of the relationship between mind and matter (Peirce, 1891, 1892). Peirce regards

phenomenology as a "logical analysis of experience" (Dewey, 1935: 701). In other words, the main objective of phenomenology is the investigation of how human beings experience objects in the world. In parallel with Heidegger's (1962) hermeneutics, Peirce discusses the quality of a thing in terms of its potentiality, and suggests that we experience a thing in terms of its instrumentality in taking care of matters of importance to us. Following Aristotle's philosophical tradition that emphasizes the teleological aspect of the human mind, Peirce (1892) further argues that the human mind has a tendency to interact with natural and artificial objects at hand, with a purpose. Peirce then puts forth a view that a purpose that an individual seeks to achieve influences his *actual* experience and understanding of objects at hand (Peirce, 1903a, 1903b).[7]

In his exploration of the relationship between mind and matter, Peirce (1891: 293) notes that the "matter is effete mind" to denote the mind's tendency to take habits and to routinize our experience of objects in the world. This tendency of our mind, as Heidegger (1962) notes, *conceals* potentialities of objects and limits our actual experience of them within conventional uses (of them).

Similar to Heidegger, Whitehead (1933: 179) notes that "the 'potentiality' [of objects in the world] refers to passive capacity" while "the creativity [of human beings] is the actualization of potentiality". Whitehead adds that the "process of actualization is an occasion of *experiencing*" (*ibid*). By contrast to an ordinary mind, hence, a creative mind is distinguished by the capacity to discern the latent potentiality of objects at hand that

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7 Peirce put forth three categories for the development of his pragmatic view of phenomenology. The first category deals with the quality of a thing in terms of its pure potentiality or a thing in itself (*Ding an Sich*). The second category deals with actualities of a thing, or the ways we experience it. The third category, which contains final causation such as a purpose, deals with the reason why we actually experience a thing in certain ways. Hence, Peirce follows Aristotle's classical view of the relationship between *potentiality* and *actuality* of a thing that is regulated by final causation – i.e., a potentiality of a thing is actualized into a concrete form to achieve a certain purpose.

ordinary minds fail to notice due to the mind's tendency to create a habit. Seen from a phenomenological perspective, correspondingly, a creative mind is characterized by the ability to foresee or *imagine* the *possibility*[8] to experience familiar objects in novel ways.[9]

To summarize the above discussion, Peirce (1892: 537) notes for us: "matter is not completely dead, but is merely mind hidebound with habit. It still retains the elements of diversification; and in that diversification there is life". The statements point to the *latent potentiality* of an object in the world that we often fail to notice due to the mind's tendency to create a habit, and suggests that creative actions actualize the potentiality to *diversify* our experience and the understanding of the object in terms of its novel *uses* for the achievement of a variety of practical purposes. By diversifying our experiences of the object, correspondingly, successive creative actions over time then *augment* the overall instrumental value of the object in a variety of use contexts.

## 2.2 A Knowledge Activist from the Pragmatic View of Generativity

Joas (1993) points out that pragmatism has traditionally emphasized creativity as an essential and distinctive characteristic of human beings and explored its significance in a view of society as an ongoing evolutionary process. Hausman (1993) similarly argues that inquiries on the nature of creative actions and attributes of creative agents were the cornerstone of Peirce's evolutionary philosophy. In addition to these inquiries, Peirce

8 As Dewey (1935) also notes, Peirce made a careful distinction between potentiality and possibility. Potentiality refers to the quality of a thing in itself without any relationship with others. By contrast, possibility is *relational.* In this context, the possibility of an object is related to actions for the achievement of certain purposes.

9 In contemporary literature of learning organizations, Crossan, Henry and White (1999) capture this aspect of the creative mind in terms of entrepreneurial intuition. Similarly, Nonaka considers this capacity as essential element of a cognitive dimension of tacit knowledge, which he defines as "an individual's [subjective] images of reality" (Nonaka, 1994: 16). This subjective world view emerges out of individuals' interaction with objects at hand with an "intention" to create novel value to customers.

also examined and emphasized another important role of creative agents in the evolutionary process to complete the pragmatic theory of social evolution (Hausman, 1993).

Peirce (1893a) highlighted a very definite form of generativity as an enabling factor for the pragmatic view of evolution. Peirce emphasized the role of a far-sighted creative agent in the evolutionary process, who *provides others with his creative achievement as scaffolding for their own individually meaningful creative actions, and motivates and supports them to achieve their own self-actualization through such creative actions.*[10] To recall, we followed Peirce's view to emphasize a leadership of a knowledge activist in the previous essay. Similarly, Erikson (1950) puts forth a view that *generativity* is a human profundity that provides humanity with an evolutionary outlook.

Erikson characterized generativity by a long-term perspective to see one's growth beyond his limit in time and space through the promotion of others' growth (Yamamoto, 1998). Similarly, Peirce suggests that a generative individual is a far-sighted one who seeks to *achieve further development of his creative achievement beyond his limits by motivating and supporting the creative actions of others and their consequent growth through such actions.* In other words, a generative individual promotes others' creative actions *motivated* by the desire to further *develop* his achievement beyond his own limitation to levels that he may not be able to attain by himself. This proposition is essentially linked to the previously discussed view of a creative action as a value

10 Peirce drew upon the traditional view of *agape* in philosophy to derive this specific form of generativity, and, correspondingly, called his evolutionary theory, *agapasm.* Peirce captures this aspect of generativity by the phrases: "sacrifice your perfection to the perfectionment of others" [motivated by] "the ardent impulse to fulfil another person's highest impulse" (Peirce, 1893a: 178).

augmenting process – i.e., a creative action actualizes potentiality of objects or artefacts such as technologies inherited from the past.

A generative individual offers his creative achievement to others (e.g., younger, growing agents) as a means to pursue and achieve novel ends in the contexts of their own creative actions. These agents would analyze "potentialities" based on their own prior experiences and inquire about "possibilities". Through the creative actions, the growing ones achieve their own self-*actualization* while *actualizing* the *potential* of the previous achievement offered by the generative individual in terms of its use value for attaining a variety of novel ends.

From the phenomenological perspective, the successive creative actions of the growing ones diversify the experiences of and understandings about the previous creative achievement offered by the generative individual *also for ordinary others* in terms of its novel uses.[11] Consequently, the collective awareness about the achievement of the generative individual in terms of its instrumental value increases to justify further development of it in its own right.

Briefly, the far-sighted agent views creative action as a value augmenting process, and promotes others' creative actions to fully actualize the potentiality of his own creative achievement in terms of its instrumental value for attaining a variety of novel and useful ends. Seen from this pragmatic perspective of generativity, it is natural, if not logical, for a knowledge activist to motivate and support others' creative actions and their growth through such creative actions to fully actualize the potentiality of his own

11 For instance, creative actions by the first generation of hackers diversified the experiences and understandings of a PC in terms of its novel uses also for a large number of ordinary others.

achievement in terms of novel products, services or applications with novel customer use values.

## 2.3 *Caring* in a Knowledge Creating Company

The notion of "grounded practical theory" proposes that reflection on a normative theory of action is "a process of inquiry that arises within practical situations in response to practical problems" (Craig & Tracy, 1995: 253). According to this perspective, a certain norm grows into a cultural paradigm of a group of people on the basis of individual members' common understanding of the value of that norm in terms of its effectiveness in facilitating a common objective of the group (Craig & Tracy, 1995). This perspective, hence, suggests that the common understanding of the value of caring in the context of a knowledge creating company derives from its effectiveness, in facilitating the organizational members' shared mission, to create higher customer value through ongoing creative actions and processes. According to the previously mentioned Schein perspective, a knowledge activist then *leads* to cultivate such a common understanding among individual members of a knowledge creating company through his own actions toward others. Based on the common understanding of the value of caring, individual members collectively *enact* an "indwelling social milieu" conducive to knowledge creation (von Krogh, 1998) – i.e., individuals provide their creative achievements as scaffolding for others' further creative actions, and motivate and support others to achieve their growth through such creative actions.[12] In that indwelling social milieu, therefore, individuals draw upon each other's achievements in their further creative

12 In other words, the generative interpersonal relationship that we have explored in Essay One is multiplied within a knowledge creating company to enhance the company's capability for knowledge creation.

actions (von Krogh, 1998), which in turn actualize the full potential of those achievements in terms of novel products, services, or applications with novel customer values that no single individual can accomplish alone.

Nonaka and Konno (1998) portray the above indwelling social milieu as a foundation of *ba* in a knowledge creating company. *Ba* is an existential place for actualization in various forms. In entering that place, individuals *adopt* its characteristic and achieve self-actualization through mutual creative actions, which result in furthering the rich repository of the knowledge base over time in a knowledge creating company. An individual member in that place engages in a further creative action by drawing upon the rich repository of creative achievements put forth by others to *actualize* the full potential of those achievements as well as his own potential. A knowledge creating company harbours and cultivates this existential place, *ba*, as a "fertile ground" (Nonaka & Nishiguchi, 2001: 3) for creative actions, with an aim to foster creating products or services with novel customer values on the one hand and self-fulfilling organizational objectives on the other hand.

*Ba* is fluid in that it can be born and can expand. But it can also disappear quickly. The foundation of *ba* is a "caring" or even "loving" relationship that fosters mutual growth and benefits through creative actions in that existential place (Nonaka & Konno, 1998; Nonaka et al., 2000). Without caring, therefore, *ba* quickly loses its grounding and disappears. Correspondingly, a knowledge company loses its innovative capacity.

# III. Amplification of Creative Actions and Processes beyond the Organizational Boundary of a Knowledge Creating Company

"*Ba* exists at many levels and these levels may be connected to form a greater *ba* (known as *basho*)" (Nonaka & Konno, 1998: 41) that is greater than the organizational boundary of a knowledge creating company. Caring cultivates *ba*, and *enables* its evolution by attracting a larger number of individual participants, who are motivated to grow through creative actions, to create *basho*. Through that evolutionary progression, the "creative process is amplified" (Nonaka & Konno, 1998: 41). Following this suggestion, we review the received theoretical perspectives in management literature to examine if and how a knowledge creating company can amplify its internal creative actions and processes.

## 3.1 Schumpeterian View of Industrial Evolution

The evolutionary perspective in economics advances a model of industrial evolution that involves the creation of novel products or services with novel customer values. Schumpeter may be a pioneer in articulating this evolutionary perspective. Proposing a historical approach to the analysis of economy (Ebner, 2000; McGraw, 2006), Schumpeter explored the underlying evolutionary patterns in the capitalistic economy in general and in industry in particular. This exploration culminated in the notion of the technological cluster (Schumpeter, 1939).

Rosenberg (2000) has investigated the notion of the technological cluster further through the historical examination of industrial evolution, and recently proposed its theoretical significance in developing further contemporary theories of endogenous

economic development (Romer, 1990, 1994). In articulating his historical examination, Rosenberg employs the notion of general purpose technology:

> "...in the course of technological development in advanced industrial societies, it has occasionally happened that a particular technology emerged that provided strong opportunities for its complementarity with other technologies. The number of technologies that have done this has not been very great: the steam engine, machine tools, electricity (generators and motors), transistor, and computers. These technologies have each provided *a platform on which numerous complementary technologies have been built*...That is to say a main feature of a GPT [general purpose technology] is that it makes possible an increase in the productivity of R&D in a number of "downstream" sectors of the economy. More specifically, as the GPT advances, it enlarges the ranges of opportunities for downstream applications, and the awareness of such possibilities, in turn, feeds back upon the incentives to perform R&D in the GPT sector as well as downstream. Consequently, there is a dynamic interaction between research at the GPT level and in the application sectors. Thus, the possibilities for pervasive use of a GPT to become a basis for widespread improvement in productivity... (Rosenberg, 2000: 62-66)

At another place, Rosenberg (1994: 74) observed that a technological cluster emerges "when one (or a small number of major) related innovation provides the basis around which a large number of further cumulative improvements are positioned". In general, "an innovation leads to further innovations to the extent that it provides a framework that

makes it possible to conceptualize, design, and work on a number of complementary and related technologies" (*ibid*). In the above statement, Rosenberg further elaborates on the observation that the reciprocal interaction between the development of a GPT and complementary innovations in application sectors is the key to understanding the dynamics of the industrial evolution, which Schumpeter sought to understand by the notion of the technological cluster. By extension, Rosenberg (2000) calls for the Schumpeterian view of the New Growth Theory, which formalizes the endogenous technological development as a cause of economic growth (Romer, 1990, 1994). Rosenberg notes: "endogeneity must include the growing body of technological change that provides the intellectual basis for the design and construction of new technologies" (Rosenberg, 2000: 79). A general purpose technology, which, "provides the concepts and methodologies to generate new or improved technologies over a wide range of downstream economic activity", is the basis for endogenous technological change and economic growth (*ibid*: 83).

The term general purpose technology has been coined by Bresnahan and Trajtenberg (1995). According to them, a general purpose technology has three important characteristics: 1) innovational complementarities, 2) pervasiveness in use, and 3) potential for sustained improvement. Consistent with Rosenberg's interpretation, Bresnahan and Trajtenberg explain the dynamics of industrial innovations in terms of interrelations among these three characteristics.

The first characteristic suggests that "the general purpose technologies are 'enabling technologies', opening up new opportunities rather than offering complete, final solutions" (Bresnahan & Trajtenberg, 1995: 84). A general purpose technology

provides a basis for further innovations in downstream application sectors. These downstream innovations build upon a general purpose technology, expand the scope of the general purpose technology's uses in a variety of productive actions, and propagate wide diffusion of the technology throughout the economy. This pervasiveness of use creates the opportunity for further improvements in the general purpose technology. These improvements in turn enable further innovations in application sectors. These reciprocal causal relationships, according to Bresnahan and Trajenberg (1995), explain the dynamics of endogenous technological change and that of industrial evolution.

Bresnahan and Tratjenberg's (1995) observation resonates with Kuznet's (1972) view of a relationship between a major technological innovation and complementary innovations that are *derived* from the major technological innovation. Kuznet observed that: "a major technological innovation requires a long period of sustained improvement, and many significant complementary innovations (some of them also major *but derivatives*) before its ramified and significant effects on the economy, in general, and on the volume and structure of household consumption, in particular, are realized" (Kuznet, 1972: 437).

According to Kuznet, a major technological innovation is characterized by its high *potentiality* to enable further innovations (i.e., complementary innovations), which Kuznet defines as the "application of a new way of attaining a useful end" (Kuznet, 1972: 431). Complementary innovations that are derived from a major technological innovation then *actualize* the *potentiality* of the major technological innovation in terms of its significant instrumental value for the accomplishment of useful ends in novel ways. In the absence of complementary innovations, in other words, the potentiality of a major

technological innovation cannot be fully realized, and the sustained improvement of the technology may also be jeopardized, if not blocked. For the same reason, Rosenberg (2000) emphasizes the critical role of complementary innovations in driving industrial evolution that can result in the Schumpeterian technological cluster around a major technological innovation.[13] Relatedly, Rosenberg also notes that identification and analysis of a general purpose technology and the dynamics of industrial innovation associated with the technology are always historical or *post hoc* (*ibid*). This is so, because a major technological innovation, even with high potentiality, can acquire the rank of a general purpose technology *only after* its potentiality is fully actualized as a result of complementary innovations.

Indeed, one may pose a legitimate question of whether computer technology could have acquired the rank of a general purpose technology in the absence of complementary innovations despite its high potentiality as we know it today. The complementary innovations derived from computer technology have ramified the uses of the technology in a variety of productive actions, often in surprising ways, realizing the instrumental value of the technology in diverse use contexts. Increasing visibility of its use value as a result of complementary innovations has enabled and expedited further improvement of the technology in its own right. Such improvements in turn enabled further innovations in applications to augment further instrumental as well as economic value of the technology. By realizing the instrumental value, Rosenberg (2000) also

13 While Schumpeter emphasized the role of a major technological innovator, Rosenberg (2000) argues that complementary innovators or Schumpeterian imitators play even more important roles in creating a technological cluster by enabling widespread use of the major technological innovation throughout the economy. Expanding his previous theory of innovation diffusion as a creative process (Kline and Rosenberg, 1986), Rosenberg argues that complementary innovations foster diffusion of a major technological innovation by realizing its use value in specific use contexts.

observes, complementary innovations have led to the formation of a technological cluster around the computer technology from which they are derived. Without complementary innovations, we may even speculate that the world might have had fewer than a few hundred computers for special uses by government and large corporations only, as many industrial analysts in the 60s had forecasted (Kirkpatrick, 2002). With limited use, sustained investment in R&D for further improvement of computer technology might have been challenged, if not halted. The same has been true with another important example of a general purpose technology, the Internet (Rosenberg, 2000).

To summarize the discussion so far, the literature on general purpose technology (Bresnahan and Trajtenberg 1995; Helpman 1998; Lipsey 1998) explains the dynamics of industrial evolution in terms of the reciprocal causal relationship between the development of a major technological innovation and complementary innovations. This literature highlights the critical role of complementary innovations in actualizing the true potentiality of a major technological innovation in terms of its significant instrumental value for attaining a variety of novel and useful ends, and in turn, enabling the sustained improvement of the major technological innovation over time. Consistent with the hermeneutic view of creativity, therefore, complementary innovations drive industrial evolution by *actualizing* the potentiality of a major technological innovation in terms of its novel use value for accomplishments of various ends. Complementary innovations diversify our experiences and understanding of major technological innovations (e.g., PCs, the Internet and recently wireless mobile communication) in terms of their novel uses to justify further improvements.

## 3.2 Economics of Co-Evolution and the Business Ecosystem

Different perspectives reveal different aspects of the same phenomenon, which can be combined to provide a more complete view of the phenomenon. Moore (1996) in his *The Death of Competition* investigated the same industrial evolutionary process surrounding the computer and the Internet technologies and proposed a novel business strategy.

Moore observes that "there are one or more core capabilities that can *become* the basis for great value to end customers" (Moore, 1996: 29). Moore notes, for instance, that the capability to create a microprocessor has fostered further creative actions, which have enabled novel uses and the widespread use of electronic computation technology. Moore also observes that the creation of the end-user value of "a core product or service offers embodying the new capability" is largely dependent upon the creation of complementary products or services that the new capability has enabled (*ibid*).

For instance, "the Internet is merely a collection of capabilities in computer networking; browsers and portals provide core software and services to enable electronic commerce on the Internet" (*ibid*). The Internet by itself has a limited value to end users. Moore observes "it is millions of users and thousands of suppliers of content that make the [end users'] experience with the Internet come alive" (*ibid*). These users and suppliers *utilize* the capability of the Internet as a means for delivering the content that *augments* the end-users' value of the Internet. The creative actions of content developers as well as of ordinary users and their use of the Internet as a *means* for the delivery of content *complemented* computer networking capabilities in generating greater end-user value. The enhanced end-user value has increased demand for the Internet. Increased demand has supported ongoing investments in R&D for the improvement of computer networking

capabilities underlying the Internet. The improved capabilities in turn have enabled the delivery of value-adding multi-media content such as movies and music, which, in turn, create demand for further improvements of the computer networking capabilities. These dynamics surrounding the Internet, in turn, have led the evolution of the PC industry upon which the Internet is built (Rosenberg, 2000; Zittrain, 2006).

Moore characterized the above process by the phrase, the "economics of co-evolution". Moore then draws on the capability perspective to investigate and explain the economics of co-evolution. The term, capability, denotes the quality or state embodied in objects, or individual agents as well as the collective of individuals such as a firm to accomplish certain purposes. Moore uses the term, capability, liberally to denote both the capability of firms to create and develop novel technological knowledge and capabilities embodied in products or services. As a result, Moore's conception of co-evolution, which is explained in terms of the creation and development of novel capabilities, is multi-faceted. On the one hand, it refers to the co-evolution of the capabilities of core technological innovation and the capabilities of complementary innovations, which the general purpose technology literature explores in terms of reciprocal causation between the two. On the other hand, it also refers to the co-evolution of the capabilities of agents (i.e., firms as well as individual entrepreneurs) through learning that enables the co-evolutionary process of the former. Hence, Moore provides us with a perspective that is broader than that of the general purpose technology literature. In other words, Moore's perspective embraces the observation of the general purpose technology literature as a part of the broader co-evolutionary process.

Importantly, Moore also observes that "a small number of the most effective firms in the world have learnt the dynamics of this powerful co-evolutionary process" and its strategic implication for the achievement of their own growth that can be attained by continuous improvement of their specialized core capabilities (Moore, 1996: 12). Moore then articulates a common strategic behaviour of those effective firms that enables and fosters this multifaceted co-evolutionary process to result in a novel industrial productive system, "business ecosystem" for their own strategic advantage.

Moore observes that an effective firm supports and promotes others to build upon the capabilities of its core-offer (i.e., its major technological innovation) to create novel products and services, which *augment* the end user value of its own core offer by *realizing* the instrumental value of the core offer in a variety of end-users' use contexts. As a result of promoting others' creative actions, an effective firm achieves to increase demand for its own core-product. Increased demand in turn enables the firm to achieve economies of scale to reduce costs and to increase profits. Profits are then reinvested to further improve the capabilities of the firm's next generation core-offer. At the same time, the firm continues to invest in such areas as standard setting, training, etc., which can promote others' creative actions that build upon the evolving capabilities of the firm's core-offer in order to fully realize its end-user value.

Moore captures the series of the above events in terms of "a virtuous cycle of investment and return" (Moore, 1996: 30). Moore adds that this cycle is double looped to enable the continuous improvement of the capabilities of a core offer and complementary products or services that build on the evolving capabilities of the core offer. This cycle generates and sustains a novel production system, a business ecosystem, which is

characterized by mutual growth between firms producing a core offer and the "communities of allies" engaged in the production of services or products that complement the core offer in generating high end customer value. The participants in the business ecosystem achieve their individual growth through the development of their specialized capabilities, of which complementarities result in enhanced customer value built around the capability of a core offer of the system. Enhanced customer value in turn enables the participants in the ecosystem to engage in the further development of their specialized capabilities. At a technological level, the dynamics of the co-evolutionary process led by the developer and producer of a core offer results in the pattern of industrial evolution identified by the general purpose technology, leading to a formation of a technological cluster around a core technological innovation of the leading firm.

The co-evolutionary process presumes a partnership. A partnership can range from simple membership in a network (Xu & McNaughton, 2006), to synergistic relations (McNaughton, 2001; Prashantham & McNaughton, 2006) and symbiotic interdependence (Dana, Etemad, & Wright, 2000, 2001a, 2001b).

## IV. *Basho* as a Foundation of a Business Ecosystem

To reiterate, a knowledge creating company constructs *basho in order to amplify* its creative processes beyond the organizational boundary of the company (Nonaka & Konno, 1998; Nonaka & Nishiguchi, 2001). The perspectives reviewed in the previous section provide theoretical support for the company to achieve such amplification. Following the analytical perspective proposed by Fombrun (1986), we will further argue

that *basho* should be viewed as a combination of mutually reinforcing superstructure and sociostructure that enable the creation and maintenance of the above industry-level production system (i.e., business ecosystem), by which a knowledge creating or inventive company actualizes the full potential of its major innovation to enable others' creative actions that in turn require the further creative processes and actions by the company. Consistent with Nonaka and Konno's conception of *ba*, we also argue that the notion of *basho* puts forth caring (i.e., provision and support for the growth of others) as the essential structure for creating and maintaining a network of inter-organizational partnerships for mutual benefits and growths observed at the industry-level production systems.

## 4.1 Framework for Analyzing Structural Dynamics

Fombrun (1986) proposes a broader analytical perspective in investigating the structural dynamics *within* and *between* organizations in terms of a comprehensive relationship among three relatively independent and yet interrelated levels of a social structure – i.e., an infrastructure, a sociostructure, and a superstructure. Fombrun defines an infrastructure as a production system that builds upon certain technologies and resources to solve the problem of material production within and between organizations. A sociostructure refers to the social architecture of a productive system, such as prevalent or institutionalized relationships of exchange, the distribution of productive outcomes, etc., among individual agents engaged in that production system. A superstructure consists of cultural norms and values that hold the sociostructure together and in turn maintain and

reproduce the infrastructure, or the economic base of an organization and the inter-organizational relationship.

Fombrun (1986) suggests that researchers tend to emphasize only one level of analysis in investigating structural dynamics within and between organizations. Ecological perspectives, for instance, examine mainly an infrastructure whereas institutional perspectives investigate a sociostructure of exchanges or distributions. Interpretative and cultural perspectives explore superstructure. Yet, the comprehensive understanding of structural dynamics requires thorough investigation of all three levels of a structure as a whole in terms of their interrelations.

From the analytical perspective of Fombrun, for instance, we may interpret *ba* as a unique combination of superstructure and sociostructure of a knowledge creating company, which are mutually reinforcing one another to enable the company to create and expand its economic base through collective and cumulative knowledge creation among its organizational members. To summarize the discussion in section II accordingly, a knowledge creating company promotes caring as a core value of the company's organizational culture (i.e., superstructure) to construct the socio milieu projecting mutual growth and benefits among organizational members (i.e., sociostructure), facilitating the cumulative and collective knowledge creation for originating and expanding the company's economic base (i.e., infrastructure). This economic base, in turn, provides the material basis for sustaining and nurturing the sociostructure and the common understanding of the value of caring among its organizational members to enable ongoing knowledge creation for further expansion of the company's economic base, thereby creating a virtuous cycle of continuous development and growth of the company and its

organizational members. This interpretation is consistent with Nonaka and Konno's view of *ba* as the foundation, or enabling structure, of a knowledge creating company. We advance this view to further argue that *basho* is an extension of *ba* and should be interpreted in a similar way.

## 4.2 Association as a Basis of Co-operation

According to the above analytical perspectives, Moore's investigation of a business ecosystem remains fairly at the level of an infrastructure. Yet, a more comprehensive understanding of this industry-level production system requires further investigation of a sociostructure and corresponding superstructure that are mutually-reinforcing to enable the creation and regeneration of the production system. As Moore admits, the industry-level production system is prone to disintegration as the communities of allies "*conspire* against those companies" (Moore, 1996: 103) that have led to the creation of the system, in competition for a larger share of outcomes of collective production. In this regard, we believe that an examination of the sociostructure and superstructure that can maintain the inter-organizational cooperation in this production system also has a practical value.

Moore (2006) emphasizes that the prospect for mutual interdependencies among firms implied by the co-evolutionary process between a major technological innovation and complementary innovations (Bresnahan & Trajtenberg, 1995; Rosenberg, 2000) leads to the creation of a business ecosystem. Yet, Durkheim would argue that a prospect for mutual interdependencies alone is not enough to establish and maintain a structurally coherent co-operation among individual participants.

Durkheim notes: "...men bind one another...because they need one another. But to co-operate *harmoniously,* it is not *enough* that they should enter into a relationship, nor even be aware of the state of mutual interdependence in which they find themselves" (Durkheim, 1984: 160 *our italic*). Elaborating upon that perspective, Durkheim criticizes the utilitarian perspective that economists espouse in their emphasis on economic rationality as a cause for other social phenomena such as the genesis of a society: "They supposed that originally there were isolated and independent individuals who thus could enter into relationships with one another in order to co-operate... But this theory, which is widely held, postulates a veritable creation *ex nihilo*" (*ibid*: 220). According to Durkheim, the utilitarian perspective puts forth that individuals' awareness of the economic benefit derived from *co-operation* leads to *association* among them to form a *society*. By contrast to the utilitarian perspective, Durkheim argues that a structurally coherent and harmonious co-operation for production can occur only within the established framework of association within which "coherence is due essentially to a community of beliefs and sentiments" (Durkheim, 1984: 219) shared by individual participants. Durkheim argues that *association* established upon moral ties or empathetic sentiments among individual agents[14] is a *necessary* condition that makes possible co-operation: "It is only when the group has been formed on these bases that co-operation is organized...In reality moral life permeates all the relationships that go to make co-operation"(Durkheim, 1984: 219-221).[15]

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14 According to Durkheim, such empathetic sentiments can be derived from the affinity of blood, attachment to the same soil, the cult of their ancestors, a commonality of habits, etc.

15 Indeed, we may appreciate Durkheim's classical perspective rather easily when we consider the difficulties in establishing co-operation between individuals, groups of individuals, and nations because of the differences in their religions, ideologies etc., despite the prospects for mutual benefit that co-operation may bring to all.

Developing the above perspective, Durkheim followed August Comte who had noted: "that co-operation, far from being able to produce a society, supposes necessarily its spontaneous establishment beforehand" (Comte, 1844 *quoted* in Durkheim, 1984: 219). Durkheim then puts forth: "*association* and *co-operation* are two distinctive events, and if the second, once has been developed, reacts upon the first and transforms". According to Durkheim, co-operation enables the generation and reproduction of an economic or material base, which functions to sustain and reinforce the association established upon the *moral ties or empathetic sentiments* among individual agents. This contrasts with the utilitarian perspective of economists that co-operation for generating economic wealth and growth causes association. Consequently, Durkheim argues that economic wealth generated through co-operation (i.e., infrastructure) is a *means* by which association (i.e., sociostructure) and the normative basis of that association (i.e., superstructure) among individual participants are strengthened. Generation of economic wealth *per se* is not the end or purpose of associations among individual agents.

The literature of economic geography has recognized the above idea rather well. For instance, the notions of untraded interdependencies (Storper, 1995) and social capital capture (Gaggio, 2007; Piore & Sabel, 1984) the importance of establishing a basis of *association* between individual agents as well as organizations for enabling collaborative actions among them such as learning and innovation in a regional economy. The collaboration then results in visible patterns of traded interdependencies (Storper, 1995), which, in turn, strengthen the association among individual participants (Gaggio, 2007), thus enabling further mutually beneficial collaboration (Gaggio, 2007; Piore & Sabel, 1984). Briefly, this stream of literature suggests that concrete and tangible economic

realities of co-operation in regional economies are built upon the association among individual participants that are established upon soft and invisible cultural assets. Similarly, we argue that the construction and maintenance of a business ecosystem requires ongoing cultivation of a basis for strengthening *association* among individual participants as *a priori* condition that can enable a coherent and harmonious structure of co-operation in that production system.

## 4.3 *Basho* as an Enabling Structure for Constructing Industry-Level Production Systems

Caring empowers and motivates others to grow (Mayeroff, 1971). By extending its caring organizational culture beyond its organization boundary, we suggest that the company establishes an association with a group of others (i.e., firms or individual entrepreneurs), who are motivated to grow through creative actions, to construct *basho* with an aim to amplify its internal creative process at the level of organizational *ba*. *Basho* then is a shared place or a foundation that cultivates association between a knowledge creating company and a group of others by virtue of caring, and transforms that association into co-operation that builds around and amplifies the company's internal creative process for mutual benefit. This characterization strongly resonates with Durkheim's view of the relationship between association and co-operation.

From the perspective of Durkheim, the notion of *basho* advances caring as a relational basis for a knowledge creating company to nurture *association* with a group of others beyond its organizational boundary to enable the company to establish mutually beneficial *co-operation* with them around its internal creative process. This co-operation

can result in the construction of an industry-level production system such as a business ecosystem around the evolving knowledge base of the company. This industry-level production system then can *function* to generate and enlarge such a material basis for strengthening the association between a knowledge creating company and a group of others, enabling further co-operation between them.

To summarize from the analytical perspective of Fombrun (1986), we interpret that *basho* is *a combination of mutually reinforcing superstructure and sociostructure* for creating and maintaining the industry level production system or economic base (i.e., business ecosystem) that a knowledge creating company constructs in partnership with others for their mutual growth and benefits. Consequently, we argue that the construction of *basho* is a theoretical antecedent that enables inter-organizational co-operation observed in a business ecosystem. Accordingly, the construction and maintenance of this industry-level production system is enabled by the *leadership* of a knowledge-intensive company that nurtures association with a network of its partners through *caring* for their individual growth, and transforms that association into mutually beneficial co-operation around the opportunities for further creative actions, which the company generates internally through a cumulative creative process. The expansion of that industry level production system, in turn, enables the knowledge creating company to continually support and motivate the growth of its partners and to reinforce the sociostructure of mutual growth and benefits, thereby maintaining a virtuous cycle of further growth and development of its individual participants and the production system as a whole.

Eisler (2007) suggests that western civilization has been characterized by the relationships of win-lose or domination-submission. As a result, leadership has also been

understood in the context of such relationships (Eisler & Montuori, 2001). In order to construct and maintain a business ecosystem, however, a company needs to cultivate *leadership* that we may not understand through the lens of traditional economic and business perspectives with their implicit emphasis on competition for domination in explaining industrial dynamics, and the view of an industrial leadership associated with it (Moore, 1996). The construction and maintenance of a business ecosystem requires the leadership capabilities for inviting voluntary *commitment as well as the ongoing creative contributions* of a large group of individual participants outside the company's organizational boundary that it cannot attain by means of domination.

The nature of good leadership was one of the main philosophical inquiries in the ancient Easter philosophical tradition. As Kim (2007) elaborates, Lao-Tzu, who is also believed to have given a lesson to Confucius on the art of courtesy, put forth that caring, which empowers others to grow, is the greatest virtue *a leader ought to cultivate.* Lao-Tzu (老子) in Tao-teching (道德經 or book of ethics) went on to suggest that if one can cultivate such virtue in guiding his actions on and toward his followers, he will have no limit even to construct a new nation with his empowered followers. Cultivating the virtue of caring throughout the nation under his caring leadership, furthermore, the nation achieves prosperity internally and will be able to lead other nations by the same virtue to establish mutually beneficial relationships with them *without dominating them.*

Similar to the above ancient perspective, the perspective of a knowledge creating company in a contemporary business context puts forth that the company cultivates the virtue of caring internally as a core value of its organizational culture (von Krogh, 1998) to empower its organizational members to grow through creative actions under the

leadership of a knowledge activist (Nonaka & Konno, 1998). The company then *leads* others outside its organizational boundary by the same virtue to empower them to grow through exploitation of the opportunities that the company continues to generate through the internal creative process. These creative actions in turn actualize the full potential of collective achievements put forth by the company's organizational members, which in turn enable the company to support further creative actions of its organizational members and to generate further opportunities for others to exploit and to grow.

Yet, we acknowledge that many would doubt the value of caring in discussing inter-organizational relationships. However, we should note that establishing and maintaining co-operative inter-organizational relationships is far more difficult than co-operative inter-personal relationships within an organization. For this reason, caring may be even more valuable in establishing and maintaining inter-organizational relationships than one may expect. Without caring for the growth of its partners, it may be difficult, if not impossible, for a knowledge-intensive firm to maintain the commitment of a large group of others for engaging in creative actions that the company needs for actualizing the full potential of the company's evolving knowledge base. Failing to induce such commitment from others, the company will find it difficult to fully realize the potential of its knowledge base, and to internally support its organizational members' ongoing engagement in creative actions.

## V. Concluding Reflection

To summarize our discussion, a knowledge creating company cultivates caring as the core value of its organizational culture under the leadership of a knowledge activist to expand the sociostructure of mutual growth and benefits among the members of its organization through creative actions within its organizational boundary. Nonaka and Konno characterize this unique and mutually reinforcing combination of superstructure and sociostructure of a knowledge creating company in terms of *ba.* This organizational structure enables the creation and expansion of the company's economic base through ongoing innovation. This economic base in turn provides material support for maintaining the company's unique internal structure, *ba*, which supports the further expansion of the economic base through cumulative and collective creative actions and processes, thereby constructing a virtuous cycle of ongoing development and growth in the company and its organizational members.

The company then extends its unique organizational structure, the *ba*, and constructs *basho* for amplifying its internal creative actions and processes through the partnership with other individuals and/or companies. The company extends caring through *basho* to *motivate* and *support* the growth of others through creative actions that the company promotes in support of its own growth, thereby establishing the *sociostructure of mutual growth and benefits between the company and others.* We argue that this sociostructure is a basis for creating the industrial level economic base that the company aims to construct and further expand to enable the amplification of the company's internal creative actions and processes. The economic base in turn reproduces,

or even institutionalizes, the sociostructure of mutual growth and benefits between the company and others, enabling the company's exploration of further opportunities for cumulative and collective creative actions with others and the continual extension of caring to them for mutual growth and benefits. Briefly, we have advanced the view of *ba* and *basho* as a mutually reinforcing combination of superstructure and sociostructure that enable the cumulative and collective creative actions and processes for the expansion of the economic base within a knowledge creating company and beyond, respectively.

We emphasize the leadership of a knowledge activist in constructing such organizational and inter-organizational structures in sequential progression. A knowledge activist leads others by *empowering* them to achieve growth in the process of constructing *ba,* which enables internal collective and cumulative creative actions for subsequently *creating* and *expanding* the economic base of a knowledge creating company beyond its own organizational boundaries. Building upon the established knowledge and economic base of the company, knowledge activists *lead the empowered organizational members* to extend caring beyond the company's organizational boundary to construct *basho* that in turn enables the company to create and maintain the industry-level production system around its internal creative processes and actions for mutual benefits and growth with others. In this regard, a knowledge activist appears to exemplify a leader with *transformative leadership qualities.*

The essence of a knowledge activist's transformative leadership is *generativity* – i.e., a knowledge activist provides others with his creative achievements for their further creative actions, and cares for their growth through his actions. We believe that such generativity enables the knowledge activist to lead others for constructing *ba* to enable

the creation and expansion of the economic base of a knowledge creating company through ongoing innovation. This established economic and knowledge base of the company would, in turn, provide the knowledge activist with the necessary means and resources to extend his transformative leadership beyond the organizational boundary of the company for constructing *basho.* We advanced that this *basho*, in turn, enables the ongoing growth of the company in partnership with others, which justifies the knowledge activist's leadership on the basis of its effective maintenance of the company's growth.

Building upon Darwin's theory of evolution, Fischer advanced a feminist perspective that caring was an evolutionary product, which, in turn, enabled the emergence and development of human civilization. Similarly, in her *The Chalice and the Blade* Eisler (1987) suggested that caring had been a prevalent basis of sociostructure or social relations in the prehistoric era before the civilizations characterized by the endless pursuits of "the power to take rather than give life" (Eisler, 1987: xvii) emerged and became dominant. Eisler categorizes such social systems, which *promote* the value of caring and, correspondingly, the sociostructure of mutual benefits and growth, as partnership-oriented systems. Accordingly, Eisler (2007) has been arguing that humanity is at a historical junction that calls for reconstructing such a partnership-oriented system. More significantly, Eisler (2007) argues that we need a radical reorientation in economics as well as management for constructing a partnership-oriented system if we are to further advance the post-industrial knowledge based or learning economy (Lundvall, 1996).[16] In

16 Similarly, Lundvall (1996) cautioned that a learning economy has a potential to deepen the structure of economic inequality and further reinforce the domination of the privileged groups of individuals, firms, and nations. Yet, such domination will eventually undermine the foundation of a learning economy by limiting a wider participation of individual agents in the collective learning process. Correspondingly, Lundvall also put forth that the advent of a learning economy requires restructuring a socio-economic structure that can counter the structure of domination by the privileged few.

this regard, our interpretation of *ba* and *basho* as organizational and inter-organizational structures that enable collective and cumulative learning and knowledge creation processes for creating and expanding the economic base of a firm and industry strongly supports and further advances Eisler's view. Accordingly, we believe that a knowledge creating company is an exemplary firm level partnership-oriented system. Furthermore, with exploring the evolutionary progression from *ba* to *basho*, we have also advanced a view that a knowledge creating company nurtures the sociostructure of mutual growth and benefits with others by extending caring beyond the company's organizational boundary in order to amplify its internal creative actions and processes and to achieve the company's long term growth. In so doing, the company *leads* others to construct an industry level partnership-oriented system with them realizing the knowledge based- or learning-economy suggested by endogenous growth scholars.

We should note that partnership with a network of others is instrumental in achieving the company's long-term growth. Partnership, therefore, is the *strategic orientation of the company aimed at its long-term growth.* Consistent with Eisler's view, the present essay advances that caring, which leads to the sociostructure of mutual growth and benefits with the company's partners, is the foundation of such strategic orientation. Strategy requires ongoing commitment and organized activities to achieve the company's end. This implies that a knowledge creating company may *institutionalize* caring for the growth of its partners as an integral part of the company's growth strategy. Finally, the view that the company offers the collective achievements of its organizational members to others for creating opportunity for their creative actions, and institutionalizes support for their growth through the creative actions suggests that generativity may also evolve

into a firm level orientation to enable collective and cumulative creative actions and processes in the context of a knowledge based- or learning-economy at large.

*Essay 3*

# Toward the Construction of a Partnership-Oriented System:

# The Case of Qualcomm

# I. Introduction

**Background.** Eisler (1997, 2007) calls for a radical reorientation in economics as well as management toward the construction of a partnership-oriented economic system that *fosters* and *builds* upon a network of dyadic relationships of mutual growth and benefits among individual participants engaging in collective production. Eisler (2007) conjectures that recognizing the cultural value of caring may be the foundation for constructing a partnership-oriented economic system, and that the cultivation of a partnership orientation based on that cultural value may be a critical step toward the advancement of the post industrial knowledge based or learning economy.

In resonance with Eisler's perspective, we put forth that a knowledge creating company cultivates caring as the core value of its organizational culture under the leadership of a knowledge activist to expand the sociostructure of mutual growth and benefits among the members of its organization through creative actions. Nonaka and Konno (1998) characterize this unique organizational structure of the company in terms of *ba.* This organizational structure enables the creation and expansion of the company's economic base through ongoing innovation. This economic base in turn provides material support for maintaining the company's unique internal structure, *ba*, which supports the further expansion of the economic base through cumulative and collective creative actions and processes, thereby constructing a virtuous cycle of ongoing development and growth in the company and its organizational members.

We further explored that the company extends its unique organizational structure, the *ba*, and constructs *basho* for amplifying its internal creative actions and processes

through the partnership with other individuals and/or companies. The company extends caring through *basho* to motivate and support the growth of others through creative actions that the company promotes in support of its own growth, thereby establishing the *sociostructure of mutual growth and benefits between the company and others*. We argue that this sociostructure is a basis for creating the industrial level economic base that the company aims to construct and further expand to enable the amplification of the company's internal creative actions and processes. The economic base in turn reproduces, or even institutionalizes, the sociostructure of mutual growth and benefits between the company and others, enabling the company's exploration of further opportunities for cumulative and collective creative actions with others and the continual extension of caring to them for mutual growth and benefits.

Advancing further the previous arguments in the present essay, we seek to empirically verify the above aspect of a knowledge creating company, in particular, and advance a view of a partnership-oriented economic system in the post industrial knowledge based economy, in general.

**Case Study Approach and Case Selection.** To achieve our primary objective, we have chosen to conduct an in-depth longitudinal case study. Yin (2003b: 13) defines a case study as a suitable "empirical inquiry into a contemporary phenomenon operating in a real-time context, especially when the boundaries between phenomenon and context are not clearly evident". Building upon phenomenological studies of human learning, Flyvbjerg (2001, 2006) similarly suggests that a case study plays an important role in producing "context dependent knowledge" (Flyvbjerg, 2006: 221), which is "at the very heart of expert activity" (Flyvbjerg, 2006: 222). Accordingly, a case study allows

researchers to 1) develop a nuanced view of reality through production of context dependent knowledge; 2) achieve understanding of a problem or phenomenon beyond acquisition of a rule or formula based theoretical knowledge (Flyvbjerg, 2001, 2006).

Bunge (1998) aptly points out that social science has produced fewer than a handful of general and predictive rule-based, context independent knowledge; he also points out that the primary purpose of social science is not the production of such theoretical knowledge as it is in natural science. Similarly, Flyvberg (2006: 223) points out: "social science has not succeeded in producing a general, context-independent theory and, thus, has in the final instance nothing else to offer than concrete context-dependent knowledge"; and that using a "case study is especially well suited to produce this knowledge".

Indeed proof is hard in social science because of the scarcity, or even absence, of context-independent theories in this field. Yet, learning is possible through looking closely at individual cases: "sometimes we simply have to keep our eyes open and look carefully at individual cases – not in the hope of proving anything, but rather in the hope of *learning* something!" (Eysenck, 1976: 9 *our italic*)

It is extremely difficult, if not impossible, to construct a context-independent predictive theory in social science; attempts for generalization may not be the primary purpose of a social science. Nonetheless, "such attempts for generalization are effective and essential means of scientific development" in social science as well (Flyvbjerg, 2006: 227). Accordingly, hypothesis testing should remain an important means for such attempts.

By hypothesis testing, however, we do not mean that we attempt to test hard rule based predictive theories as in natural sciences such as physics. Rather, we refer to testing the validity of *heuristics principles of causation, which may be established as truth through recurring experiences shared by many in the past,* such as effectiveness of *caring in establishing productive and mutually beneficial partnerships among individual agents engaging in collective production.* Indeed we may not predict that certain amounts of caring will result in a certain degree of partnerships that can also be measured numerically. The causation can remain only as a heuristic principle of which validity in terms of achieving a certain practical outcome may be *demonstrated* and *shared* through narratives about the operation of the principle in reality. Accordingly, Yin (2003b) suggests that a case study is suitable for testing validity of such heuristic principles involving inquires on how or why questions about a contemporary set of events.

In testing heuristic principles, or hypotheses by means of a case study, strategy for case selection is of paramount importance (Collier, Mahoney, & Seawright, 2004; Seawright & Gerring, 2008). Broadly, there are two types of selection: random selection and information-oriented selection (Yin, 2003b). In the random case selection approach, the size of the sample is a decisive factor for attaining the generalization of the tested hypothesis for the entire population. Employing the information-oriented selection approach, however, researchers select cases "on the basis of expectations about their information contents"(Flyvbjerg, 2006: 230) in order to achieve a deep understanding about the operation of certain heuristic principles in reality.

For understanding-oriented as well as action oriented research that seeks to "clarify deeper causes behind a given problem and its consequences" (Flyvbjerg, 2006:

229) rather "than describe symptoms of the problem and how frequently they occur" (*ibid*), information-oriented selection is appropriate because "atypical or extreme cases often reveal more information" to achieve such ends (*ibid*). For the understanding-oriented research, "it is more appropriate to select a few cases chosen for their validity" (*ibid*).

Following the above suggestion, we have employed the information-oriented selection approach to maximize the utility of information available at the present moment in achieving an understanding of the theoretical perspectives that we developed in the previous essay. As we will discuss in detail, we set up a list of criteria for selecting a case in accordance with the theoretical perspectives, and selected to implement an in-depth longitudinal study of Qualcomm's partnership with a large group of mobile phone application-developers as well as others (i.e., mobile phone manufacturers and network operators) around the company's proprietary platform for mobile phone application operation and programming called the *Binary Environment for Wireless (BREW).*

**Analytical Approach.** Analytically, we will conduct a pattern matching analysis (Yin, 2003b), which emphasizes theory driven research to improve the validity and reliability of a case study (Yin, 2003a). A pattern matching analysis is especially valuable in the examination of a single case because it enables interpretation of a case in a larger theoretical context (Campbell, 1975; Marquart, 1990; Yin, 2003b). A pattern refers to "any arrangement of objects or entitles" while "arrangements" indicates the view that the "pattern is not random and potentially describable" (Trochim, 1989: 356). Pattern matching analysis "involves the specification of a theoretical pattern, the acquisition of an observed pattern, and an attempt to match these two" (Trochim, 1989: 355) aimed at a

better understanding of the phenomenon under investigation. Utilizing "existing theories, ideas, and hunches" (*ibid*), a researcher conceptualizes internally coherent expected patterns of predictions of the phenomenon under investigation, and attempts to match the pattern to empirical observation to test the validity of the expected pattern.

The pattern matching analysis aims at continuous improvement of the theoretical description of reality through the ongoing feedback mechanism between theory construction and empirical verification in reality (Marquart, 1990; Trochim, 1985, 1989). In this regard, the pattern matching analysis is a cognitive process leading to a continuous improvement of a researcher's knowledge about the reality of interest (Campbell, 1966), which is also the central goal of logical positivism (Yin, 2003a). In other words, the pattern matching analysis allows researchers to engage in this positive feedback mechanism involving the sequential process of empirical verification and modification of the theoretical model toward the improved theoretical construction of realities.

**Structure of the Essay.** We will begin our discussion with a summary of the theoretical perspective discussed in essay two, the corresponding case selection criteria, the justification for and a scope of the case study in the present essay, and the construction of theoretical patterns that we will seek to validate through the case study in section II. In section III, we provide our own narrative of empirical observation. Subsequently, we will attempt to interpret the narrative and observed patterns in detail under the light of the theoretical patterns, and provide implications in section IV. We then conclude with suggestions for further research.

# II. Case Selection and a Scope of Investigation

## 2.1 Summary of Essay Two

Nokana and Konno (1998) suggest that a knowledge activist supports and promotes creative actions of others by sharing his knowledge with them. In so doing, a knowledge activist leads to construct *ba,* a shared place in time and space conducive to creative actions, within a knowledge creating company (Nonaka & Konno, 1998; Nonaka & Nishiguchi, 2001; Nonaka et al., 2000).

*Ba* is an existential place for actualization in various forms (Nonaka & Konno, 1998). In entering that place, individuals *adopt* the *ba*'s characteristic and achieve self-actualization through mutual creative actions, which results in furthering the rich repository of the knowledge base over time within a knowledge creating company. An individual member in that place engages in a further creative action by drawing upon the rich repository of creative achievements put forth by others to *actualize* the full potential of those achievements as well as his own potential. A knowledge creating company creates and cultivates this existential place, *ba*, as a "fertile ground" (Nonaka & Nishiguchi, 2001: 3) for creative actions, with an aim to foster creating products or services with novel customer values on the one hand and self-fulfilling organizational objectives on the other hand.

*Ba* is fluid in that it can be born and can expand. But it can also disappear quickly. The foundation of *ba* is a "caring" or even "loving" relationship that fosters mutual growth and benefits through creative actions in that existential place (Nonaka & Konno, 1998; Nonaka et al., 2000). Without caring, therefore, *ba* quickly loses its

grounding and disappears. Correspondingly, a knowledge company loses its innovative capacity.

"*Ba* exists at many levels and these levels may be connected to form a greater *ba* (known as *basho*)" (Nonaka & Konno, 1998: 41) that is larger than the organizational boundary of a knowledge creating company. Caring not only *cultivates ba*, but also *enables* its evolution to *basho* by attracting a larger number of individual participants, who are motivated to grow through creative actions. Through that evolutionary progression, according to Nonaka and Konno (1998: 41), a knowledge creating company *amplifies* its internal creative processes.

From the perspective of Durkheim on the relationship between association and co-operation, we suggested that the notion of *basho* advances caring as a relational basis through which a knowledge creating company nurtures its *association* with a group of others beyond its organizational boundary to enable the company to establish mutually beneficial *co-operation* with them around its internal creative processes. This co-operation can result in the construction of an industry-level production system (such as a business ecosystem) around the evolving knowledge base of the company. This industry-level production system in turn *functions* to generate and enlarge a maternal base for strengthening the association between a knowledge creating company and a group of others, enabling further co-operation among them for their mutual and interdependent benefits.

Lao-Tzu (老子)[17] put forth that caring, which empowers others to grow, is the greatest virtue *a leader ought to cultivate* (Kim, 2007). According to Lao-Tzu if one can

17 Lao-Tzu is an ancient Chinese philosopher. He is believed to be the originator of Taoism.

cultivate such virtue to guide his actions on, and toward his followers, he will have no limit in constructing even a new nation with his empowered followers. Cultivating the virtue of caring throughout the nation under his caring leadership, furthermore, the nation achieves prosperity internally and will be able to lead other nations by the same virtue to establish a mutually beneficial relationship with them.

Similar to the above ancient perspective, the perspective of a knowledge creating company in a contemporary business context puts forth that the company cultivates the virtue of caring internally as a core value of its organizational culture (von Krogh, 1998) to empower its organizational members to grow through creative actions under the leadership of a knowledge activist (Nonaka & Konno, 1998). The company then *leads* others outside its organizational boundary by the same virtue to empower them to grow through exploitation of the opportunities that the company continues to generate through the internal creative process. These creative actions in turn actualize the full potential of collective achievements put forth by the company's organizational members, which in turn enable the company to support further creative actions of its organizational members and to generate further opportunities for others to exploit and to grow.

## 2.2 Selection Criteria

A knowledge creating company extends its unique organizational structure, the *ba*, and constructs *basho* for amplifying its internal creative actions and processes through the partnership with other individuals and/or companies. As stated earlier, the present essay seeks to empirically examine this aspect of a knowledge creating company that can lead

to creation of an industry-level production system such as business ecosystem around the company's internal creative processes and actions.

To achieve this end, we will conduct a "within-case" analysis, which "is concerned with diverse forms of internal evidence about causation that are brought together to bear on explaining a single, overall outcome within that case" (Collier et al., 2004: 93). Although selection bias is often problematic in qualitative study in general, and in case studies, in particular, "selection bias need not arise" (Collier et al., 2004: 97) in a within case analysis because the focus of this analysis is "on process tracing within the case" (Shively, 2006: 345). This contrasts with a common problem of selection bias in cross case analysis in qualitative research, which aims at "examining relationships among variables *across cases*" (Collier et al., 2004: 96) in correspondence to a regression analysis in quantitative research (Collier et al., 2004; Seawright & Gerring, 2008; Shively, 2006). For a within case analysis, it is highly appropriate to select a case on the basis of its relevance to the theoretical perspectives under investigation (Flyvbjerg, 2006; Seawright & Gerring, 2008). Accordingly, we formulated the following case selection criteria based on the theoretical perspectives that we put forth in the previous essay.

First, we searched for a knowledge-intensive or knowledge-creating company, with a strong manifestation of caring in its organizational culture. Additionally, we considered whether there is any evidence of a company's caring for others outside its organizational boundary in the areas that are not directly related to its business. Our presumption behind these criteria was that caring might operate as a dominant orientation of a company in establishing business partnerships with others only to the extent that

caring is already established as a dominant organizational culture internally and as an orientation toward an extended community even with the absence of immediate profit.

Second, we considered the possibility of examining a company's long-term business partnerships with a large number of other firms or individuals in the innovation processes, similar to Moore's observation of a business ecosystem. Consistent with our main theoretical perspective that emphasizes caring as a basis for establishing and maintaining a partnership, we further looked for the case of a company manifesting caring for its business partners in terms of continual provision of support and motivation for their growth.

Third, we further considered the wide availability of information in public media, without which the investigation of a company's in-depth and long-term partnership with others, and corporate culture and value would be nearly impossible.

As we will discuss briefly in the following, our preliminary consultation, examination and observation strongly suggested that Qualcomm would qualify as an exemplary knowledge creating company with its unique organizational culture continually manifesting caring for its employees and its extended community, thus, suggesting the possibility that caring may have been also the company's dominant orientation in establishing business partnerships with others.[18] With this preliminary knowledge, we began studying Qualcomm and its ecosystem. Retrospectively, our in-depth study of the case proved that Qualcomm was indeed an excellent choice.

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18 Following the first criterion (i.e., a knowledge-intensive or knowledge creating company), we began our search with 50 fast growing high-tech firms in Canada selected by Deloitte Consulting. In that process, we realized that two out of the top ten fastest growing companies (e.g., Airborne in Montreal and Tira Wireless in Toronto with 5,279% and 16,610% growth rate respectively) in Canada in 2007 are in direct and indirect partnership with Qualcomm around the company's BREW platform. This prompted us to look closely at Qualcomm, and the company's partnership with others around its BREW platform. *See* http://www.deloitte.com/dtt/article/0,1002,sid%253D108772%2526cid%253D168671,00.html for the list of 50 fastest growing high-tech firms in Canada.

## 2.3 Justification for the Case Selection and a Scope of Investigation

**Highlighting Qualcomm as a Knowledge Creating Company.** Knowledge-intensive or knowledge-creating companies may be distinguished by the capability of promoting creative actions of their employees, and by possessing the capability of commercializing their creative achievements to enable further creative actions. Qualcomm may be one of a few firms that has pushed these basic, and yet difficult to implement, principles to the extreme for establishing a multi-billion dollar business.

Since its establishment in 1985, Qualcomm has created and maintained a university-like internal environment within which its employees have been motivated to solve shared problems facing them – i.e., *continuous improvement of wireless mobile communications using Code Division Multiple Access (CDMA) technology*. The creation and maintenance of this unique internal environment is often attributed to the leadership of its founder, Dr. Irwin. M. Jacobs, a former professor in the Engineering Department of Massachusetts Institute of Technology and CEO of Qualcomm, who has "stood for the empowerment of creative minds" (Mock, 2005: 211). In Qualcomm's formative years, the reputation of Dr. Jacobs as an established researcher with several groundbreaking patents in CDMA technology and as a person who keeps "the doors of innovation wide open for those who would pour their heart into radical new ideas that held commercial promise" served as a *magnet* to attract the talented in communications to the company (Mock, 2005: 211).

A founder embeds his values and assumptions into an organization to result in a unique organizational culture (Schein, 1983). Under the leadership of Dr. Jacobs, Qualcomm tried and managed to maintain the academic environment that breeds

employees' "desire to learn and advance" into the organization "by the way it operates on a daily basis, so that continuing education is a reason that people come to the company in the first place" (Mock, 2005: 215).

An organization maintains its organizational culture through the selection of individuals whose personal values are congruent with that of the organization (Chatman, 1991; Schein, 1992). In parallel, Qualcomm has been very selective in recruiting to fill the company with "individuals who are open to self-improvement, education and learning" (Mock, 2005: 212).

In order to maintain those talented individuals who are highly motivated to grow within the company, Qualcomm has also created a work environment conducive to creative actions. In an interview with San Diego Metro, Dr. Jacobs comments about that environment: "We try to keep the same type of internal philosophy: To value people highly, give them good working conditions and good training programs and keep a free circulation of ideas" (*Quoted* in McGlain, 1997). This philosophy is crystallized in the simple motto of Qualcomm's human resource management: "when employees are happy, they are more productive" (Qualcomm, 2008d).

Guided by the above simple motto, the company has been implementing various life-enhancing programs to enable its employees to achieve a balance among the six important aspects of life – i.e., community, family, health, leisure, team life, and life resources (Qualcomm, 2008d). To enhance the community aspect of employees' lives, for instance, Qualcomm recently launched the Qualcomm CARES program that promotes employees to volunteer for activities in the caring for and development of community programs in their neighbourhood (Qualcomm, 2006). San Diego Metropolitan (2001)

comments on this program: "Qualcomm's position as a philanthropic leader in San Diego is unquestioned". This program not only enhances the company's reputation as a socially responsible corporation, but also enhances the morale of its employees. At another level, the Qualcomm CARES program is the manifestation of Dr. Jacobs' philosophy. Dr. Jacobs is also widely known as a philanthropist and is personally "proud to play a philanthropic role in furthering the opportunities and goals of educational institutions and other organizations" working for the good of the communities (*Quoted* in Bell, 2006). Commenting on the importance of serving the company's extended neighbours as "a balancing act" that in turn nurtures the lives of the company's employees, Dr. Jacobs comments: "If you are a public company, you have to make sure you are doing things that help your shareholders. Having said that, some use of funds can be, even if not immediately profitable, used so you become more profitable. It is something you have to consider important or it will continually be deferred" (*Quoted* in McGlain, 1997).

Without a doubt, the provision of life-enhancing programs aims at the creation of a milieu within, and outside, its organizational boundary for the highly motivated individuals who strive to concentrate on, and focus upon, creative actions at work and beyond. Accordingly, Qualcomm considers more than 6,100 patents that its employees have accumulated around the company's foundational patents in CDMA technology as proof of the effectiveness of the company's unique internal environment (Qualcomm, 2008d), which the company has maintained through its highly selective recruiting.

Given the above observations, Dr. Jacobs appears to be an exemplary knowledge activist (Nonaka & Konno, 1998) who fosters creative actions of others by sharing his knowledge, experiences and enthusiasm with them to create a caring organizational

culture within a knowledge creating company. By sharing his expertise in CDMA technology with others, and fostering the growth of others through further creative actions around that technology, Dr. Jacobs created a unique organizational culture in Qualcomm that he founded with his *committed* followers who are motivated to grow through creative actions.

As a business enterprise, Qualcomm turns the creative achievements of its employees into commercial success by licensing its growing portfolio of patents covering essential CDMA technology to network operators and subscriber device-makers, who work together with Qualcomm in developing and providing innovative wireless mobile communication services and products based on Qualcomm's foundational technology (Mock, 2005). Royalty from the licensees is, thus, the bloodstream that enables Qualcomm to keep the impulses of creative hearts (*ibid*). Naturally, the company has devoted significant resources and activities to protect this bloodstream (*ibid*).

**Scope of Empirical Investigation and Further Justification.** In addition to CDMA technology, Qualcomm has been investing in a mobile phone applications operating and programming platform called *Binary Environment for Wireless (BREW)* since 2000.[19] Despite ongoing investments that Qualcomm has put forth to continually improve upon this platform since its market debut in 2001, the company has made the platform available free of charge to application-developers and device-makers without asking for royalty payments. Developers can write mobile phone applications using the BREW development platform without paying fees. Similarly, device-makers can install the BREW application platform in their devices free so that subscribers of wireless mobile communication can run mobile phone applications using the platform.

19 For more information on the BREW, visit http://www.qualcomm.com.

In the context of traditional inter-corporate relations surrounding intellectual properties in particular, the provision of BREW free of charge appears to contradict the company's well known business practice that ensures that everyone pays royalties for the use of the company's intellectual properties. Yet, this contradiction provides us with a valuable opportunity to empirically examine the theoretical perspectives that we have explored surrounding the evolutionary progression of *ba* to *basho*, which a knowledge creating company extends to others to *amplify* its internal creative process.

Accordingly, the present essay seeks to conduct an in-depth longitudinal case study on 1) the structure and process of Qualcomm's partnership with a large group of application-developers and others around the BREW platform to *amplify* the company's cumulative creative process internally, and 2) corresponding corporate level activities that *support and promote the growth* of those application-developers in order to maintain and enhance the partnership with them over time.

Arora, Fosfuri and Gambardella (2001a; 2002) put forth that a notable aspect of today's knowledge-based economy is the development of the market for technology. According to these authors, this development is a result of strong intellectual property and expedites the industrial evolution by enabling firms to specialize in R&D and industrial level co-operation through the establishment of a corresponding division of labour around that specialization. By contrast, others argue that strong intellectual property rights would exacerbate the problem of inequality in all structures of a capitalistic economy. Martin (1998), for instance, argues that intellectual property rights create artificial scarcity in intellectual products and strengthen the domination of the privileged individuals, firms, and nations in a market economy. Martin further puts forth

that the marketplace of intellectual products is flawed because it reinforces the structure of domination by a few holders of IP. Accordingly, an intellectual property business that Qualcomm has pushed forward to the extreme has been subject to popular criticism – e.g., an intellectual property business exists simply to extol manufacturers by legal means. According to these critics, an intellectual property business operates within and reinforces the traditional domination-oriented economic system. In other words, firms in the IP business take advantage of the strong intellectual property right regime aimed at domination by the few privileged and would reinforce that regime in order to defend their business.

According to the above criticism, therefore, IP business appears to be far from a partnership orientation. This criticism, however, encouraged us further to consider the partnership led by Qualcomm as an *exemplary case* for investigating the perspectives expressed in essay two.

## 2.4 Expected Theoretical Patterns

Moore (1996, 2006) observes that a knowledge-intensive firm promotes others' innovations that can actualize the full potential of its core-offer in terms of high end-user value. The enhanced end-use value as a result of others' complementary innovations enhances the demand for the firm's core-offer and enables the firm to improve upon the core-offer. To formalize in terms of expected theoretical patterns (EP) following Trotchim's (1985; 1989) description of a pattern matching analysis:

EP1: *A knowledge creating company promotes creative actions of others that can actualize the full-potential of the company's core-offer in terms of its enhanced end-user value.*

EP2: *The enhanced end-user value increases the demand for the core-offer.*

EP3: *Increase in the demand enables a knowledge creating company to engage in further creative actions internally for improving its core-offer.*

Moore (1996) states that the above processes constitute the essential elements of an economic model and economic rationale for a knowledge-intensive firm to establish an industry level production system, called a business ecosystem; and correspondingly that knowledge-intensive companies increasingly embrace this production system as a third form of organization for actualizing the full-potential of their major technological innovations. Critically, a company's establishment and maintenance of this third form of organization requires an ongoing *commitment* from a large group of others to engage in the creative actions that the company promotes for achieving its own growth in the end. Failing to induce the commitment from others, the company will find it difficult to fully realize the potential of its core-offer, and to support its organizational members' further engagement in creative actions internally. Consistent with the perspective of the theory of a knowledge creating company (Nonaka & Konno, 1998; Nonaka & Nishiguchi, 2001; von Krogh, 1998), we suggested in the previous essay that *caring* is the essence underlying the activities and processes that encourage and maintain such commitments

from others. When a company projects caring in its internal and external relations in both the substantive and institutionalized forms, others will have much less reservation to commit to a proposed partnership with the company (von Krogh, 1998).

In resonance with the above perspective, Eisler (2007) puts forth a notion of a partnership-oriented economic system that is based on, and promotes, the cultural value of caring, and calls for the reorientation of economics and management for constructing such systems. According to Eisler, thus, *caring is a distinctive attribute of a partnership orientation* that enables one to establish and maintain relationships for the mutual growth with others. *To care for others in the most significant sense is to support and motivate them to grow* (Mayeroff, 1971; von Krogh, 1998). Similarly, a partnership orientation of a company is institutionalized in organizational routines and processes, and manifests themselves in terms of continual and consistent provisions for the *support* and *motivation* for the growth of its own organizational members as well as the growth of its business partners (Eisler, 2007). Such partnership orientation encourages and maintains the commitment and dedication of organizational members to the works of the company as well as those of others, beyond its organizational boundary, to partnership with the company (Eisler, 2007).

Cultural norms of interpersonal relationships are often *impersonalized* and *generalized* throughout a society among individuals as well as organizations through institutionalization. For instance, Zucker (1986) coined a term, institutional trust, to point out that "*trust*" in an impersonal economic environment has been maintained through institutionalization of structures and processes such as third party certification and escrows since as early as the 19$^{th}$ century. By institutionalizing such structures and

processes with clear, predictable and consistent procedures and rules, trust was impersonalized and generalized among individuals and organizations without familiarity and communality. Indeed, trust has long been considered as an important aspect in establishing and maintaining mutually beneficial economic relationships since antiquity. According to Zucker, therefore, institutionalization of trust *was* essential for economic growth in the face of increasing impersonalization of economic relations in proportion to the growth of economy.

In a similar vein, Habermas (1984) suggests that the construction of a system, or systemization, in a society involves institutionalization of certain values or norms in the cultural sphere of lifeworld pertaining to that system. Institutionalization of such values and norms is necessary for coordinating predictable and stable patterns of interactions among individual constituents of the society. For instance, Durkheim (1984) points out that legal systems institutionalize values and norms of a society, and generalizes such values and norms to all throughout the society without exception.[20] Similarly, a partnership-orientated economic system progressively institutionalizes norms and values of a partnership orientation in order to generalize such orientation among individuals and organizations in that economic system even without their prior familiarity or communality.[21]

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20 Marx criticized that such institutionalization had been led by dominating individuals or groups of individuals to defend their values or ideologies and reinforce structure of domination in their favour. Habermas, thus, puts forth that institutionalization as well as deinstitutionalization of cultural values and norms ought to be based on the common understanding that is achieved by communicative actions among the constituents of a society.

21 Eisler (2007) suggests that a domination orientation has been gradually and progressively institutionalized in social structures and processes to reinforce that orientation and, correspondingly, inequality among individuals in the Western civilization. Hence, a construction of a partnership-oriented system requires deinstitutionalization of such domination orientation and re-institutionalization of a partnership orientation, care, of which significance has been denied for a long time in Western civilization in general, and modern economics as well as management in particular.

Based on the above discussion, we suggest a two part process for inducing and maintaining an ongoing commitment from a large number of others for engaging in the creative actions that a knowledge creating company promotes: 1) that a knowledge creating company institutionalizes structures and processes for *supporting* and *motivating* the growth of others engaged in the creative actions and; 2) that it institutionalizes a supporting system with clear, predictable and concrete organizational rules and procedures to govern inter-organizational relations. As Zucker (1986) points out in her discussion of institutionalization of trust, we suggest that the need for such institutionalization would grow in proportion to the increase in numbers of partnerships that the company needs to establish with others even without prior inter-corporate familiarity. To formalize the above discussion:

EP4a: *A knowledge-creating company institutionalizes structures and processes for supporting and motivating the growth of others engaging in the creative actions that the company promotes.*

EP4b: *A knowledge-creating company institutionalizes supporting structures and processes in terms of clear, predictable and consistent procedures or rules.*

Accordingly,

EP5: *Visibility of such predictable and consistent supporting structures and processes induces and maintains others' commitments to the creative actions that a knowledge*

*creating company promotes in order to amplify its internal creative actions and achieve its own growth.*

In what follows, we will attempt to empirically examine the operations of the above theoretical patterns derived from essay two in the context of Qualcomm's partnership with a large group of mobile phone-application developers around the BREW platform, and its corresponding relationship to the company's internal knowledge creation process for improving its core offer in the market, the CDMA technology.

## III. Qualcomm's Promotion of the BREW Platform [22]

A pattern matching analysis will allow us to summarize some important aspects of our present case analysis in relation to the proposed theoretical patterns. However, summarizing the findings *only* in such a manner, as Peattie (2001) argues, would run the risk of losing the strength of a case study that aims at generating context dependent knowledge through the provision of rich narratives (Flyvbjerg, 2006). Having this consideration in mind and yet the limitation in space in the present essay, we will first provide an abridged narrative about Qualcomm's promotion of the BREW platform as a standard mobile phone application platform to establish a context for the pattern matching analysis to follow in section IV.

22 We have retrieved facts and data used in this section mainly from 544 press releases from Qualcomm, and presentations at the BREW Conferences. They are available at http://www.qualcomm.com. We used NVivo for coding data from those press releases and presentations as well as other supplementary documents available in public.

## 3.1 BREW Platform in Qualcomm's Evolving Business Strategy

Qualcomm's creation and promotion of the BREW platform is an evolutionary product that builds on and expands its existing business model, which aims at the company's ongoing growth by enabling and fostering a growing CDMA value chain in a larger industrial context of the transition from the second generation (2G) to the third generation (3G) of wireless mobile communication services and beyond.

Figure 1 presents the business model that Qualcomm has pioneered and pursued for years to establish the value chain. This value chain seamlessly integrates the company's growth achieved by the progressive improvement of core competence in CDMA technology *with* the enhancement of its partners' business by providing the new technology to them. "Qualcomm has pioneered a new business model, based on accelerating and focusing its internal R&D, in addition to selling chipsets and licensing software, which enable system-and-device manufactures to get to market faster and at lower costs than if they conducted all their own R&D and integrated their own chipset and software solutions" (Qualcomm, 2007d) (*See* also Appendix 1 for the company's open and universal licensing and a corresponding high level of competition in the CDMA device market). Revenue accrued from royalties and sales of chips enables Qualcomm to continually invest in R&D in order to progressively improve a family of CDMA technology. This technological improvement leads to the enhancement of licensees' products and services, and increases their revenue, which in turn leads to ongoing increases in the inflow of revenue to Qualcomm. In essence, the business model is characterized by the *growth cycle* that seamlessly integrates Qualcomm's growth with the

growth of its collaborating partners in their value chains that provide higher value to end-users of Qualcomm's CDMA technology in terms of improved services and products.

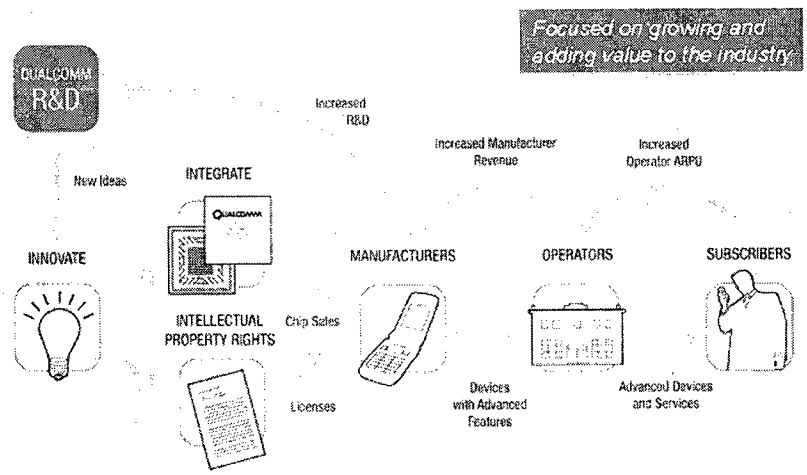


**Figure 1: Business Model of Qualcomm. Source: www.qualcomm.com**

"This business model has evolved through a shift in telecom technology from a hardware- to software-based solution" (Qualcomm, 2007d) as a primary driver of the transition from the 2G to the 3G wireless mobile communication services. Increasingly, content such as music, movies, and games progressively drives consumer technology (Nair, Chintagunta, & Dubé, 2004). Top management at Qualcomm acknowledges this trend by stating that "compelling applications will generate consumer demand for wireless Internet access, speeding the deployment of next generation CDMA wireless services" (Qualcomm, 2001e). Following this premise, the management puts forward the BREW platform as a software solution, by which the company would seek to foster the adoption of the 3G wireless mobile communication service using the CDMA air interface standard. When Qualcomm launched the BREW platform in 2001, Dr. Irwin Jacobs, CEO of the company then, described the company's strategy in his letter to stockholders:

> Our business strategy is based on rapid innovation and careful investment to spur the adoption of CDMA wireless technology worldwide... We build stockholder value by generating revenue through the licensing our CDMA technology and providing expert assistance, by supplying "chipsets" [integrated circuits, system software and support], which incorporate ever more attractive features for early-to-market, cost-effective CDMA products and by *enabling wireless software applications through the BREW platform.... Ultimately, the growing popularity of wireless data will fuel added demand for CDMA, and for higher-end devices that take advantage of its ever-increasing capabilities. This growth cycle is the key to Qualcomm's continued success* (Qualcomm, 2001a: 5).

Briefly, Dr. Irwin Jacobs proposed to its stockholders that the promotion of a BREW based wireless data application would amplify the magnitude of the growth cycle in the value chain that Qualcomm had established and nurtured through the *consistent implementation* of the business model outlined in the figure 1.

## 3.2 Promoting BREW as a Standard & Open Application Platform

**Problem of Fragmentation in Application Market.** At the time of Qualcomm's launch of BREW, the mobile phone market with about 2 billion subscribers around the world indeed looked like an oasis to application developers searching for new market opportunities. Retrospectively, high expectation for rapid growth in the mobile phone application market had grown since early 1990s when many visionaries expected an attractive future for computing in wireless mobile devices (e.g., Gates, Myhrvold, & Rinearson, 1995). Yet, developers had known that the oasis could turn into quicksand

because of the high degree of fragmentation in application operating environments without a dominant standard (Charny, 2005; Gorp, Maitland, & Cameron, 2005).

The fragmentation may be an unavoidable consequence of the differentiation strategy that device makers and network operators had pursued independently (Gorp et al., 2005; Rajapakse, 2008). The differentiation strategy, however, resulted in diversity in operating environments of mobile phone applications. To developers' disadvantage was that this diversity demanded them to produce multiple versions of a single application to run on different devices on different networks, increasing the cost of development and the time-to-market (Gorp et al., 2005). As a result, developers often targeted a smaller market than the potential market they might have exploited if there had been no need for multiple version modifications. Cost of such modifications unavoidably increased the price of an application, which, in turn, inhibited the growth of demand for the application. Despite the high expectation, the application market was deeply trapped into a vicious low-equilibrium cycle characterized by high production and modification costs and low demand due to fragmentation in the application operating environment. Qualcomm proposed to lift this bottleneck with the BREW platform to transform the vicious cycle into a virtuous cycle to the benefit of developers as well as the company for achieving its corporate level strategic objective of driving the adoption of 3G wireless mobile communication services and beyond.

According to Qualcomm, "The BREW platform provides a standard programming environment, so software developers can simply integrate their applications to the BREW platform once, effectively eliminating the need to modify applications for each new device model" (Qualcomm, 2001f). The BREW platform is also air interface

agnostic, meaning that the platform can be deployed in any device on any network regardless of air interface standards.

Yet, this promising prospect would not be realized unless there would be a guarantee that subscriber device makers and network operators would support Qualcomm's initiative. Without their adoption of the BREW as a standard application operating platform, there would be no market opportunity for the BREW-based data applications at all. Acquiring support for the BREW platform was not an easy task, however, especially when some major device makers had been pushing ahead with a plan to adopt Sun Microsystems' J2ME as a standard mobile phone application platform (Albright, 2000; Blyler, 2002).

**BREW and J2ME.** Major industrial leaders also felt that the lack of a standard application platform was impeding the development of the applications market. Hence, industrial leaders such as Motorola, Nokia, Ericsson, and IBM requested Sun Microsystems to further develop its proprietary middleware and programming language used in the PC environment, Java, to serve as a mobile phone application platform. These companies shared a vision that Java, which is known for its famous slogan, "Write once, Run Anywhere" (WORA), would serve as a common platform and resolve the problem of fragmentation in the mobile phone application market (Rodgers, 2001). Contrary to the ambitious vision of its supporters, however, J2ME resulted in a high degree of fragmentation in its implementations, and never fully realized the promise of WORA (Charny, 2005; Europemedia, 2003; Smith 2004). This unsatisfactory performance of J2ME mainly resulted from the slow standardization of its specifications (*See* Appendix 2

for further discussions on the fragmentation of J2ME as a result of the slow standardization process).

Notwithstanding J2ME's disappointing performance up until now, the device makers with a plan to market J2ME enabled subscriber devices at around the time of Qualcomm's launching of BREW often perceived BREW as anti-J2ME. Industrial analysts also rushed to speculate about the implications of the competition between BREW and J2ME. In the analysis of the relationship between BREW and J2ME, the popular media often cast light on and extended the competitive position between Qualcomm, and the major supporter of J2ME, Nokia. Many often dubiously extrapolated the position of the two companies as major supporters of competing air interface standards (CDMA versus Global System for Mobile Communications (GSM)) to the analysis of the relationship between BREW and J2ME (Tanner, 2003).

In response to the above competitive view, Qualcomm argues: "There is substantial misunderstanding about BREW and J2ME and how they relate to each other. Many sources characterize the two platforms as competitive. But in actuality, BREW supports multiple programming languages – including Java™" (Qualcomm, 2003a: 1). Qualcomm points out that BREW and J2ME *operate at different levels*. BREW operates as "an extended platform for other environments (such as VMs)" and "allows any type of browsers (HTML, WAP, cHTML, etc) to run on BREW as an application" (Qualcomm, 2003a: 2). J2ME can also run on BREW as an extension the same way as Java operates on top of other platforms in the PC environment.

To support its argument, Qualcomm announced in November of 2001 that it integrated IBM's J9 CLDC MIDP compliant Java virtual machine on top of the BREW

platform (Qualcomm, 2001g). In the following year, Insignia also provided the company's JVs in order to support the plans of network operators such as KTF in Korea, KDDI in Japan and Verizon in the U.S. to deploy J2ME applications using the BREW platform (Sundgot, 2002). Hewlett Packard also integrated its JVs, MicrochaiVM, onto BREW (Hewlett-Packard, 2001). The integration of these JVs has enabled developers to run J2ME applications on the BREW platform and network operators to provide a wider range of applications. By advancing BREW as an *inclusive and scalable* platform that can readily integrate established and emerging technological solutions, Qualcomm maintains that J2ME is an important component that can enhance the BREW platform as opposed to competing with it (Qualcomm, 2003a).

## 3.3 Gaining Ground

Despite Qualcomm's consistent effort, Wireless Asia notes, "perception counts for a lot in this business, and the perception of BREW has always been that it is in competition with J2ME as the preferred platform for running downloadable apps" (Tanner, 2003: 22). Although BREW is air interface agnostic, "the public perception is that BREW is anti-GSM" because of Qualcomm's unique position in the CDMA air interface standard amid "the polarization of the wireless mobile communication industry over GSM and CDMA" (*ibid*). Drawing upon these public perceptions, Asian Telecom concluded: "Qualcomm's BREW is likely to go down in history as one of the more misunderstood technologies." (Tanner, 2003: 23)

Despite such skepticism, Qualcomm continued its efforts to nurture BREW to take solid ground in the industry. Technologically, the company continued to integrate

other established and emerging technological solutions that can enhance this application platform. For instance, Qualcomm integrated Macromedia Flash Lite ™, which some believe to be competing with J2ME, on top of BREW (Qualcomm, 2005). At the same time, the company actively sought support of incumbent stakeholders of the wireless mobile communication value chain by emphasizing that BREW could enhance their businesses.

**Gaining Grounds with Network Operators.** It is well known that a subscriber device market has been driven largely by the demand of network operators as a result of subsidy programs (Reardon, 2007). In the U.S., for instance, network operators have been subsidizing customers for the purchase of subscriber devices in order to increase and maintain their installed subscriber base. As a result of the subsidy program, 90 percent of subscriber devices in the market are purchased by network operators (*ibid*). Network operators then sell the purchased devices to customers at subsidized rates. The subsidy program has helped create rapid market expansion for some selected manufacturers that supply subscriber devices to network operators under OEM contracts. This, however, has provided network operators with a tremendous influence over device-manufacturers. Network operators decide not only which manufacturers to work with and which devices to sell in their network to end users, but "also which features can be activated on their network" (Reardon, 2007). Consequently, network operators have exerted a strong influence over the direction of manufacturers' innovations as well as the adoption decisions of innovations introduced by third parties.

In such a unique industrial structure, device manufacturers' adoption of BREW, even at no additional costs, appeared to be largely dependent upon network operators'

decisions. Hence, Qualcomm vigorously sought network operators' support with the promise of additional streams of revenue derived from the provision of new application data services using the BREW platform, which would offset network operators' steadily declining average revenue per unit (ARPU) due to fierce competition among operators for expansion of their subscriber base in order to achieve higher scale economies.

To optimize the provision of data application services in terms of speed and cost of data transmission, network operators need to upgrade their network capabilities. Naturally, network operators would prefer to upgrade at the lowest possible costs. According to Qualcomm, an upgrade to high speed 3G CDMA 2000 1X or the full-fledged 3G CDMA 1X EV-DO from the existing 2G cdmaOne requires replacement of pin-compatible chips and software upgrades only (Qualcomm, 2001a). Hence, network operators can utilize their existing physical infrastructure without the need to build new ones, reducing the cost and time required for launching 3G wireless mobile communication services. In addition, the new 3G CDMA air interface standards share the same radio spectrum with the 2G cdmaOne, eliminating the network operators' cost of licensing a new spectrum for offering the new services. Qualcomm also made the upgrade from 2G cdmaOne to 3G CDMA 2000 1X or to more advanced CDMA 2000 1X EV-DO as an *incremental improvement.* Network operators, therefore, can implement the upgrade progressively upon their existing networks in accordance with the market demand. In the words of Economists Intelligent Unit (2003): "Capacity on a CDMA2000 network can be deployed incrementally and with discretion. For example, if the operator knows that there are certain parts of a city that have higher capacity needs than others (like the central business districts) it can focus bandwidth in these areas. Crucially, from a

financial perspective, it lets the operator control spending on upgrades as and when demand arises." Interestingly, this cost effective incremental upgrade of networks for the implementation of 3G services within the CDMA value chain contrasts with high priced path-breaking upgrades that GSM network operators are forced to undertake (*See* Appendix 3 for the discussion of high upgrade costs for the implementation of 3G based on W-CDMA in Europe).

More importantly for our case analysis, Qualcomm proposed that the BREW platform would facilitate the growth of the mobile application market, which would enhance subscribers' demand for 3G services to support network operators to attain adequate returns to investment for their upgrade (Qualcomm, 2001b). In addition, the company promised that it would develop and provide a comprehensive technical solution for the acquisition, distribution and sales of applications as well as billing and payment (*ibid*).

In recognition of the above advantages, leading network operators within the CDMA value chain began to follow Qualcomm's initiative with the BREW (Marek, 2002). By the first half of 2001, 16 network operators around the world agreed to support the BREW. KTF in Korea, KDDI in Japan, and Verizon Communications in the U.S. undertook to be the first to provide their subscribers with an application data service using the BREW platform. Unicom Horizon Communication in China, LG Telecom in Korea, and Alltell in the U.S., also signed nonbinding memoranda of understanding (MOU) to indicate their support for Qualcomm's BREW initiative.

The announcement of these agreements appears to have sent a positive signal to developers as well as other network operators and device-makers, helping to bring more

than 800 participants to the inaugural BREW Developer Conference held in San Diego in May, 2001 (Qualcomm, 2001c). In that conference, Qualcomm demonstrated the business and revenue opportunities that the common adoption of the BREW platform could generate for developers, manufacturers and network operators. Verizon Communications also presented its long term data application provision strategy using the BREW platform, giving weight to Qualcomm's initiative. Qualcomm followed up the conference with the establishment of the BREW Developer Alliance Program, and the BREW Developer Training Program in order to support developers' development and marketing of applications (Qualcomm, 2001f).

Four months after the conference, Qualcomm supported KTF in conducting a public user trial of the company's application data service, Magic-n-Multipack™, using the BREW platform in the Seoul area in September, 2001 (Qualcomm, 2001d). After a two month trial with 5,000 users, KTF launched a full scale provision of the data application service to its nationwide subscribers. In less than half a year, KTF's 3.9 million subscribers, or 40 percent of KTF's total subscribers (10.3 million as of 2001) subscribed for Magic-n-Multipack™ (Bonner, 2003). In the first quarter of 2002, Magic-n-Multipack™ subscribers downloaded 15 million applications or an average of 3.75 applications per subscriber, generating 592 percent higher APRU than the rest of the company's subscribers (Marek, 2002). Subsequently, KTF launched multimedia rich Magic-n-Show™ application data services using the BREW platform in June 2007.[23] Significantly, this new service helped KTF to surpass the largest network operator, SK Telecom, in Korea in terms of its market share in 3G services (Kim, 2007).

23 The Korean government mandated the use of the home grown application platform, WIPI. In response, Qualcomm integrated WIPI on top of BREW for KTF just as it integrated J2ME on top of BREW.

KTF's instant success in less than a few months added a positive momentum to the plan of Verizon Communications in the U.S to launch its data application service, Get It Now ™ using the BREW platform. The company launched the data application service in the San Diego area only in March, 2002, and began a full scale nationwide service in the U.S in June 2002. In the first six months after the launch of the service, subscribers downloaded 8.5 million BREW applications (Luna, 2003b). In that period, according to Verizon, the Get It Now™ users on average spent more than $7.5 per month on the purchase of applications (Luna, 2003a).

Following the success of KTF and Verizon, KDDI in Japan launched the BREW enabled data service in Feb, 2003. In that year, 3.3 million subscribers subscribed to the BREW enabled application data service, supporting KDDI's strategic initiative to expand the 3G service subscriber base. This number overshadowed the 142,000 subscribers that the market leader in Japan, DoCoMo, managed to add to its 3G network with its much celebrated i-mode ™ data service in the same period (EIU, 2003). On a daily basis, KDDI signed up 100 customers for every one that DoCoMo managed to sign up. Leveraging its long-term data application service strategy using the BREW platform, KDDI has continued to achieve the highest net addition of new subscribers among network operators in the already saturated Japanese mobile communication market. In 2005, for instance, 3.16 million new subscribers signed up for KDDI's service. More significantly, KDDI has led the subscribers' migration from the 2G to 3G network as a result of the application data service that the company provides using the BREW platform. As of March, 2006, 96 percent of KDDI's subscribers migrated to the 3G

network while 46 percent and 20 percent of DoCoMo and Vodafone K.K's subscribers had signed for the 3G service.[24]

The BREW Developer Conference has been an important instrument by which Qualcomm brings together stakeholders of the wireless mobile industry to discuss business opportunities created by BREW and the direction of its further development (Mock, 2005). The representative of the above network operators regularly attended the conference to present their success stories in the most competitive markets in the world, supporting Qualcomm's initiative with convincing data. As a result, more conservative network operators gradually followed the lead of the pioneering operators (Marek, 2002).

**Gaining Ground with Application-Developers.** In an interview with *Wireless Network* before the 4th annual BREW Developer Conference in 2004, Peggy Johnson, reflected Qualcomm's achievement with BREW and boasted that 27 network operators from 20 nations launched application data services using the BREW platform (Marek, 2004). She added that these operators as a whole achieved 100 million application downloads in the first six months of the year (*ibid*).

The news that the BREW was gaining ground with network operators caused developers to take the BREW seriously. "There weren't a lot of publishers interested in BREW, *but now everyone is interested in BREW*" (*Quoted* in Marek, 2003: 8). Oliver Miao, CEO of Centerscore, commented on developers' growing interest in BREW after the immediate success of Verizon in the U.S. As more network operators launched application data services using the BREW platform, developers' interest in writing BREW applications increased. Qualcomm responded to this growing interest with the

24 These data are retrieved from KDDI's presentation at the 2006 BREW Conference. This presentation is available at http://brew.qualcomm.com/brew_bnry/pdf/brew2006/op502_shigeno_kddi.pdf

launch of the BREW Developer Award program, which was designed to foster developers' innovations through healthy competition.[25] In the extension of this program, Qualcomm also launched the BREW Wireless Research program in the form of a $1 million fund designed to increase the availability of useful applications for the users in developing countries in 2006. Since then Qualcomm has awarded 5 grants for the most innovative proposals for BREW applications in the areas of healthcare, education, public safety, government and the environment for use in developing countries (Qualcomm, 2007c).

A growing interest of the developers' community in writing BREW applications in turn must have convinced network operators that there would be *a good supply* of *high quality applications* that can enhance the operators' subscriber base. As a result, over 65 network operators in 30 nations have joined Qualcomm's initiative with BREW as of January 2008.[26] They aim to leverage the ongoing supply of innovative applications for enhancing their competitive advantage and subscriber bases. The growing subscriber bases of these operators as a whole in turn provide developers with an expanding global outlet for their applications. Several developers quickly began to reap the harvest of the growing number of outlets, selling a single application through multiple operators around the globe. Carolynne Schloeder, executive vice president of mobile game maker, Faith West, for instance, comments:

> In addition to our U.S. partnership with Verizon Wireless, we're also working with BREW operators around the world, including Telstra and its local partners

25 Visit http://brew.qualcomm.com/brew/en/developer/newsletter/2004/march_2004.html for information on general information on the BREW Developer Award such as submission guidelines.
26 Source: http://www.qualcomm.com.

> to bring ModTones to the Australian market. The BREW virtual marketplace gives developers a feasible means to approach international companies as potential partners, enabling them to grow their businesses and expand their product offerings. BREW has helped us to bring it all together, and in the process we have found that BREW is *snowballing* (*Quoted* in Qualcomm, 2003d).

To foster developers' reach to that snowballing market around the globe, Qualcomm also launched a BREW Global Publisher (BGP) program in 2003 to facilitate the localization of applications (Qualcomm, 2003c). Qualcomm authorized KTF in Korea to be the first BGP. This program enabled local developers in Korea to supply their applications to network operators around the globe. Park Seung Jin, President of Anicom in Korea comments on the significance of this program to his company's market expansion:

> KTF's role as a BREW Global Publisher is great news for Anicom as it will continue to expand the global reach for our BREW-based wireless applications. *What's more, the BREW solution allows KTF and Anicom to effectively manage and bill for our applications no matter where they are distributed* (*Quoted* in Qualcomm, 2003c).

As indicated in the statement above, Qualcomm ensures that developers *get paid* for each download regardless of which networks in the world sell their applications. This strategic objective is accomplished by the operation of the BREW Distribution System

(BDS) that Qualcomm has developed in order to facilitate acquisition, deployment, and sales of BREW applications (*See* Appendix 4 for the operation of BDS).

The efficacy of BDS was instantly visible to application-developers. Some developers started receiving six figure monthly pay-checks sent directly from Qualcomm within months after Verizon's launch of Get It Now™ in 2002 (Marek, 2003). Up until March in 2007, Qualcomm had written over 1 billion dollar pay checks to developers (Qualcomm, 2007a). This high visibility of instant profit, according to an analyst with Deutsche Bank, has been the greatest motivation behind developers' decisions to work with Qualcomm (Marek, 2003).

**Gaining Ground with Device Makers.** Facing unexpected market outcome, only a small number of handset makers committed to the production of BREW-enabled handsets. By November, 2001, Qualcomm had managed to reach non-binding memoranda of understanding only with a handful of device makers without a definitive commitment to produce BREW enabled handsets. When KTF launched its BREW-enabled Magic-n-Megapack™ service, only three models from two handset makers were available.

As a growing number of network operators adopted BREW as a standard application platform encouraged by a positive subscriber response to the ongoing supply of innovative applications, the demand for BREW-enabled handsets grew exponentially. This increasing demand even resulted in a shortage of supply to cause a delay in the network operators' plan to launch application data services using the BREW platform. For instance, Midwest, a smaller operator, in the U.S. had to delay its plan to deploy its

application data service as device makers gave priority to large network operators in supplying BREW-enabled subscriber devices (Gubbins, 2003).

The provision of application data services using the BREW platform by major network operators serving the 160 million installed user base around the globe led to the sales of over 60 million BREW enabled subscriber devices by the end of 2003. This figure roughly translates into a respectable 6 thousand percent market growth rate in the 18 months since the attainment of the one million sale milestone. The demand for the BREW enabled subscriber devices has continued to grow as more network operators launch data services using the BREW platform supported by the positive subscriber response to the services. As of today, 45 handset makers including the market leaders, Nokia, Motorola, and Samsung are expected to ship over 200 million BREW enabled subscriber devices by the end of 2008 after completing 100 million shipments by the end of 2004. This stable supply of subscriber devices, in turn, enables network operators to market innovative applications supplied by a growing community of BREW developers.[27]

**Subscriber Adoption of 3G and the Growth of Qualcomm.** Qualcomm's consistent sponsorship for years has enabled BREW to gain ground as a standard application platform for the mass market featuring mobile phones within the CDMA wireless communication value chain. This standard application platform has *enabled* application developers to generate profits through the supply of innovative applications to the value chain. The ongoing supply of innovative applications from the growing community of application developers around the globe, supported by Qualcomm, has in turn *enabled* network operators to provide subscribers with high value added application data services. This has also induced the participation of device makers to enable the

27 Source: http://www.qualcomm.com.

network operators' provision for the seamless download of application data services by subscribers. Therefore, the BREW has been a catalyst for the industrywide collaboration of the creation, delivery and execution of diverse applications, enhancing the subscribers' total experience of wireless mobile communication.

Significantly, the enhanced subscriber experience, attained by the industrywide collaboration around the BREW platform, has also *enabled* Qualcomm to achieve its own sustained growth as Dr. Irwin Jacobs proposed to the company's stakeholders. Qualcomm has seen a stable increase in its revenues and profits as well as stockholders' equity since the launch of the BREW in 2007 (*See* Table 1).

| Year | Revenue (in millions) | Net Earning (in millions) | Stockholders' Equity (in millions) |
|---|---|---|---|
| 2002 | $3,039 | $360 | $5,391 |
| 2003 | $3,970 | $827 | $7,599 |
| 2004 | $4,880 | $1,720 | $9,664 |
| 2005 | $5,673 | $2,143 | $11,119 |
| 2006 | $7,526 | $2,470 | $13,406 |
| 2007 | $8,871 | $3,303 | $15,835 |

**Table 1: Growth in Revenue, Earning and Stockholders' Equity.**

**Source: www.qualcomm.com**

The company attributes the achievements to the implementation of 3G services by the increasing number of licensees (i.e., network operators and device-makers) using the company's proprietary technologies (*See* Appendix 5 for the current status of 3G CDMA in the World today).

# IV. Analysis and Interpretation

In this section, we will attempt to analyze and interpret the above empirical observations in light of the theoretical patterns that we have derived from the previous essay. In particular, we seek to elaborate upon the ways that those theoretical patterns operate in the specific context of the partnership that Qualcomm has led around its BREW platform and seek to provide some implications from the observations particularly for the advancement of a partnership-oriented economic system.

## 4.1 Interpretations

EP1: *A knowledge creating company promotes creative actions of others in order to actualize the full potential of the company's core-offer in terms of its enhanced end-user value.*

Qualcomm's main direction of technological progress in its family of CDMA technology has been the improvement of the data transmission speed at low cost (*See* table 2 for the comparison of data transmission speeds and costs). Driving the improvement of CDMA technology in this direction, Qualcomm has been pushing its licensees to implement the technological progress to enhance the company's return on investment in R&D. Yet these licensees would do so only to the extent that the technological progress creates substantial end-user value for securing adequate returns on their investment.

| Air Interface | Peak Data Rate | Download Time for a 3 Minute Song | Cost to Deliver a Megabyte of Data Traffic |
|---|---|---|---|
| GSM | 9.6 kbps | 41.7 min | N/A |
| IS-95-A CDMA (cdmaOne) | 14.4 kbps | 28 min | N/A |
| IS-95-B CDMA (cdmaOne) | 64 kbps | 10 min | N/A |
| CDMA2000 1X (Implemented) | 307 kbps | 1.3 min | $0.059 |
| CDMA2000 1X (Standard) | 625 kbps | 0.6 min | N/A |
| CDMA2000 1XEV (HDR) | 2.4 Mbps | 0.15 min | $0.022 |
| WCDMA (implemented) | 384 kbps | 1 min | $0.069 |
| WCDMA (Standard) | 2.0 Mbps | 0.2 min | N/A |

**Table 2: Comparison of Data Transmission Speed and Cost.**

**Source: www.qualcomm.com**

The high speed data transmission by itself even at marginal cost has limited end-user value. By facilitating an ongoing supply of innovative applications to end-users of wireless mobile communication through the promotion of industrywide collaboration around its BREW platform, Qualcomm has sought to enhance subscribers' use value of the technological progress.

While Qualcomm *pushes* its licensees to implement the technological progress that the company continues to make in its family of CDMA technology, licensees' implementation of the technology in their products and services is subject to market-*pull.* According to our observation, thus, Qualcomm has promoted the BREW platform in order to create that market pull by enhancing the end-user value of the technological progress and market demand for high speed wireless mobile communication. Consistent with the expected theoretical pattern 1, therefore, BREW has been a catalyst for

promoting creative actions that can actualize the full potential of the technological progress that Qualcomm continues to advance in its core-offer in the market.

EP2: *The enhanced end-user value increases the demand for the core offer.*

Based on the cases of KTF, KDDI, and Verizon, the supply of innovative applications by BREW developers promoted the end-users' adoption of high speed 3G services. This in turn has fostered licensees' progressive and incremental implementation of the technological progress, which Qualcomm pushes, in order to accommodate the increasing end-user demand for high speed wireless mobile communication services.

Total revenues of the wireless mobile communication market to which Qualcomm licenses its growing portfolio of intellectual properties has grown from US97$ in 2002 to US$352 billion by the end of 2007. This respectable 350 percent growth was driven by 455 million subscriber adoptions of high speed 3G wireless mobile services around the world that the company has driven by promoting creative applications based on the BREW platform.[28]

EP3: *Increase in demand enables the knowledge creating company to engage in further creative actions internally for improving its core offer.*

As the increasing number of licensees implement 3G services using Qualcomm's intellectual properties (*See* Appendix 5 for the current status of 3G CDMA in the world), the company has experienced the sustained growth in its revenue and profit (*See* table 1).

28 Source: http://www.qualcomm.com

Supported by the increase in revenues and profits, Qualcomm increased its R&D expenditure from $US 340 million in 2000 to $US 1.83 billion or 20.6 percent of its total revenue in 2007. Cumulatively, Qualcomm has spent over $8.6 billion dollars in R&D during the 2000-2007 period.[29]

Qualcomm has continued to invest in R&D to improve data transmission capacity, preparing for the company's next generation core offer that would succeed the 3G CDMA 1X 2000 and CDMA 1X 2000 EV-DO technologies. One of the notable strategic investments to achieve this end may have been the acquisition of Flarion in August 2005 at over US$600 million. This acquisition provided Qualcomm with a valuable opportunity to acquire essential patents covering Orthogonal Frequency Division Multiple Access (OFDMA) technology, which can significantly enhance data transmission capacity at wider bandwidths for the delivery of large sized multi-media application data over the air. Building upon OFDMA technology, Qualcomm developed the Ultra Mobile Broadband (UMA) solution for the implementation of 4G wireless mobile communication services.[30] As of 2008, the company is pushing ahead with the Long Term Evolution (LTE) project to enable Universal Mobile Telecommunications Service (UMTS) network operators [31] to provide high speed wireless communication at wider bandwidths using OFDMA technology. At the same time, the company has invested in the technological solutions that can enhance the end-user value of the improved data transmission capacity in terms of speed and cost around the BREW

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29 Source: http://www.qualcomm.com.

30 This new solution is complementary to, and backward compatible with, the company's existing 3G solutions (i.e., CDMA 1X 2000 and CDMA 1X 2000 EV-DO). Similar to the upgrade from 2G to 3G technologies, hence, network operators can implement UMA *incrementally* in accordance with market demand.

31 UMTS is a variant of the 3G services using the W-CDMA technology that is adopted mostly by European network operators.

platform (*See* Appendix 6 for a brief discussion of the technological development Qualcomm has made in this direction).

EP4a: *A knowledge-creating company institutionalizes structures and processes for supporting and motivating the growth of others engaging in the creative actions that the company promotes.*

Consistently sponsoring the BREW as a standard application platform by investing its own resources and mobilizing its network of business partners, Qualcomm resolved the problem of fragmentation to enable mobile phone application developers to achieve economies of scale as discussed in section 3. Qualcomm has also been consistent in supporting the community of mobile phone application developers with the state-of-the art technologies to enable their creative actions as Peggy Johnson, President of Qualcomm Internet Services (QIS), suggested to the community of BREW application developers in her keynote address in the BREW 2007 Conference: "We are committed to giving you the new technologies needed…In turn, we are confident that you will produce the compelling services which will keep consumers engaged and connected" (*Quoted* in Qualcomm, 2007b). The company continues to improve upon the BREW platform so that developers can take advantage of the state-of-the-art technology in their creative actions (*See* Appendix 6 for some examples).

In order to facilitate developers' creative actions using the state-of-the-art technology within the BREW platform, Qualcomm launched the BREW Developer Alliance Program (BDAP) in Aug, 2001. According to Jan Lenzy, senior director of

developer relations for Qualcomm Internet Services (QIS), this program is "meant to build a thriving developer community" by providing developers with "the access, service and support they need to meet their aggressive development timeline" (*Quoted* in Qualcomm, 2001f). In the extension of BDAP, the company also operates BREW Developer Labs throughout the world (China, England, India, Israel, Japan, South Korea, and U.S.). These labs provide developers with top-notch support facilities and access to the latest BREW-enabled handsets, software and testing tools, as well as hands-on technical support to facilitate developers' creative actions and testing their applications for compatibility. Qualcomm also has organized and maintained an independent developer relationship team within the company to provide developers with consistent and consolidated on-line and off-line technical and marketing support.

As noted earlier, Qualcomm protects its intellectual properties put forth by its employees without any compromise. To Qualcomm, such aggressive protection is essential for attaining adequate financial rewards for its employees' creative achievements. For smaller firms, however, protection of intellectual property is a challenging and expensive proportion (Lanjouw & Schankerman, 2004). Qualcomm has extended the same uncompromising stance in promoting and protecting application-developers' creative actions, thereby preventing their revenue losses as a result of piracy.

Once applications are deposited into Qualcomm's centralized BREW Distribution System (BDS) (*See* Appendix 4 for a brief discussion of the operation of the BDS) that takes care of distributions, marketing and sales of applications, the company *protects* BREW developers' rights to their creative achievements from any infringements,

and guards against the use of them without offering adequate financial returns to developers for their creative achievements.

Through the operation of the BDS, the company also makes sure that developers receive the highest possible financial reward for their creative achievements based on usage regardless of where in the world their applications are downloaded and used by end users. Qualcomm ensures that developers receive the wholesale price of an application, or 80 percent of a retail price, that developers set on their own for the sale of an application anywhere in the world. Application developers, thus, have perfect freedom to set their own prices for their applications and receive 100 percent of what they ask for – i.e., the company allows developers to adjust and negotiate the wholesale price with network operators depending on market demand while providing developers with detailed data covering such information on usage and popularity of their applications among end users.

Although globalization provides enlarged market opportunities, internationalization in general, and the establishment of international partnerships, in particular, are often challenging and costly for smaller firms (Karagozoglu & Lindell, 1998). By operating the previously noted BREW Global Publisher (BGP) program since 2003, Qualcomm also supports the expansion of application developers to markets around the world through partnerships with network operators. Additionally, in combination with BDS, Qualcomm strongly protects the intellectual property of developers and collects all payment for the use of their applications across the national borders (e.g., *See* the statement of Park Seung Jin in section 3); thus assisting developers in realizing most aspects of their creative achievements.

According to Eisler, competition in partnership-oriented systems is "achievement-oriented competition, spurred by seeing another's excellence, rather than the brutal competition designed to humiliate, destroy, or put an opponent out of business encouraged by the domination system" (Eisler, 2007: 115).[32] With the previously noted BREW Award Program, Qualcomm has promoted such achievement-oriented competition among developers in order to *motivate* them to *push* their limits in creative actions using the technology (i.e., BREW) that the company provides (Marek, 2007). Developer's pursuit of excellence in turn has pushed the technological limits of the BREW and provided Qualcomm with the directions for further technological development of that platform to further enhance developers' creativity. Mike Yuen, senior director of BREW gaming and former head of developer relations for BREW, thus, comments: "the awards were intended to reward applications that pushed the technology beyond what we expected" (*Quoted* in Marek, 2007). As a result, the BREW Award Program has also served to establish a positive feedback mechanism between Qualcomm and the community of developers surrounding the development of the BREW platform.

Since its inception in 2004, the BREW Developer Award ceremony has evolved into the main event in the annual BREW Conference while the award nominees and winners are treated like celebrities throughout the conference. This ceremony has made the extra-ordinary achievements of award winning developers *visible to and recognized by* other developers and network operators. Qualcomm has further extended the visibility of award winners' achievements by utilizing the company's public mass media coverage

32 Mario Bunge (1998) advances a similar view of competition in his conception of a socio-technical system. Criticizing unbridled competition for market domination promoted by *laissez-faire* capitalism, Bunge proposed the concept of managed competition that accentuates the positive effects of competition such as individuals' pursuit of excellence through rivalry.

channels to further publicize them. Without doubt, such public visibility and wide recognition must have enhanced the self-esteem of award winners. In addition, award winners in the past have also achieved an instant commercial success because of the high visibility and recognition of their applications among network operators, which place award winning applications on the top of their application catalogue, and consequently among end users.

Qualcomm has extended the BREW Developer Award program over time by launching the Wireless Reach BREW Application Funding Program in 2006. This funding program in the form of financial assistance aims at motivating developers to create applications that can extend the use of wireless mobile communications to public service sectors such as healthcare, education, public safety and environment particularly in the context of developing countries. By providing financial support, this program promotes and enables developers to contribute to social development in developing nations with their applications, which are often neglected due to the lack of commercial value.[33]

Although the above does not provide a comprehensive list of supporting programs that Qualcomm has created and maintained for developers, the above discussion appears to provide us with sufficient empirical support for EP4a.

EP4b: *A knowledge-creating company institutionalizes supporting structures and processes in terms of clear, predictable and consistent procedures or rules.*

33 For instance, the application development team led by Dr. Arun Pande in India was awarded a grand prize in 2007 for the proposal to develop an application that would provide specific and useful advice to farmers at an affordable cost via wireless mobile communication (Qualcomm, 2007c).

Through the operation of the BDS, Qualcomm has constructed a technological platform for a *mutually beneficial partnership* among a community of developers and network operators that *supports the growth of one* another without the burden of creating or operating such a platform on their own. From the perspective of the traditional social network theory (Burt, 1992), thus, the BDS may be the technological equivalent of a network broker that establishes a tight and mutually supportive partnership between a community of network members, including developers and network operators, for their own growth in the businesses of their respective specializations.

On the one hand, BDS enables a community of developers, which Qualcomm has been creating around the BREW platform, to market their applications through a large number of network operators around the world with whom Qualcomm has forged partnerships for years promoting and operating CDMA technology. On the other hand, it also supports network operators to sustain and expand their subscriber-base and revenues by providing their subscribers with innovative applications supplied by developers. This mutually supportive partnership between the two groups of Qualcomm's business partners in turn has led to the subscribers' rapid adoption of 3G services, thereby supporting Qualcomm's own growth as well, as noted previously.

Notably, Qualcomm has constructed and maintained the structures and processes that are clear, consistent and transparent to all stakeholders involved (i.e., Qualcomm, network operators, and application developers) as well as to *outsiders* in the operation of the BDS. Taking the role of a distributor and retailer respectively, Qualcomm and network operators around the world collaborate to support the distribution and sales of developers' applications around the world. Because developers receive the entire amount

of the wholesale price of the applications they set on their own, Qualcomm and network operators practically do not impose a tax on developers for using the BDS and networks around the globe in the sales and marketing of their applications. Instead of taxing developers, Qualcomm and network operators share in the marginal revenue generated in the processes of distribution, marketing and sales of applications, which also helps to cover the cost incurred in those processes.[34] By operating the two simultaneous and independent recording systems that generate detailed usage and sales reports for developers and network operators respectively, Qualcomm also maintains the *transparency* in sharing the revenue and operations of the BDS. *Without such transparency, the company wouldn't be able to make the internal operation of BDS widely known to all concerned even to outsiders, while such publicity in turn would require the company to maintain its rules and procedures in an equally transparent manner.*

Qualcomm's transparent operations of the BDS with clear and consistent revenue generation and sharing processes and structures in conjunction with other supporting programs (e.g., BDAP, BGP, and etc.) provide application developers with clear benefits. Qualcomm, in turn, *requires* application developers to *comply with* the rules and procedures for participating in the system. The company requires a third party authentication of developers' identity.[35] Qualcomm also requires that applications be tested for compatibility and authenticated before depositing them into the BDS. On the

34 This comprises 20 percent of the retail price of an application.
35 A third party authentication service provider, VeriSign, authenticates 100 applications for $400. While VeriSign collaborates with Qualcomm for authentication, the company does not share its profit with Qualcomm. While some criticize that authentication and testing fees raise barriers to hobbyists from developing applications with the BREW, they have been also considered critical in maintaining the compatibility of applications and the stability of networks.

one hand, these two processes ensure that networks are not flooded with malwares or even viruses to harass network operators and subscribers. On the other hand, they are indispensible for protecting developers' intellectual property from piracy and modification by end users without developers' permission.

EP5: *Visibility of such predictable and consistent structures and processes induces and maintains others' commitment to the creative actions that a knowledge creating company promotes in order to amplify its internal creative actions and achieve its own growth.*

Transparent, predictable and consistent structures and processes that support developers' commercial success – i.e., taking care of all other aspects of commercializing developers' creative achievements, except for the creative actions, for the benefits of developers – have been cited as the greatest motivation for developers to commit themselves to creating BREW-enabled applications (Marek, 2003). In particular, a tight coordination of the BDS system "gives developers confidence they will get their applications out to a wide audience without a lot of hassle" says Seamus McAteer, senior analyst of the Zelos Group in the interview with Wireless Week (*Quoted* in Smith, 2004).

Attributing the success of his company to the BREW, a founder of Astute Systems Technology in India, Jay Kumar Jain, comments that: "Qualcomm's BREW platform has enabled us to significantly increase download, maximize revenue opportunities and *protect our intellectual property*" (*Quoted* in Qualcomm, 2008b). Similarly, Desai at Nick Juice Wireless, notes: "[Once deposited into a BDS]...the application is available in the BREW marketplace thus enabling our application to be

deployed by interested carriers everywhere...We can focus our business and the checks just come in....because BREW provides Juice Wireless with the necessary tools to distribute and collect revenues on carrier decks all over the world... [As a result] BREW makes it possible for a small company to be a global presence" (*Quoted* in Qualcomm, 2008c). Luis Avelar at VIVO makes a similar comment: "The BREW solution helped us to develop a competitive advantage and helped drive our data services all with low costs for deployment" (*Quoted* in Qualcomm, 2004b). "Indiagames is extremely encouraged by the success we've achieved on BREW", says Vishal Gondal, a CEO and founder of India commenting that "the BREW solution provides developers with settlement services that reduce operating expenses and provide a quick-to-market approach" (*Quoted* in Qualcomm, 2008a).

Shortly after Qualcomm commercially launched the BREW, Wayne Yurtin co-founded Rocket Mobile in mid 2001 to work with the technology (i.e., BREW). Since its foundation, the revenue of Rocket Mobile kept doubling every year. Reflecting upon his company's success in the past, Yurtin says: "We've been *committed* to BREW longer than most developers out there. It was the right bet for us back in the summer of 2001 and continues to prove to be the right decision" (*Quoted* in Albright, 2007).

As seen in the experience of Yurtin, Qualcomm's BREW has enabled a foundation of new firms and their continued growth with consistent and transparent supporting structures and processes. Nick Desai, Dan Paik and David Herman similarly founded Juice Wireless in February 2004 in Los Angels with their flagship application, JuiceCaster, around the BREW and have been committed to that platform: "As soon as we came upon with the idea for JuiceCaster, we knew we wanted to be on BREW. To

this point, JuiceCaster is only available from BREW operators and we've gained significant traction from that" (*Quoted* in Qualcomm, 2008c).

In his keynote address in the annual BREW Conference in 2007, Qualcomm CEO Paul Jacobs says: "Our vision is based squarely on the *successes we are experiencing together*", emphasizing repeatedly "innovation, execution and partnership" (*Quoted* in Ankeny, 2007). As a result of developers' commitments and their ongoing creative contributions, ABI Research (2006) notes that the BREW is leading in the revenue growth in mobile phone content and the application provision market despite the early scepticism about the future of the platform. The revenue growth in turn has enabled Qualcomm to write more than 1 billion US$ paychecks to BREW application developers (Qualcomm, 2007a). Success begets success. Visibility of the instant commercial success of BREW developers supported by Qualcomm motivated others to join a community of BREW developers to lead to the further growth of the mobile phone application market with innovative applications. The growth of the mobile phone application market also has led to end-users adoption of 3G services within the CDMA value chain as noted previously, and has enabled Qualcomm to continue to improve upon its core offer (CDMA technology) internally, and support a community of BREW developers. Consequently, application-developers, network operators, subscriber device suppliers and Qualcomm are growing and achieve their objectives that are mutually supportive and beneficial to all.

## 4.2 Implications for Constructing a Partnership-Oriented Economic System

According to our analysis, it appears that Qualcomm has constructed a partnership-oriented economic system, which also enables the company to continue to improve upon its core technological innovation and achieve its own growth.

In the present analysis, however, we relied on public secondary data only. This reliance limits us from concluding with confidence that the structures and processes, which Qualcomm has created to support and motivate the growth of developers, are indeed the external manifestation of the company's internal organizational culture that values caring.

According to Schein (1983, 1992) leaders and founders embed their personal values into the organizational culture of a company, which evolves into a dominant organizational characteristic (Levinson, 1997) in interaction with others beyond the company's organizational boundary, thereby enacting the company's unique external environment (Daft & Weick, 1984). Based on these theoretical perspectives, we can only *presume* that the leadership of Dr. Irwin Jacobs, who has been widely known for his provision of support and motivation for the growth of others in various ways, might have been embedded in the organizational culture of the company and also *extended* to the interaction with others beyond its organizational boundary to construct a unique partnership-oriented system around its core-business or its own unique external environment. Hence, further study is required to verify whether such causal link can be

established.[36] This would also allow us to verify the view of Schein (1992) that *the experiences of success* in interaction with others, in the pursuit of a company's organizational objective, based on shared values and norms among organizational members, does in turn *reinforce* the company's internal organizational culture.

Despite the above limitation, however, we may advance a few managerial and policy implications based on our observations.

**Need for Centralized Supporting Structures and Processes.** Qualcomm appears to have constructed what Moore (1996, 2006) refers to as a business ecosystem through the establishment and maintenance of mutually beneficial partnerships with a large group of others around its BREW platform. Moore (2006) argues that a business ecosystem is gaining ground as a third form of organization that knowledge-intensive or knowledge-creating companies construct and maintain as an important strategic instrument for actualizing the full potential of their major innovations in parallel with, and complemented by, those of partners.

The emergence and proliferation of a business ecosystem in technologically vibrant industries imply a shift from the concentration of innovations in a few large technologically intensive firms with high R&D intensity toward the decentralization of innovation. The decentralization may enhance industry-wide innovativeness by allowing the wider participation of a larger number of creative agents in the innovation processes, which may not be accomplished by large firms alone. The case of Qualcomm also suggests that successful implementation of a business ecosystem strategy requires a consistent and centralized coordination and support in order to ensure that the creative

36 Obtaining primary data through such means as interviews with internal informants in the company is required to confirm this with confidence.

contributions of individual participants are seamlessly integrated with one another for delivering a system-wide high end-user value. In addition, the case also points to the need for constructing a centralized support system (e.g., structures and processes that reward openly and optimally) enabling individual participants to continue their creative action.

In organizational science many emphasize that a knowledge-creating company needs to develop structures and processes in order to maintain the highly motivated and creative individuals within its organizational boundary. When a knowledge-creating company aspires to develop a business ecosystem as a third form of the *organization* to enhance its innovativeness, the case suggests that the company may also need to develop similar supporting structures and processes for keeping highly motivated and creative others within this system.

Analyzing a business ecosystem in terms of a platform leadership, Gusmano and Gawer (2002) argue that this leadership is the capability of a company to influence others outside its organizational boundary to innovate in the way the company wants. Yet, we often forget that it is much more difficult for a company to influence others outside its organizational boundary than the company's own employees. For this reason, we believe that the company should develop even more *robust, centralized* and *transparent* structures and processes that support the growth of others than we presently know about the operation of business ecosystems as outlined, for example, by Moore (1996; 2006)

**Partnerships between Large Established firms and Small Entrepreneurial Firms.** The empirical findings in the present essay imply a synergistic division of labour between established large corporations and small entrepreneurial firms in innovation that is based on, and promotes *mutual growth* between them. Freeman and Soete (1997) put

forth this synergistic relationship as fundamental to the dynamics of technological innovations and economic growth in the advanced learning economies in the 21st century, and call for further research in this area.

Economists characterize these advanced economies in terms of the growth mechanism that emphasizes endogenous technological change and learning as a cause of sustained economic growth (Romer, 1990, 1994). This endogenous growth mechanism requires purposeful and profit-driven actors who are willing to invest in R&D to create opportunities for producing novel products in the future (Crossman and Helpman, 1994). As Rosenberg (1994, 2000) extends Schumpeter's analysis of capitalistic economy, increasing the endogeneity of technological change appears to be the organizational innovation and the institutionalization of R&D within large corporations. Through such institutionalization, large corporations have subjugated the direction and rate of technological development under their internal innovation process. As a result of the institutionalization of R&D, technological as well as scientific development has become endogenous to economic system (Rosenberg, 2000). Accordingly, the creation of *potentials* for further economic development has become the internal function of the capitalistic economic system (*ibid*).

The knowledge spill-over theory of entrepreneurship (Acs, Audretsch, Braunerhjelm, & Carlsson, 2005) puts forth the endogenous growth theory and casts light on the endogenous creation of entrepreneurial opportunities. According to this perspective, entrepreneurial opportunities are created as a result of the incumbents' *failure* to fully exploit their own knowledge. In contrast and yet complementary to this perspective, the case of Qualcomm sheds lights on the voluntary and active role of a

technologically advanced incumbent in promoting and supporting entrepreneurial activities of others in order to achieve its own growth in the end. While a technologically advanced incumbent *enables* the creation of entrepreneurial opportunities, based on our examination, the Qualcomm case study also suggests that entrepreneurs in turn *enable* the incumbent to continuously improve upon its major technological innovation and to grow. In parallel to *a pragmatic view of generativity that we put forth in Essay Two*, accordingly, this synergistic relationship established at the strategic initiative of an incumbent to *achieve its own growth beyond its limit* may result in the endogenous technological learning process, which *builds on* and *actualizes* the full potential of the incumbent's major technological innovation. This synergistic relationship may also result in Schumpeterian view of a technological cluster around the incumbent's major technological innovation and endogenous economic growth as an ongoing reality.

**A Critical Step in a Partnership-Oriented Economic System.** Eisler (1987) argues that the industrial age has strengthened the domination orientation in an economic system (Duncan, 2007). This economic system is characterized by hierarchies of domination that perpetuate inequality in distributing outcomes of collective productions in favour of the few dominating agents (Eisler, 1997, 2007). Marx correspondingly argued that this unequal distribution is a major source of the internal contradiction of a capitalistic economy and a cause for its eventual demise; while Eisler (2007) aptly notes that communism also has espoused the domination orientation in practice and created the same internal contradiction.

Indeed, as Fombrun (1986) also notes, the sociostructure of unequal distribution within a firm has been a major source of contradiction between management and workers,

which can even lead to a breakdown in a firm and mutual destruction. Moore (1996) similarly suggests that a business ecosystem is highly vulnerable to the breakdown if its individual participants conspire against the leading firm by claiming a larger share of collective outcomes. As seen in the case of Qualcomm, therefore, institutionalizing structures and processes that enable a fair and transparent distribution of revenue in accordance with individual contributions in a collective production is important for maintaining partnerships and the integrity of the business ecosystem. Accordingly, we believe that such fair, *not* equal, distributions should be the basis of a partnership-oriented economic system, which achieves systemic and individual growth through the ongoing creation of new opportunities for its participants.

**Partnership Orientation in an Intellectual Property Business.** Arora, Fosfuri and Gambardella (2001a, 2002) put forward a view that the expansion of markets for technology is the main feature of a knowledge-based economy. This development has an important strategic implication for firms as a buyer and a seller of technology (*ibid*). In the demand side of the market, such notions as absorptive capacity (Cohen & Levinthal, 1990) have underscored the importance of firms' capabilities for acquiring and assimilating external sources of knowledge. By contrast, Lichtenthaler (2005) points out the lack of systemic research in strategies of those firms in the supply side of the market for technology.

The lack of system research may be partly because of a dominant view that a firm should find a way to commercialize its technology internally as long as conditions permit. Emphasizing the importance of R&D, for instance, Chandler (1990) argues that a firm should also engage in coordinated investment in manufacturing and marketing in

order to maximize the return to its R&D investment. Similarly, Teece (1986, 1998) argues for the importance of developing complementary assets to extract the maximum value from internally developed technological innovation. According to Teece, therefore, external commercialization of technology is an exceptional case, which occurs as a result of a firm's failure to acquire and develop complementary assets internally.

Although seamless integration of R&D with complementary assets internally may be important for a firm to extract a maximum return for its investment in R&D, it may reduce the innovative potential of the firm. In the parlance of Levinthal and March (1993), maintenance of complementary assets can potentially reinforce a firm's tendency for exploitation at the expense of its capacity for exploration. Complementary assets may also become organizational liabilities (Stiglitz & Weiss, 1981) to reduce a firm's productivity in R&D (Freeman & Soete, 1997). These observations imply that firms specialized in R&D with fewer organizational liabilities may be more efficient in the production of technology than a vertically integrated firm (Arora et al., 2001a).

Critically, firms specialized in R&D may expedite industrial evolution by lowering entry barriers in product and service markets through the providing of technology to a larger number of partner firms to maximize returns to R&D (Arora et al., 2001a). In this regard, the effects of stronger intellectual property right regimes that are necessary for the development of markets for knowledge may be *double-edged* for firms in a knowledge intensive industry (Arora, Fosfuri, & Gambardella, 2001b). On the one hand, it effectively raises the barrier against imitation to reinforce the domination of a few privileged firms with high R&D intensity. On the other hand, stronger intellectual property can also lower entry barriers by fostering the specialization of firms in R&D that

seek to provide their technology to a larger number of other firms to maximize the return to R&D.

Supported by a strong intellectual property regime, Qualcomm has deepened specialization in R&D. By freeing itself from the organizational liability of maintaining complementary assets, the company could concentrate on the progressive accumulation of technological expertise to *lead* the successive evolution of the wireless mobile communication industry.

Without a doubt, technological superiority is the foundation of Qualcomm's industrial leadership. Our case analysis, however, suggests that the technological superiority alone cannot explain the company's success. Such success requires not only an understanding of the potential of one's technology in terms of its significant customer value, but also consistent managerial effort to find the ways to actualize that potential through the establishment and maintenance of close partnerships with immediate partners (e.g., licensees) and beyond.

Teece notes that "... becoming a pure licensing company not directly involved in the production market and increasingly remote from the manufacture and design of the product can be *a risky strategy...*" (Grindley & Teece, 1997 *quoted* in Arora, et al., 2001a: 430). With that statement, Teece aptly points to the *incompleteness, or limitation,* of a company for achieving self-sufficient and independent growth through licensing. According to the classical thinkers such as Durkheim (1984), however, the same *incompleteness* of a company creates a need for establishing and maintaining a co-operative division of labour with others that can enable the company to grow through further development of its specialized competence. Eisler (1997, 2007) adds to the

perspective of Durkheim that establishment and maintenance of such a co-operative division of labour with others should be also based on caring. In other words, caring is a distinctive attribute of a partnership-orientation that is required for establishing and maintaining the co-operative division of labour with others.

As seen in the case of Qualcomm, correspondingly, a partnership-orientation may be an adaptive strength that a licensing company needs to cultivate for achieving sustained growth in the face of its incompleteness. Accordingly, the case of Qualcomm has led us to believe that an intellectual property right *per se* does not necessarily lead to, or strengthen, a domination orientation in an economic system as some argue (e.g., Martin, 1998). By promoting the specialization of firms in R&D constrained by their incompleteness for achieving sustained growth on their own, intellectual property rights may also create opportunities, and even the need for strengthening a partnership orientation at an industry level. These firms, as Eisler conjectures and the case of Qualcomm suggests, can establish and maintain co-operative divisions of labour with others for their own growth only through caring for the growth of their business partners, and a corresponding transparent and fair distribution of productive outcomes derived from such divisions of labour.

## V. Conclusion and Future Research

One of the greatest virtues of a case study may be that it enables a researcher to "'close in' on real-life situations and test views directly in relation to phenomena as they unfold in practice" (Flyvbjerg, 2006: 235). Following that suggestion, we have sought to

understand how some of the theoretical patterns we had explored in the previous essay unfold in practice by investigating an industry-wide partnership led by Qualcomm.

Eisler (2007) conjectures that we are at a historical junction for reconstructing the partnership-orientation toward further advancement of a post-industrial knowledge-based economy. In resonance with our perspective in essay two, Eisler suggests that caring is a key attribute of a partnership orientation that enables one to establish a relationship for the mutual growth with others. Accordingly, caring is the basis of a partnership-oriented post-industrial economic system, which achieves its systemic growth through a collective and cumulative knowledge creation process for producing novel products and services with novel end-user or customer values.

Based on our in-depth study and observation, Qualcomm appears to have constructed a partnership-oriented economic system in the wireless mobile communication industry. This system enabled Qualcomm to achieve its own growth by supporting others' creative actions for their own growth, which in turn amplify the value of the company's internal creative achievements by actualizing their full potential in terms of their enhanced end-user value. Creation and maintenance of that system required the company to construct structures and processes that ensure the growth of others who engage in creative actions complementary, if not necessary to, the company's growth which it would promote. Without such structures and processes, the company might not have been able to establish and maintain a partnership with a large group of application developers whose creative achievements enable the company's own growth in the end.

Beveridge (1951: 60) in his *The Art of Scientific Investigation* notes: "More discoveries have arisen from the intensive observation of very limited material than from

statistics applied to a large group." In a similar manner, Flyvbjerg (2006: 235) notes: "The proximity to reality, which the case study entails, and the learning process it generates for the researchers will often constitute advanced understanding."

Correspondingly, the present case study not only did enable us to understand the true operations of the theoretical patterns derived from the previous essay within a company's unique business context, but also forced us to further contemplate the essential characteristics of a partnership-oriented economic system such as a fair and transparent system for the marketing of partners' innovations and the distributions of revenue, which we did not clearly know of their significance in establishing and maintaining a partnership. This unanticipated discovery enabled us to add further criteria for making a sharp distinction between a domination-oriented system with its corresponding sociostructure of unequal distribution, and that of a partnership-oriented system as an alternative for further research on this topic.

Several other unexpected discoveries, which we could not address fully in the limited space of the present essay, delighted us and encouraged further research in this case. Indeed, the case of Qualcomm is a multifaceted study involving the participation of multiple actors in different categories, and complex relationships among them spanning along and across the supply and value chain of the global wireless mobile communication industry. Accordingly, we admit that the present essay is best at providing an overview of that complexity largely from the strategic perspective of a single firm, Qualcomm, and one particular perspective derived from the foundational concept of caring underlying the theory of a knowledge creating company. In future research, therefore, we seek to decompose this complex case into smaller units, which will involve a detailed exploration

of the case from the perspectives of other participants, and reconstruction of their relationships in light of a more refined and detailed conceptual construction yet within the perspective of our previous essays.

We anticipate that future research will certainly generate further unexpected discoveries. Such discoveries would enable us to refine, or even revise, some of our current perspectives or presumptions. Based on what we have learnt so far from the case, however, we are confident to expect that further research on this case will certainly enhance our understanding about the requirements and underpinnings of constructing a partnership-oriented economic system beyond what we know today.

We acknowledge that the notion of a partnership-oriented economic system and its proposed significance as an organizational, structural, and even a system-wide instruments for advancing further a post-industrial knowledge-based economy require further refinement in terms of the system's key attributes in their relations to the foundational notion of caring, on which this system would build. At the present embryonic developmental stage of this emerging perspective, we agree with Eysenck (1976) that we have to simply open our eyes wide and look carefully at individual cases in the hope of further learning something, not necessarily for proving anything. Accordingly, we believe that the partnership led by Qualcomm, which involves seamless collaboration among over several thousand (or even more) interdependent firms and individuals around the world and several hundred billion dollar revenue generation opportunities, provides us with compelling grounds for such contemplative learning for constructing a partnership-oriented economic system in other fields and places as well.

# Appendixes for Essay Three

## Appendix 1: Qualcomm's Open and Universal Licensing

Qualcomm licenses its technologies to any subscriber device maker including direct competitors on an equal basis in licensing terms. As a result of this open and universal licensing practice supported also by the supply of chipsets, Qualcomm has managed to induce more than 145 manufacturers into the CDMA based handset market. Naturally, the level of competition in this market has intensified as a result of a high level of market entry. The increasing competition in turn resulted in continual and fast reduction of *entry level* CDMA based subscriber device prices – while 14 vendors offer 56 entry level 3G CDMA based handsets, which include 29 BREW enabled handsets, at a price lower than $50 per unit as of 2007; one of them offers the lowest price of 3G BREW enabled handset at $20 (Qualcomm, 2007d).

The rapidly declining prices of CDMA based handsets as a result of competition may be compared with relatively high prices of subscriber devices based on competing air interface standards such as GSM, and W-CDMA. The relatively high prices of GSM and W-CDMA subscriber devices, which also explain the slow consumer adoption of the 3G wireless mobile service based on W-CDMA, are largely due to the high royalty rate. In the GSM based device market, large vertically integrated manufacturers such as Nokia, Motorola, and Ericsson are major holders of patents. These major patent holders of GSM air interface standard have been cross-licensing with one another to reduce the cost of R&D, and potentially for intellectual property right infringement disputes among them. Yet, these major holders also have collectively created high royalty rates for new entrants with limited or no patent portfolios, erecting a high entry barrier.

Recently, therefore, research conducted by ABI (Pandey & Carlaw, 2007) discovered that new entrants into the GSM based handset market must be prepared to pay up to 28 percent of their revenue as a royalty to major patent holders as a result of "royalty stacking" – i.e., accumulation of royalty payments to multiple patent holders, each charging a separate royalty for its share of patent pool covering the GSM air interface standard. As a result, fewer manufacturers could enter into the GSM based handset market than those into the CDMA based handset market. Consequently, the GSM handset market has been dominated by few holders of important patents, which have created a complex maze of cross licensing arrangements among them. According to the director of wireless research in ABI Research Stuart Carlaw, briefly states, "the extremely opaque environment for royalty negotiations" lacking a "solid understanding of what can be considered 'Fair, Reasonable and Non-Discriminatory' terms" (*Quoted* in Kowalke, 2007) has resulted in a higher royalty rate in the GSM market than in the CDMA market especially for new entrants. The same problem still persists in the evolution from the 2G GSM to 3G W-CDMA subscriber handset market dominant in Europe, resulting in a higher royalty rate for W-CDMA subscriber devices (9.4 percent on average) than a flat rate of 5 percent for CDMA devices to create "a challenge to the development of more affordable devices for the world's mobile consumers" (*ibid*).

**Appendix 2: Open Standard and Fragmentation of J2ME**

J2ME is an open standard – i.e., a standard is established through open participation of any interested parties in the committee called, the Java Community Process (JCP) that also discusses and revises licensing terms.[37] The establishment of a standard through the open participation, which requires consensus among multiple participants with different interests and objectives, was a very slow process. The slow standardization process in turn impeded the upgrade of J2ME.

Impatient with the slow upgrade of standard J2ME, device makers kept introducing their own proprietary extensions of MIDP as well as SDKs for developers to surmount limited capabilities of the standard J2ME, which restricted device-makers' product development in the face of a short subscriber device life cycle. These independent developments implemented by device makers have resulted in fragmentation and prevented the interoperability of J2ME applications (Charny, 2005). The problem of fragmentation exacerbated the problem as some network operators also created and implemented their own extensions. As a result, an application offered in one network does not run in the same way in another network even though subscribers use the same handset. As a combined result of these independent developments, Eric Chu, senior director at Sun Microsystems had to admit that "WORA may never be fully realized" in an interview with CNet in 2005 (*Quoted* in Charny, 2005).

Of course, there were several efforts to resolve the problem of fragmentation. In 2004, for instance, Sun Microsystems supported by Motorola, Nokia and Sony Ericsson launched a Java Verified program to certify mobile phone applications that can run on multiple devices (Shankland, 2004). Later Sun Microsystems *offered open source codes of J2ME* (Howorth, 2006) to developers in order to expedite the development of the software in response to the argument of Motorola, Nokia and IBM that a root cause of fragmentation was a slow upgrade of the software with limited capabilities (Wireless Watch, 2006).

Despite several efforts, however, fragmentation persisted, and eventually forced Sun Microsystems to bid *adieu* to J2ME in October of 2007 (Shankland, 2007). Sun Microsystems proposed J2SE designed for PCs with more advanced basic functions as an alternative to J2ME. The company also implied that it would regain control over the development of the software to counter the problem of fragmentation contrary to the company's previous strategy, which favours open participation for the mobilization of vast creative resources (*ibid*).

**Appendix 3: High Upgrade Cost for the Implementation of 3G based on W-CDMA**

In the late 1990s members of the European Union agreed to allocate 2.1 GHz frequency band for 3G wireless mobile communication. In addition, the participating vendors such as Nokia, Ericsson, Alcatel, and Siemens in a working committee at the EU level also agreed to use the W-CDMA standard because "its CDMA core utilised spectrum more efficiently than any GSM-derived standard could at that time" (EIU, 2003). Following that agreement, the working committee "mandated that new spectrum licensing requires the W-CDMA standard" (*ibid*).

37 Visit http://jcp.org for more information on standardization and licensing processes.

The decision looked rational from a technological point of view. However, the use of new spectrum and air interface required network operators to commit a huge investment for the provision of 3G wireless mobile communications. The spectrum auction was highly inflated. Network operators in Europe as a whole spent about 100 $US billion to license spectrum for 3G service (EIU, 2003). Because W-CDMA is incompatible with the TDMA based GSM air interface standard, furthermore, GSM based network operators have to build entirely new infrastructure and competencies for the provision of 3G wireless mobile communication services. As a consequence, the fixed cost that GSM based network operators have to invest for the provision of 3G service skyrocketed. Because of the slow and uncertain standardization of the new air interface specifications, equipment and device-manufacturers hesitated to make investments for the supply of W-CDMA air interface network equipment and subscriber handsets. This in turn slowed down the provision of 3G service based on W-CDMA air interface while network operators were striving to pay off the high spectrum licensing fee.

**Appendix 4: BDS and Fair Share of Rewards**

According to Qualcomm, BDS is designed to establish "a well developed business model for revenue sharing along the entire value chain" (Qualcomm, 2003b: 1) involving creation, distribution and sales of application, billing and payment. Within this system, Qualcomm takes the role of a distributor of applications submitted by application developers while network operators are retailers, which make profit from the sales of the application purchased from the distributor (i.e., Qualcomm). Stated otherwise, network operators provide outlets for BREW applications distributed by Qualcomm on behalf of developers, and make profits through the retailing of those applications.

In this system, applications submitted by developers are tested and stored in a repository called the Unified Application Manager (UAM) managed by Qualcomm. In that process, Qualcomm has mandated an application certification program to make sure that networks are not flooded with malware. UAM also stores the data containing a price plan, which includes the Developer Application Price (DAP), or a *wholesale* price for the application. The UAM operates as a virtual market place wherein network operators select & acquire applications deposited by developers, and make their own catalogues of applications to be deployed in their networks using the BREW Carrier Extranet. In that process, network operators set up retail prices of applications to be included in their catalogues, but they cannot change DAP set by developers. Once the catalogue editing is complete and is activated, selected applications are transmitted to the operator's Application Download Server (ADS) installed close to the operators' networks. Operators often give a unique name to their ADSs, such as KTF's Magic-n-Multipack ™ and Verizon Communications' Get It Now™. End-users then can access the network operator's catalogue and purchase applications with BREW enabled subscriber devices. Once the transaction is completed, the ADS sends the transaction records to the transaction manager (TXN), managed by Qualcomm. The TXN accumulates the transaction records collected from the ADS and converts them into a usage report containing such information as subscriber ID, time stamp, event type, developer name, DAP and retail price of applications. The usage report is sent to operators periodically (e.g., every 30 minutes). Qualcomm also uses this report to create an invoice to network

operators, charging fees due to application developers. Qualcomm then collects the payment from network operators and writes checks to developers also with the same usage report sent to network operators.

When a purchase of an application is made by an end user within this system, developers receive the DAP, which they set up in the submission of the application, out of the retail price the end user pays to the network operators. The profit made by an operator in a retailing application is then shared with Qualcomm for the service the company provides in the management of the distribution system. As of today, the DAP makes up 80 percent of the retail price of applications. In other words, developers take 80 percent of the total revenue generated in the value chain involving the creation, distribution, and sales of applications to end users.

**Appendix 5: CDMA in the World Today**

As of September 13 in 2007, 488 million subscribers served by 403 network operators in 135 nations have adopted 3G services. 213 network operators in 94 countries provide 3G services to 285 million subscribers using Qualcomm's CDMA 2000 1X technology. In addition, 86 network operators in 50 nations serve 68 million subscribers using Qualcomm's more advanced CDMA 2000 1X EV-DO technology. The provision of 3G services to these 353 million subscribers is supported by 64 and 31 device makers, which respectively supply CDMA 2000 1X and CDMA 1X 2000 EV-DO compatible subscriber devices using Qualcomm's proprietary technologies and chipsets. The remaining 135 million 3G subscribers are served by UMTS technology. Because UMTS is based on CDMA, Qualcomm also possesses a significant share of royalty for patented technologies that are essential for the implementation of 3G services using UMTS technology. To what extent Qualcomm has contributed to UMTS technology, however, has been the greatest source of contention for the royalty payment issue between Qualcomm and major supporters of UMTS including Nokia (Source of Data: 3GToday.com).

**Appendix 6: Qualcomm's ongoing investment of creating business opportunities for its partners around the BREW platform.**

Qualcomm invested US$800 to develop Forward Link Only (FLO) mediacast technology called MediaFlo (Lawson, 2004). This new solution enables network operators to deliver simultaneously to a greater number of users a wide variety of TV-like news, entertainment and informational programming supplied by third party media corporations such as Sony Entertainment and Disney (Boyd, 2005). The company also paid US$ 57 million to acquire ELATA(Stith, 2005). This acquisition enabled Qualcomm to provide mobile content delivery software that can help network operators to consolidate all of their content services including ringtones, wallpapers, and BREW and Java streaming and OMA-compliant content using a unified delivery system. These developments have facilitated network operators' provision of high value added services such as KTF's multi-media rich application data service, Magic-n-Show™.

To support network operator's seamless provision of multimedia rich content to subscribers, Qualcomm has continued to enhance multimedia capabilities of its chipsets in addition to the data communication capacity of a modem component. The company

collaborated with Technicolor and ATI Technologies to develop image compressing technology and 3D graphic solution respectively. The company also licensed audio/video codecs from RealNetworks and Mobile SVG Tiny technologies from BitFlash. The company then selectively incorporated these multimedia capabilities into the company's families of chipset product lines to facilitate subscriber device makers' fast development of a broad range of new subscriber devices. At the same time, the company worked hard to integrate key component devices (e.g., a modem processor and application processor) into a single chip. This effort was culminated in the introduction of Convergence Platform chip in 2004, which integrates popular multimedia capabilities such as digital camera, video & sound record and playback, 3D graphics acceleration for gaming, a standard TV interfaces, Bluetooth, and USB function into a single chip (Qualcomm, 2004d).

The above developments in turn have created *opportunities for* application developers to create and supply multimedia rich applications and content. To enable application developers to fully realize the opportunities, Qualcomm has continued to upgrade BREW SDK. For instance, Qualcomm has been driving the introduction of 3D graphics acceleration technology into the company's chipsets. This initiative resulted in the creation of the Q3Dimension 3D solution. The new solution was integrated into BREW SDK to enable developers from the game industry to create high-value added 3D games for mobile phones (Qualcomm, 2004a). This in turn has driven demand for high-end 3D graphic enabled subscriber devices, and created opportunities for network operators to provide subscribers with novel applications.

Briefly, Qualcomm has focused on developing and acquiring technologies to facilitate the *creation*, *delivery* and *execution of* value added multimedia data applications, which, according to Dr. Paul Jacobs, will "continue to enrich the overall wireless experience for consumers" (Qualcomm, 2004c) and enhance consumers' use value of improved data transmission capabilities in which Qualcomm continues to invest for its successive generations of core offers.

More recently, the company actively participates in the development of an open source mobile phone operating system, Android, for the use in the higher end smart-phone market segment. While Qualcomm continues to sponsor BREW for general users of the mass market featuring mobile phones, the company expresses a hope that Android would serve as a catalyst for the rapid development of the application data market for the higher-end mobile device users (Zeman, 2007).

## Limitations and Future Research

In the first two essays, we sought to theoretically advance the evolutionary implications of generativity in sequential progression with increasing levels of analysis to realize the view of social evolution as cumulative and collective creative actions. We adapted a hermeneutic view of creative actions to explain such amplification of creative actions and processes with increasing levels of analysis over time. In other words, we have built upon the works of previous authors, and realized the *meaning* of their works in the context of our present theoretical development. From that perspective, the theoretical development in the first two essays was also a *hermeneutic process.*

Heidegger (1962) aptly points out that such interpretative processes are both *revealing* and *concealing* depending upon the purpose and perspective of an interpreter. Essay One offered us an invaluable opportunity to explore the foundation of a knowledge creating company, which Nonaka and Konno (1998) advanced based on Japanese philosophical tradition. In particular, we aimed at establishing parallels between the Japanese philosophical foundations of a knowledge creating company and the Western philosophical perspectives, which commonly underscore *generativity* as an enabling factor for realizing cumulative and collective knowledge creating actions and processes for creative learning. Yet, our primary purpose, and the approach we have taken to achieve such an end, inhibited us from establishing a bridge to the existent literature of learning organizations in management. This shortcoming has served as a basis for a theoretical research agenda that extends the topic of this research.

Retrospectively, our exploration of the relational basis of a knowledge creating company or, a learning organization, in Essay One and its extension in the first part of Essay Two resonate with and support Nahapiet and Ghoshal's (1998) endeavour to establish a role for social capital in accumulating intellectual capital within a firm. Specifically, our analysis of *ba* in terms of Fombrun's (1986) analytical framework would enable us to further explicate the causal link between social capital and the accumulation of intellectual capital within a firm proposed by the authors (Nahapiet & Ghoshal, 1998). Logically, such theoretical elaboration would eventually enable us to *clarify the role of generativity in creating social capital, which involves the creation and maintenance of a close network of individuals based on mutual growth and benefits among them*, to sustain the continual accumulation of intellectual capital within a firm at the end. This theoretical research will also enable us to clarify the notion of *ba* in terms of existing concepts and constructs in the received management literature to facilitate the operationalization of *ba* for both management researchers and practitioners aiming at constructing a learning- or knowledge creating-company.

At another level, the proposed research aims at advancing further an emerging view of *a firm as a social organization specialized in knowledge creation* (Kogut & Zander, 1992) within a larger theoretical context of learning- or knowledge based-economy and beyond. This emerging perspective indeed invites us to broaden our horizon in conceptualizing a firm beyond the traditional economic perspective and to explore its consequent implications for both researchers and managers. However, we believe that such a broader view of a firm is complementary to the traditional view of a firm as a social organization *specialized in creating economic wealth* as proposed by

Adam Smith (1776). In other words, we interpret that the emerging perspective seeks to underscore the role of knowledge creation or creative learning for originating and expanding the economic base, or wealth, in a firm, providing us with a more complete view of a firm than a traditional economic perspective. Accordingly, we have implicitly followed this interpretation and analyzed *ba* as an organizational structure for enabling the creation and expansion of the economic base in a firm through cumulative and collective knowledge creation. Retrospectively, that exploration allowed us to broaden our perspective of a firm to advance it as *a place* in which individual members achieve their own aspirations for personal growth while contributing to the growth of the firm at the same time. In future research, therefore, we will advance this aspect further to contribute to the debate on the ontology, or the nature, of a firm that Kogut and Zander (1996) have raised to call for expanding our horizon beyond the traditional economic perspective. As Husserl aptly points out with a term "horizon", our perspective determines our potential experience and knowledge about an object as opposed to its actual and complete state (Kurenkova, Plekhanov, & Rogacheva, 2005). Such a shift and expansion of our horizon beyond the traditional economic perspective enables us to attain a more complete view of the firm and also opens up the debate to address the organizational problems of a firm that we could not even raise within a limited view of a firm in the past. Accordingly, we also believe that such an enlargement of horizon in conceptualizing a firm, which is still in progression within management literature, will in turn provide us a suitable theoretical context for advancing the notion of generativity in the theory of a firm for its strategic implications.

In Essay Two we explored the evolutionary *progression* from *ba* to *basho*. As the term progression implies, we argued that *basho* is a theoretical extension of *ba*. In the present dissertation, however, we did not seek an empirical verification of such an extension, which would involve the longitudinal observation of sequential progression from the knowledge activist's generativity to constructing *ba* within a knowledge creating company followed by the company's institutionalization of inter-corporate *caring* for the growth of others for constructing *basho*. Although our case study of Qualcomm successfully validated our view of *basho* as the structure that a knowledge creating company constructs for creating industry level production systems (i.e., business ecosystems), by which the company would amplify its internal creative actions and processes and achieve its own growth in partnership with others, it did not directly reflect on the theoretical development that we have advanced in the first two essays. In Essay Two, we explored the roles of generativity and transformative leadership in constructing *ba*. We also suggested the extension of a knowledge activist's transformative leadership beyond the organizational boundary of a knowledge creating company for constructing *basho*.

We believe that the empirical observation of the evolutionary progression from a *ba* to a *basho* and the leadership of a knowledge activist in actualizing such a transformative process can be achieved only through direct observations as well as extensive interviews with internal informants within Qualcomm as well as external informants associated with the partners. Based on our own information, Qualcomm indeed provides us with a compelling ground to empirically verify the aspects that we may have overlooked in the present dissertation. Thus, our future empirical research

seeks to cover those potentially overlooked aspects through direct observations and interviews as well as information from the public domain to triangulate the findings. We believe that such empirical research will enable us to *refine,* or even *modify,* the theoretical patterns surrounding the evolutionary progression from *ba* to *basho,* which we have explained in terms of the sequential progression from generativity at the individual level to institutionalization of caring for the growth of others at inter-corporate levels in support of a firm's growth strategy.

## Concluding Reflection

**Increasing Domination Orientation in a Capitalistic Economy and Alienation.** The problems and limits of domination-orientation have been discussed by many authors in the past. Yet, Marx may be one of the first modern thinkers who characterized the Western civilization as a history of the competition for domination, and subsequently analyzed the increasing domination-orientation within a capitalistic economy and its consequent problem – i.e., the pervasiveness of alienation among a majority of individuals. According to Marx, this alienation arises as a result of individuals' loss of what Kant refers to as a *positive freedom to* engage in "conscious life activity" (Marx, 1844b: 8) of individuals' own will, by which they create their *essence or authenticity* (Foucault, 1988) *as a* "species-being" (Marx, 1844b: 8).

As previously reviewed in our first essay of the present dissertation, Aristotle (1962) put forth the engagement in the conscious life activity of one's own will and the pursuit of perfection in that activity as the greatest sources of pleasure in human life. Contemporary social philosopher, John Rawls (1971), advances this Aristotelian view to further argue that a *good* society should provide individuals with maximum positive freedom to achieve self-realization through the engagement of conscious life activity of their own choices. In terms of Maslow's (1971) hierarchy of human needs, thus, Rawls (1971) argues that a good society fosters and enables individuals to satisfy a *being-need*, or the need for self-realization through engagement in their favourite activities. Marx shared the same perspective and commented that: "Man makes his life activity itself an object of his will and consciousness. He has conscious life activity... Conscious life

activity directly distinguishes man from animal life activity. Only because of that is he a *species-being*" (Marx, 1844b: 8).

According to Marx, a capitalistic economy deprives a man of the positive freedom to live as a species-being that is achieved by engaging in life activity of his will and correspondingly developing consciousness through the engagement of that activity. A contemporary economist, Amartya Sen (1999), puts forth a view of *development* as enlargement of individuals' *positive freedom* to engage in life activities of their own will. In the parlance of this contemporary view of development, therefore, Marx argued that the further advent of a capitalistic economy would *regress* the development of humanity by depriving a majority of individuals of their positive freedom to live as a species-being.

Marx then tried to analyze the root cause of this problem within a capitalistic economy. From the text of Adam Smith's (1776) *Wealth of Nations*, Marx derived a definition of capital as "the *governing* power over labour and its products" (Marx, 1844a). Capitalists possess this power through ownership of capital. Smith noted that capitalists are motivated by profits *only* and their interests are often contradictory to those of a society. Nonetheless, Smith was confident about the advancement of capitalism claiming that the competition among capitalists motivated by larger profits and further accumulation of capital would eventually benefit a larger society by lowering the prices of commodities and increasing the wages of workers. Extending Smith's observation, however, Marx put forth a contradictory hypothesis that intensified competition, or what he refers to as "the *war of the avaricious*," (Marx, 1844b: 4) would lead to the accumulation of capital in the hands of a few large capitalists in the end: "the necessary consequence of competition is the accumulation of capital in a few hands and hence the

restoration of a monopoly in a more terrible form" (Marx, 1844b: 3). As a result of competition, Marx argued that the whole society would split into two classes in the end: a small number of large capitalists and the remaining majority, "propertyless workers" (1844b: 3). Abusing their increasing governing power, Marx further argued, a small number of dominating capitalists would further strengthen the sociostructure of *unequal distribution* to satisfy their ever increasing *greed* for further accumulating capital, which in turn would give them more governing power over labour and its products.

Marx put forth that a few large capitalists strengthen their domination through enforcement of property right – i.e., property right functions to strengthen the governing power of capitalists and their domination, which in turn exacerbates the problem of unequal distribution in the capitalists' favour,[38] and results in further *loss of control* in life among increasing numbers of propertyless workers. Hence, Marx believed that the abolition of property rights would put an end to the domination of capitalists, and resolve the pervasiveness of alienation in a capitalistic economy. Accordingly, Marx proposed communism, which is based on common ownership of capital, and, thus, a collective governing power over labour and its product, as an alternative to capitalism.

Marx believed that communism would enable individuals to live as species-beings. Retrospectively, however, communism in practice was far from the ideal that Marx had envisioned. Dominating groups in communistic nations have suppressed individuals' positive freedom in the name of the collective just as Marx aptly criticized that religious elites had been dominating others and alienating them from their true self as a species-being in the name of God.

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38 This perspective of Marx has been extended to contemporary critics on the social value of intellectual property rights.

**The Same Ideal of a Good Society.** We agree with Marx in his emphasis of a man as a species-being striving to actualize his full-potential in the context of his conscious life activity and attain happiness through that actualization. Retrospectively, many in the past have also sought to construct a social system(s) that would allow the largest number of individuals in a society to live as species-beings. Similarly, many contemporary authors including previously noted John Rawls (1971) and Amartya Sen (1999) similarly call for the construction of a society that can provide individuals with maximum positive freedom to live as species-beings. These authors have proposed different ways to achieve this end in the unique socio-historical contexts in which they had lived. Marx is one of those many, which includes us.

Marx believed that a structural change in a society would bring about changes in individuals who live in that society. Emphasizing an economic base in the analysis of a structural change in a society, Marx put forth that change in the economic base would result in cultural change (i.e., superstructure), which in turn would bring about change in interrelationships between individuals (i.e., sociostructure) and the characteristics of individuals in the end. Within that framework of the thoughts, Marxist activists even justified the use of coercion for constructing a communistic-type society while claiming that a communistic society would benefit all its constituents to live as species-beings in the end.

In contrast to Marx, however, we have taken an *opposite* route in our journey for the achievement of a similar end in the context of management. Instead of calling for a massive and radical structural change, we began with the attribute of human beings that may lead to a structural change in an *incremental* fashion toward a construction of a

society, in which individuals may live as species-beings and actualize their full-potential. Let us again trace that journey.

**Generativity and Human beings as an Evolutionary-being.** Inspired by Peirce's (1893a) view of *agape* as an evolutionary love, we began our journey into the forest of ideas from the notion of *generativity,* which, Erikson (1950) argues, is an important characteristic of a human being as an *evolutionary-being.* According to Erikson's epigenetic theory of individual development, generativity refers to the highest level of human development that comes after individuals' achievement of self-realization in their own terms.

A dominant value of generativity is the "care for the growth of others" (Erikson et al., 1986: 37). The generative person cares for the growth of others by sharing the wisdom and experiences that he has accumulated in the past through the pursuit of actualizing his own full-potential. In the parlance of Marx, hence, a generative person, who has actualized his own full potential as a species-being, cares for the growth of others and enables them to live also as a species-being by sharing his wisdom and experiences with them. Therefore, the notion of generativity puts us one step farther from Marx's view by emphasizing a higher level of individual development that enables and supports others to live as species-beings.

**Generativity and a Learning Organization.** Erikson (1950) puts forth that generativity elevates human beings not only as species-beings but also as *evolutionary-beings.* In the context of management, we advanced the above aspect of generativity by developing a pragmatic view of a creative and evolutionary learning organization. In that development, we emphasized the role of a far-sighted creative individual, who shares his

creative achievement as scaffolding for others to pursue their own creative actions and support them to actualize their full potential through their engagement in creative actions. We represented the individuals' desire for growth, and the generativity of a far-sighted individual for cultivating and supporting the achievement of such a desire of others, in terms of the traditional conceptions of *eros* and *agape* in the Western philosophy.

In advancing the above pragmatic view of a learning organization, we called for the *leadership* of a knowledge activist. Nokana and Nonno (1998) suggest that a knowledge activist supports and promotes creative actions of others by sharing his knowledge with them. The notion of *generativity* gives rise to this aspect of a knowledge activist. Generativity combines agency and communion with others (Erikson, 1950; Erikson et al., 1986). In parallel, a knowledge activist achieves self-realization through his own creative action and communion with others by sharing his achievement with them for their further creative actions toward the construction of *ba* within a knowledge creating company.

**A Knowledge Activist and Caring Organizational Culture.** Under the leadership of a knowledge activist, a knowledge creating company cultivates the dominant value of generativity, caring, as a foundation of the company's organizational culture. When caring evolves into a *core value* of the company's organizational culture, individual members will be able to collectively *enact* an "indwelling social milieu" conducive to knowledge creation (von Krogh, 1998). In that indwelling social milieu, individuals draw upon each other's achievements in their further creative actions, which, in turn, actualize the full potential of those achievements in terms of novel products, services, or applications with novel customer value.

The above perspectives, therefore, contrast Marx's view of individuals' work within a company and their relationships to an employer. According to Marx, a sole purpose of a business enterprise is to maximize profit and accumulate capital for the company (i.e., a capitalist) while individuals work for the enterprise only to earn a means to survive. In contrast to the Marxian conception of a company where workers are *unwillingly* engaged in *labour* in order only to earn a living, we put forth a view of a company as an existential place in which individuals actualize their full potential through engagement of creative actions. These creative actions expand a company's economic base that in turn would enable the company to support further creative actions of its employees and to provide them with the means for further advancement. This perspective, therefore, suggests a partnership between employees and employer that promotes mutual growth between them through the engagement in creative actions and provision of support for such activities respectively. This contrasts with Marx's portraits of a capitalistic business enterprise in terms of perpetual conflicts between employees and employers, which would result in the mutual destruction of the enterprise and capitalistic economy as a whole in the end.

**Caring and a Partnership-Oriented Economic System** Marx also puts forth a view that a business enterprise in a capitalistic economy is always in "the *war of the avaricious*" with other enterprises in order to accumulate further capital. Through such competition, a larger enterprise will drive out smaller enterprises, and strengthen its domination and governing power for gaining an *unequal* and *larger* share of productive outcomes to its favour. By contrast, we presented a view that an established knowledge intensive company would *provide* others (i.e., individual entrepreneurs and firms) with

opportunities for creative actions around the company's internal creative actions and processes, and, *support* them to grow. These creative actions of others in turn actualize the full potential of the collective achievements put forth by the company's organizational members, which in turn enables the company to support further creative actions of its organizational members and to generate further opportunities for others to exploit and grow. This co-operative arrangement can result in an industrywide production system, which can lead to endogenous economic growth based on mutual growth among individual participants of the system. Such institutionalized and mutually beneficial relationships seem to also explain the yet-to-be-specified inner workings of endogenous growth put forth by Romer (1986, 1990, 1994) and others (Bhaduri, 2006; Eliasson, 1991; Iyigun, 2006; Scott, 1992).

Leaving the forest of ideas that we presented in the first two essays in sequence, we have received a major intellectual encouragement and support from Eisler. In her recent book, *The Real Wealth of Nations*, Eisler (2007) calls for the collective intellectual endeavour toward construction of a partnership-oriented economic system. Eisler argues that this system motivates and supports individual participants to actualize their full potentials. Hence, a partnership-oriented economic system also aims to construct a social structure that enables individuals to live as species-beings at the end. In resonance with our perspective, Eisler puts forth *caring* as a distinctive orientation of individuals and organizations, in particular, and cultural basis, in general, that enables the construction of a partnership-oriented economic system.

Encouraged by Eisler's support, we embarked on another journey to explore whether and how the principles, which we have learnt in the forest of ideas, operate in

reality. As we have briefly reported in our third essay covering the case study of Qualcomm, the journey convinced us of the effectiveness of a partnership-oriented economic system, and justified further our exploration of aspects of a partnership-oriented economic system in general, and those related to caring as a cultural value that supports this system, in particular.

**The Essence of Our Contribution/ Toward a Construction of a Partnership-Oriented System.** Eisler (2007) argues that a partnership-oriented economic system would institutionalize "hierarchies of actualization" in various levels of social structures. Eisler proposes hierarchies of actualization as distinctive characteristics of a partnership-oriented economic system, which would replace the "hierarchies of domination."

According to the perspectives we have presented in the present dissertation, a key premise for understanding this critical aspect of a partnership-oriented economic system may be a view of a creative action as a process of actualization in two significant senses: *1) actualization of the potentials of objects inherited from the past and 2) actualization of the potential of an individual through the engagement of such creative actions for his advancement and for the benefit of others.*

From the above premise, we have suggested that a far-sighted creative agent promotes creative actions of others and supports *actualization* of their full-potential through creative actions that in turn *actualize* the full-potential of his creative achievement. Similarly, we further elaborated theoretically and empirically verified that a knowledge intensive firm promotes growth of others through creative actions that in turn *actualize* the full potential of the company's major technological innovation. Consequently, the explorations in the present dissertation lead us to suggest that further

elaboration on productive and collaborative inter-personal and inter-organizational relationships *derived* from a view of creative action as a process of actualization in two significant senses may constitute the key to understanding the notion of the "hierarchies of actualization." We also believe that our emphasis on creative action as the basis for understanding the notion of "hierarchies of actualization" supports the significance of a partnership-oriented economic system as an organizational instrument for advancing further the post-industrial knowledge-based or learning economy. In such an economy, the endogenous growth mechanism may become an ongoing reality as opposed to occasional events as a result of spill over.

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