



HAL
open science

The conflict between U.S. patent protection and technological innovation

Wade M. Chumney, David Wasieleski, E Günter Schumacher

► **To cite this version:**

Wade M. Chumney, David Wasieleski, E Günter Schumacher. The conflict between U.S. patent protection and technological innovation. *Business and Society Review*, 2017, Volume 122 (Issue 4), pp.531-555. 10.1111/basr.12130 . hal-01768893

HAL Id: hal-01768893

<https://hal.science/hal-01768893>

Submitted on 28 Jun 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**The Conflict between U.S. Patent Protection and Technological Innovation:
Analysis and Problem Solving by Means of the Integrated Causal Model for Innovated
Ethic**

Wade M. Chumney, J.D., M.Sc.*

wade.chumney@csun.edu

Assistant Professor of Business Ethics and Law
Nazarian College of Business and Economics
California State University, Northridge

David M. Wasieleski

wasieleski@duq.edu

Associate Professor of Management

Duquesne University

and

Affiliate Research Professor

Cerefige, ICN Business School

Nancy-Metz, France

E. Günter Schumacher

gunter.schumacher@icn-groupe.fr

Associate Professor of Political Economy

Cerefige, ICN Business School

Nancy-Metz, France

**The Conflict between U.S. Patent Protection and Technological Innovation:
Analysis and Problem Solving by Means of the Integrated Causal Model for Innovated
Ethic**

ABSTRACT: Criticisms of patent laws for technological innovations in the U.S. reveal a multi-faceted milieu of problems centered around the protection of short-term economic gain and individual property rights. In this paper, we consider this a conflict between current patent laws and the innovation capabilities of organizations. We propose a solution that enables the company to assure its *long-term survival* in the face of these restrictions. This presumes that the firm will at least maintain its *innovation capacities* while preserving the company's ethical values and those of its social environment. We offer a theoretical model that is designed to help managers and policy-makers reorient their governance strategies for managing the innovation process, using the "ethics of responsibility," which establishes the link to individual moral values at the beginning of a governance process as well as the consequences of a decision. Our Integrated Causal Model of Ethical Innovation for patents is presented and implications for global organizations and possible solutions for patent law process failure are offered.

KEYWORDS: Patent Law, Innovation, Integrated Causal Model

Are we entering a crisis of technological innovation? *The Economist* has reported that in the coming decade the rate of innovation may actually slow globally despite an increased rate of social and technological acceleration (January 12, 2013). While there are numerous reasons cited for this phenomenon, there is a growing concern among intellectual property scholars and business practitioners that existing patent laws actually inhibit technological innovations, which runs counter to the very purpose of patent systems (Thomas 2008). Google's Senior Vice President of Corporate Development and Chief Legal Officer, David Drummond, stated that the current patent system will curb his company's ability to innovate (Greene August 3, 2011). Criticisms of patent laws for technological innovations reveal a multi-faceted milieu of problems centered on the protection of short-term economic gain (Shu 2012). While attempts to reform patent laws have been undertaken (the Leahy-Smith America Invents Act), further proposals may place innovation at risk. In this present paper, we consider this a conflict between current U.S. patent policies and the innovation capabilities of organizations.

In the United States, the number of filed patents in their respective patent offices has increased dramatically since 2000 (Rentocchini 2010). However, this increased filing of patent applications should not be confused with increased innovation in the U.S. Economy. As Boldrin and Levine note:

The case against patents can be summarized briefly: there is no empirical evidence that they serve to increase innovation and productivity, unless productivity is identified with the number of patents awarded—which, as evidence shows, has no correlation with measured productivity. This disconnect is at the root of what is called the “patent puzzle”: in spite of the enormous increase in the number of patents and in the strength of their legal protection, the US

economy has seen neither a dramatic acceleration in the rate of technological progress nor a major increase in the levels of research and development expenditure (Boldrin and Levine 2013).

In general, laws embody ethical norms and establish the rules upon which business is expected to operate (Carroll 1979: 500). Consequently, law can serve as a referent institution to society's consensual moral norms (Christensen 2007: 456). Intellectual property laws embody societal norms within the domain of *innovation* and the world of business. As legal systems always reflect a specific national or international culture with its moral value system, it seems to us evident that this conflict implies also an ethical component. So the current US patent law appears to reflect a societal value system or, to be more precise, a balancing/weighting of societal ethical values, which manifestly is no longer compatible with the property of today's technological innovation. This conflict between current US patent law and technological innovation illustrates for us one of numerous cases of apparent innovation-ethic incompatibility. This incompatibility is neither of a general nature nor is it a permanent fact, which has been recently shown by Schumacher & Wasieleski and their Integrated Causal Model (ICM) on ethic and innovation (Schumacher&Wasieleski 2013). In this paper we will apply this ICM-model, initially developed for the analysis of decision-making in organizations (meso-level), to the level of society (macro-level) with its typical decision makers (politicians, legislators, judges, etc.). This adaptation will include a stronger focus on the dynamic potential of the model, which not only reveals compatibilities and incompatibilities in this field, but also analyzes the genesis/evolution of the problem and the solutions proffered for the future.

In order to understand the ICM, its adaptation to the macro-level, and the particular issue of patents on technological innovation, it is necessary to clarify some terms. At first we will

distinguish the definitions of “ethic” and of “ethics”, which form the base of our analysis. *Ethic* will be referred to as a system of moral attitudes and behaviors encompassing concepts, standards and rules which find their expression in informal elements of organizations (customs, manner, tradition) as well as in formal, written elements of organizations (codes, laws, contracts). In effect, ethic is another term for a moral system. Adopting this perspective it becomes evident that patent laws also reflect the ethical values system of a particular society. *Ethics*, on the other hand, will be referred to as a systematic, conceptual way of thinking on an ethic, which may be realized descriptively or normatively and which is predominantly carried out within an academic discipline (i.e., business ethics).

Another central notion refers to the concept of “innovation”. We employ this term (and its derivations) on two different levels. On one hand the term “innovation” will designate *the subject of patent law* in the form of a new process or a new product to be patented. On the other hand, we will use the term “innovation” in order to describe the *process and the result of new legislation* and to name *a rebalanced ethical value system with its underlying new justification in a form of a new ethics*.

At the macro-level, the ICM can help policy-makers analyze which innovations in legislation and their corresponding ethical justification (ethics) are necessary in order to make product and process innovation in a society that are compatible with the societal value system. Such analysis can also remove innovation obstacles rooted in a rigid, antiquated moral system. As the paper will show, modification of laws and ethics over time does not mean automatically abandoning a former ethical value mix, but can also reflect a new way to remain loyal to a “traditional” societal value system within a changing society. If the policy maker succeeds in their reform efforts, he/she will liberate the product or process innovation-projects from a rigid

ethical context, called “fossilizing ethic” in the ICM. Next, he/she will participate via legal modifications in expressing a new moral value set that is based on a new ethics, thereby creating an “innovated ethic”. At the end, of this reform process he/she permits the realization of the initially blocked product or process innovation, so that this innovation cannot only emerge, but also be compatible with the ethical value set of the society. This innovation is known as an “ethical innovation” in our ICM-model. The “innovated ethic”, which will provide the solution for the conflict between U.S. patent law and technological innovation, encompasses two levels: a) the modification of law (factual level) and b) the modification of the justifying ethics (conceptual level).

Our theoretical model is designed to help managers and policy-makers reorient their governance strategies for managing the innovation process. It further explains under what conditions innovation with a solid ethical substrate is likely, and under what conditions it is not. Ethical innovation refers to the *duality* of a corporate innovation outcome-orientation coupled with institutionalized ethical control mechanisms. Firms that demonstrate this combination of outlook and process are more likely to enable long-term innovations. Since our model analyzes the relation between *ethic* and innovation, the solution to the aforementioned conflict requires an empirically oriented observation of ethic-innovation links, as well as a tool for choosing a specific theoretical ethical framework— an *ethics*—which would then permit us to elaborate on an ethically based solution for the managers. Such an ethics should – in order to take into consideration companies that interact with both the private and societal spheres - encompass all three levels (individual, corporate, society).

Our analysis of the “patent-versus-innovation” problem would be incomplete if one dimension, already strongly underlined in the Integrated Causal Model and included in the

concept of responsibility, would be neglected: the *dimension of time*. It is assumed that firms must innovate in order to survive. Indeed, the firm's survival objective, resulting from a long-term orientation, and the immediate consequences associated with responsibility all imply the existence of a temporal component. As developed later in this paper, the proposed legal reform will focus on the *time dimension*, as there is no doubt that our stated patent/innovation problem is also due to incongruent time periods: the short life cycle of some type of innovations and the long duration of patents in global companies. In order to address this time dimension adequately within the discussion of a potential law reform (factual level of the innovated ethic) we will refer to Hartmut Rosa's Theory of Acceleration (2009). This theory offers the possibility of distinguishing between the *time factor* and the *ethical factor* as the two main causes for the current patent/innovation problem. Ontologically, this fits nicely with our Integrated Causal Model (ICM) for Ethical Innovation.

Concerning the conceptual level of the innovated ethic, i.e. the question which *ethics* is the foundation of the U.S. patent law system and to which degree a new ethics is necessary to justify legal modifications, this paper will show how a certain balance of deontological and utilitarian ethics has created an historical value-mix (property rights and common good). The *ethics of responsibility* could provide an updated ethics for legal modifications in U.S. Patent law. First formulated explicitly by Max Weber (1947), and more recently reformulated and linked to the environmental challenges of the twenty-first century by German philosopher, Hans Jonas (1984), the ethics of responsibility does not limit its approach to the element of duty, but takes the consequences of a decision as the final evaluation criterion for an ethical success or failure. Thus, it allows analysis beyond the sterile opposition between deontology and consequentialism. In his 2009 Society for Business Ethics Presidential Address, Rob Phillips

asks the business ethics field to reconsider issues related to responsibility in organizations (Phillips 2010). He acknowledges that social controls are useful governing mechanisms, “particularly where legal controls are ambiguous or ineffective” (541), which we argue is true for current patent protections.

The structure of the paper is as follows:

We begin our discussion by first introducing the ethics of responsibility which will serve as the normative foundation of our argument related to the revision of the patent law process. Then, this ethics is discussed in the context of intellectual property issues. This includes a discussion of the foundational values underlying the U.S. patent system (conceptual level of current ethic in this field). We will show that the ethics of responsibility can be realized pragmatically in patent law applications. This transitions into a specific discussion of the ethics behind patent processes for corporations. Given our argument’s emphasis on the time dimension related to long-term ethical innovation, the concept of time in modernity is presented (factual level of the innovated ethic). Finally, once all of these elements are laid out, our Integrated Causal Model of Ethical Innovation for patents is posited. Implications for organizations and possible solutions for patent law process failure are offered.

Ethics of Responsibility

Business ethicists have been conflicted for years about what ethical standards to apply to organizations conducting their operations globally (Brenkert 2009). Twentieth-century French philosopher, Jacques Maritain, makes the distinction about how philosophers classify human beings in terms of understanding what constitutes people, and how they behave (1947/1962). Persons are conceived in a Kantian or Descartes-ian sense in that they are treated as ends in

themselves, and never as means to an end. This approach, however, discredits “the realistic and teleological notions of human nature” (Acevedo 2012: 199). We advocate a duality approach to the management of patent laws for intellectual property, which aligns an ethic of responsibility with both teleological and deontological decision criteria. We agree with Maritain to the extent he says that business ethics should be “a practical science that aims at procuring man’s unqualified good...and the common good” (Maritain 1962: 196). The common good affirms the private good rather than precluding it. It is our hope that business ethicists and legal scholars alike will focus more heavily on the pragmatic portion of the intellectual property debate. In terms of digital technology, in particular, “it is especially critical to re-examine the underpinnings of the moral legitimacy for intellectual property protection” (Spinello 2003: 2).

Hans Jonas (1974, 1984) calls for an imperative of responsibility to address modern problems associated with technological development and accelerated change. He notes that, “Science confers to man previously unknown forces, the economy constantly pushes forward in an unbridled impulse” (1984: 10). He emphasizes that straight deontological or teleological ethical theories are no longer sufficient for determining what is ethically desirable conduct. Instead we must take a perspective of responsibility for the long-term effects of our decisions within interpersonal relationships and beyond. The ethics of responsibility suggests an imperative to human existence: to lead a life that is worthy of being called ‘human’. Jonas calls for “a uniform theory of being” which rejects the dualistic ontology that dominates moral philosophies (1984: xxiii).

This notion of an ethics based in responsibility can be linked to Emmanuel Levinas’ work (1981/2006). He called for a realignment for business ethics, one rooted in a responsibility to be ethical. “Levinasian moral philosophy calls for a business ethics that is conceived not as a

corporate commitment but as an individual practice of responsibility by the agents of management towards the Other...” (Bevan & Corvellec 2007: 208). In other words, being ethical requires a duty to others. This duty originates outside of the self and depends on humans’ ability to develop ethical relationships. To Levinas, current approaches to ethics are insufficient for resolving business ethics problems.

Similarly, to Jonas, previous conceptions of ethics leave humans unprepared because the horizons of time and space are changing at an accelerated pace (Bernstein 1994). Since Jonas’ motivation for focusing on an ethics of responsibility is due to the observed accelerated pace of technological development, we feel his arguments are particularly relevant to a discussion about patents for innovation. Jonas claims that ethics needs to be grounded in metaphysics by rite of the knowledge and power humans possess over each other and to future existence (1984). This implies a long-range perspective on survival. It is noted that the responsibility transforms over time due, in part, to the acceleration of technology, and by consequence, social change.

In our paper we posit that it is possible to overcome the inherent dualism between the two categories (deontological and teleological) of ethics theories by means of the concept of responsibility without a compulsory metaphysical grounding of this concept. As with other universal moral values (e.g., liberty or justice), responsibility can be shared as a global reference without mandating an a priori consensus concerning its form of philosophical or metaphysical grounding. “Traditionally, deontology and utilitarianism are seen as competing theories of ethics...” each proposing a greater value than the other for solving society’s challenges (Brady & Dunn 1995: 386). Utilitarians believe in the supremacy of the ends sought in a decision over the means it took to make that decision (Cody & Lynn 1992). Consequentialists approach ethics in terms of “the empirical consequences to society” (Lewin 2007: 443). Some ethicists see a heavy

utilitarian bias in economic activities (Etzioni 1988), and claim there should be a more useful and realistic approach to making ethical decisions in business and public policy (Resnik 2003, Phillips 2010). By the same token, an ethical system that is based solely on the respect of human rights (we see this through the Fair Information Practices Principles in intellectual property discussions) can lead to a never-ending discourse about which conflicting rights should take precedence across varied situations. These discussions also often are confounded with too much subjective preference (Acevedo 2012: 210).

In this present paper we suggest there be reconciliation between a concern for universality of principles (i.e., a true focus on responsibility), and the common good. Only then can policy makers make informed best judgments for society when faced with real situations (Melle 1998). As we have mentioned, the current patent system is out of balance. In dealing with this issue, it is crucial to balance incentives to initial innovators against incentives to follow-on innovators. Although the point deserves further study, experience suggests that this balance is currently weighted too much in favor of the initial innovator. The problem is likely to become increasingly serious in biotechnology and computer software, where the practical limit on claim breadth “seems to be only the imagination of the claim drafter” (Barton 2000: 1934). In other words, it provides excessive incentive to IP inventors by granting too much temporal protection for the actual creation. Benefits to society are largely overlooked in this case. However, focusing too much on an open access solution may stifle innovation. Currently, the length of time granted to patent protection is not functioning effectively, and the length of time policy makers are granting innovators has increased since the inception of the patent right (Atkinson & Ezell 2013). This has led to the enclosure movement in intellectual property rights discussions. This is when “a lengthy proprietary right is assigned to an intellectual work or some other form

of common property so that it becomes unavailable to the public” (Spinello 2003: 1).

Hypothetically, if this protection lasted indefinitely, society would not benefit in that fewer innovations are likely to take place.

Individuals’ decisions have consequences that often span a longer time frame and across a greater number of stakeholders. Jonas believes that reframing modern moral issues in terms of responsibility addresses the changing scope of decision-making. For Jonas, responsibility is not defined by a person’s behavior and the consequences that are generated by that behavior, but by something that causes an appeal in the person (or group) with the power to make the decision (Melle, 1998). However, within his concept of responsibility, Jonas makes a clear distinction between formal and substantive responsibility. Formal responsibility involves being accountable for one’s actions, in a descriptive sense. No value judgment is made. With substantive responsibility though, humans “are responsible for the caring or preservation of some object” (Bernstein 1994: 840). The implication is that people have causal power over the world through, in part, the technological tools they create, which have long-term consequences to humanity. This notion, in particular, is relevant to patent protection. In the next section, we discuss the ethics of responsibility across levels of analysis in order to identify the place of the intellectual property debate within this specific type of ethics.

Ethics of Responsibility and its Interacting Levels

The ethics of responsibility interacts at three levels. There is an over-arching normative level (which Jonas considers “macro”) of responsibility. These are the ideal values and principles of responsibility that are supposed to guide all of society. This is the conception of responsibility that is most substantive and should have the broadest appeal to individuals. The next level

involves the social mechanisms and institutions of responsibility that are often manifested in law. These are structural and context-dependent descriptions of responsibility (Borsen Hansen 2006). Finally, there is individual responsibility “where the ethical principles are translated into responsible actions...” (73).

For an ethics of responsibility to be a sufficient guide for behavior in an increasingly technological age, there should be an implicit objective good that is served which motivates individuals to have a long-term concern for others. Jonas emphasizes a naturally induced affect toward responsibility. In other words, he suggests an *a priori* emotion that drives individuals toward other-regarding behavior—a notion originally attributed to Adam Smith (1759). Additionally, there exists a very different type of responsibility ethics, one borne out of the social constructions of reality. A contractual responsibility is a type of ethics, “which is conditional *a posteriori* upon the fact and terms of the relationship actually entered into” (Jonas 1984: 95). Both aspects of the responsibility share three interlinked characteristics critical to the utility of ethic—totality, continuity and future. “Totality” implies an applicability to a variety of contexts. “Continuity” is meant to convey the concept reliably over time. And, “future” emphasizes the long-term focus of the responsibility. “Act so that the effects of your action are compatible with the permanence of genuine human life” (Jonas 1984: 111). What are the proper contours of intellectual property protection then? Next, building on our discussion here, we address the specific nature of the ethical foundations of patent law for the basis needed to introduce our integrated model of ethics and innovation.

Ethical Foundations of Patent Law

As discussed earlier, there are two primary foundations proffered to explain the ethical basis of patent law. The first of these is deontological and focuses on individual rights. The perspective taken here is that these particular property rights should be granted because of the labor invested by the creator on the front-end of the process. Noted patent expert, Donald Chisum, states that one theory supporting patent law is a natural rights justification under which, “the patent law protects the rights of inventors, regardless of the repercussions on public welfare” (Chisum 1998). Indeed, it is posited that the sole reason for the existence of government is to protect these natural rights, and the legal rights that provide this protection are based upon the preceding moral rights (Resnik 2003). Restrictions on these natural rights are not justified as a means of promoting social goals like utility or just distribution of resources. (Nozick 1974). Related to this view:

A company’s (or for that matter anyone’s) moral right to the fruits of its discovery is independent of and antecedent to patent law. On the Lockean argument that people are entitled to the fruits of their labor, patent law simply recognizes and gives legal effect to the company’s prior moral claims...If the law failed to guarantee the company’s rights to the fruits of its discovery, then the law would be morally at fault (Maitland 2002: 464).

Thus, patent laws, as a form of property rights, are designed to protect individual interests relating to the investment of their labor (Resnik 2003).

The other ethical foundation of patent law is utilitarian in nature, which takes the position of promoting the overall greatest good. Contrary to the deontological approach, this perspective is based on looking at the back-end of the process, toward what the consequences are of the

patent-granting procedure. The U.S. Supreme Court has supported this utilitarian argument on numerous occasions. In Diamond v. Chakrabarty, the Court noted, “[t]he patent laws promote this progress [of science and the useful arts] by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts.” In Kewanee Oil Co. v. Bicron Corp., the Court observed that, “[t]he productive effort thereby fostered [by the Patent Act] will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.” Finally, in Aronson v. Quick Point Pencil Co., the Court noted that the purposes of the federal patent systems are: 1) to foster and reward invention, 2) to promote invention disclosure, which stimulates further innovation and allows the public to practice the invention once the patent expires; and 3) to assure that the public can freely use ideas in the public domain.

Given these two competing ethical foundations for patent law, it is evident that a broader, more encompassing ethical approach such as that presented by Jonas is warranted. In the next section, we bring in our final key factor—the time horizon—before applying our framework of ethic and innovation to patent processes.

The Time Factor

Having revealed in the preceding sections the ethical factor as a critical explanatory variable for the described patent/innovation-problem, we examine in this section the role that changes in the time dimension play in the genesis of our patent/innovation problem. The leading question is: *Is the time gap between technological advancement and legislative process a hindrance for overall*

social progress, necessitating a response from policy makers? In order to answer this question we proceed in two steps, helping us structure the time dimension.

First, we retake and specify the traditional distinction between the “subjective” and “objective” dimension of reality. It is important to emphasize that subjectivity, linked to the character of human nature, is not limited to the existence within a single person, but is shared by a group of persons—for example, managers or policy makers (Banerjee 1965). A shared form of subjectivity is transformed from a personal kind (“pure” subjectivity) to an interpersonal kind, called “inter-subjectivity”. This “inter-subjectivity” provides the basis for “objectivity” which is possible with individuals and the scientific reference for social and legal domains. For a better understanding of our paper, we use the term “objective dimension” for the designation of facts independent from human perception and decision. In the subjective dimension, however, there exists a nuance between a pure, personal subjectivity and inter-subjectivity, which is present in all social processes and organizations. These two dimensions are also present in the temporal component of society where the *objective* time dimension is observed in (short, middle, or long-term) the *tendencies* of organizations, and the *subjective* time dimension exists in the (short, middle or long-term) *orientation* of decision-makers which result from their perception of time itself (Authors 2013: 12).

In our case it is understandable that a scientifically observed long-term tendency of organizations and patents can be challenged by the short-term tendency of certain technological innovations and a short-term orientation of the decision makers of the same organization—eventually setting it up for a temporal paradox. So, this distinction between the subjective and objective dimensions of time is also quite useful for our purpose here, as it permits us to focus time-related decisions more precisely. On this basis one can distinguish between decisions

focusing on *tendencies* (taking them into consideration or trying to influence them) and decisions focusing on *orientations* (taking them into consideration or trying to influence them).¹

The second step of our time investigation concerns the time-related phenomenon of *speed*. Analysing this phenomenon, Hartmut Rosa describes three forms of social acceleration of reality and three processes that drive them as explanations for the process of time acceleration (Rosa 2010). The “first, most obvious, and most measurable” form of social acceleration is technological acceleration. This is defined as the “intentional speeding up of *goal-directed* processes of transport, communication and production” (Rosa 2010:16). To support this contention, it should be noted that the speed of communication has increased by 10^7 , the speed of personal transport by 10^2 , and the speed of data processing by 10^6 (Geibler 1999). Clearly, the processes that create this technological acceleration are often related to patents. The second form of social acceleration relates to social change. These changes focus on the “acceleration of society itself” and are concerned with the “accelerated processes of social change that rendered social constellations and structures as well as patterns of actions and orientation unstable and ephemeral” (Rosa 2010:18). The third form of social acceleration is the acceleration of the pace of life. It is defined as the “speed and compression of actions and experiences in everyday life” (22). This leads to another interesting paradox as there exists an increasing scarcity of time in one’s everyday life, despite the technological acceleration discussed earlier. Each of these forms of social acceleration reinforces each other in an acceleration cycle.

Rosa contends that there are three external accelerators behind the three aforementioned dimensions of social change—economic, structural, and cultural. The first and most obvious source of social acceleration in Western societies is the economic motor, capitalism. The circle

¹This distinction of the two time dimensions is also inherent to the ICM-model, which will be explained in the next section.

of production, distribution, and consumption constantly accelerates and can be summarized in the simplistic concept of time=money. This economic motor is the driving factor behind technological acceleration as new technologies are largely affected by economic forces. Social change is driven by the structural motor—modern society’s basic structural principle of functional differentiation. From this perspective, society is not segregated into hierarchical classes; rather it is structured along the lines of functional systems, such as politics, the economy, and law. The driving factor behind the acceleration of the pace of life is the cultural motor, in which the idea of a fulfilled life consists of, “realizing as many options as possible from the vast possibilities the world has to offer” (Rosa 2010: 30).

Opposing these processes of social acceleration and the motors that drive them exist several factors that act to decelerate the aforementioned acceleration of time, resulting in “de-synchronization”. The most important entity in terms of the present discussion is political institutions. Rosa notes that, “these institutions historically played a key role in enabling social acceleration by providing stable and calculable background conditions, but are now in danger of being eroded by the very forces of acceleration they set in motion.” (Rosa 2009: 102) Additionally, the process of functional differentiation has resulted in a number of subsystems, such as law and the economy that follow their own “temporal rhythms, patterns, and horizons” (104). This results in a tendency for political institutions to shift the decision-making process toward faster arenas, such as the legal system, the economy, or individual responsibility.

It becomes obvious that our patent/innovation problem is, according to Rosa, also due to a phenomenon of *de-synchronization* of technological speed and democratic legislation speed. The complex set of reasons for the genesis of this phenomenon has been briefly explained above. In our paper, the de-synchronization is combined with a temporal gap between the length of the

innovation cycle of new technologies and the current duration of patents. This temporal gap often leads to a failure of patent law to achieve the duality of ethic *and* innovation.

Given Rosa's *de-synchronization* concept, an alignment between patent duration and the technological time horizon would benefit both managerial innovation and society as a whole. The duration of patent protection is the most direct way legislators have of controlling the scope of rights granted to innovators (Leveque & Meneiere 2004: 25). Furthermore, an economic analysis of patent duration provides a key argument in favor of limiting patent duration, as "it is preferable to forgo the creation of the most costly innovations in order to expand consumer access to less costly innovation" (29). In addition to benefiting consumers on the whole, a reduction of the patent term to a period of five to seven years would eliminate a significant portion of the patent threat faced by entrepreneurs and companies (Kinsella 2010). The costs borne by companies would be drastically reduced with fewer lawsuits real or threatened, lower insurance premiums, and reduced patent license fees and royalties.

We have shown in this paper that the concern of Jonas' ethics of responsibility focuses on the long-term survival of mankind and can provide a foundation for a moral system called: *ethic of (long-term) responsibility*.

Ethical Innovation for Patent Law

Figure 1: Duality of Ethic and Innovation (from Authors 2013) HERE

In Figure 1, we present the typology along two dimensions: "Outcomes", and "Mechanisms".

Along both axes, the typology is split on *Ethic* and *Innovation*, highlighting the components of

our Integrated Causal Model. Here we present the typology in the context of patent law and patent strategies.

Ethic is defined differently by axis. On the “Outcomes” axis, *Ethic* is thought of in terms of realized objectives, The other decision criterion that defines the behaviors in our typology relates to the “Mechanisms” of *Ethic* and *Innovation*. *Ethic* on this axis is defined at a macro-level by the legal system and social norms. These are often manifested in institutions via mechanisms such as company values statements and mission statements.

On the other side of the same axis, *innovation* is presented. Given an accelerating business and economic environment, innovation processes are evaluated in terms of achieved adaptability, flexibility and creativity. The “Mechanisms” for *Innovation* involve organizational processes for creating and adapting. Here is where we see the temporal paradox identified earlier. Shorter-term solutions for patent laws enable a longer-term vision for innovations. How this is achieved is discussed on this axis. Figure 1 also illustrates the mutual interdependence of ethic and innovation—the duality (as seen in Quadrants II and III), as well as the other extreme, when one or the other is ignored, the organization is likely to face obstacles to survival (as seen in Quadrants I and IV). Next we briefly discuss the resulting behaviors within the typology.

In Quadrant I we predict the outcome when there is no attention given to new innovations, but the process does indeed include an ethic. Here there is risk of the moral system becoming overly rigid and inflexible; that the sustainability of the moral system is seriously in danger of breaking down. This would cause a “*fossilized ethic*”. When the ethical norms are too strict so as to inhibit adaptability, innovation is stifled. For fear that the mechanisms controlling the moral norms going to be compromised, innovation is sacrificed. The patent law is overly restrictive to enable new innovations in order to protect the intellectual property rights of

individuals or organizations. This causes organizations to employ a “fossilizing ethic” strategy. We reiterate that innovation is critical for the ethic to be realized in the long-term.

More specifically, overly strict applications of patent laws often inhibit new innovations. Yahoo utilized a “fossilized ethic” strategy when it chose to file a patent infringement suit against Facebook, just as the company was preparing to file its IPO (Swisher 2012). Former employees claimed that Yahoo was “weaponizing” patents they had created with the initial assurance that the patents were being created only as a precautionary measure to defend against companies who might sue Yahoo (Baio 2012). Critics noted that Yahoo had pursued this offensive strategy in 2004 against Google before it went public, and that the actions signified a company, “bereft of talent to win any other way” (Swisher 2012). This approach also presents lost opportunity costs, as resources are taken away from innovation and instead poured into patent litigation (Quinn 2012).

Quadrant II illustrates that decision makers perceive innovation as long-term oriented. This orientation also assists with company survival and maintenance of its ethical code/norms. If decision makers are inclined to value innovation, then an “innovated ethic” could result. Externally driven change is limited in the field of ethics by moderate innovation. As a result, the existing moral norms are likely to collapse or deteriorate. Self-organized, temporary structures and processes are designed by individuals and organizations in order to promote survival. Creativity, new ideas, diversity, and cooperation are required elements of innovation. The collective interests of an organization must incorporate the long-term time dimension as well as other-regarding values. An inclination to understand the importance of addressing the needs of an organization’s stakeholders through innovation is characteristic of an individual who has a

survival ethic. Thus, an underlying ethic for the organization is enabled through the long-term vision of the decision-maker, which we contend should involve the ethic of responsibility.

An example of a Quadrant II approach can be found Ericsson's patent strategy. Rather than hoard patents with the intent of inhibiting market entrants via infringement suits, the Swedish-based global firm's approach is to allow others to use the patents on "fair, reasonable, and non-discriminatory" (FRAND) terms that ensure all can afford to use the solutions in their own products (Brismark & Alfalahi 2008). This is accomplished by choosing to charge a FRAND licensing fee to those wishing to utilize one of Ericsson's patents, as opposed to filing a patent infringement suit. As two of their Intellectual Property Officers note:

The communications industry should heed the dangers of being fragmented and stick to doing business in open competition within a framework set by all participants. The key to this is for each patent owner to follow the fairness principle; in other words, the question of reasonable total royalty and proportionality (Brismark & Alfalahi 2008: 65).

Working with patents in an open and collaborative manner is crucial to the future of the telecommunications industry, and consequently, society as a whole (Brismark & Alfalahi 2008). The outlook taken here is clearly one of a long-term perspective incorporating "other-regarding" values that maximizes community welfare while respecting individual patent rights. Thus, we see an ethic of responsibility toward others.

In the next cell, Quadrant III, we see a combination of an *innovation-outcome* orientation and an *ethic mechanism*. We see this as reflecting organizations that utilize ethics processes to facilitate long-term innovation. By rite of these firms' ethical awareness, survival goals are more easily realized. In other words, a vision for the long-term ethics of responsibility legitimizes the

firm's innovation objectives. This quadrant is referred to as, "*Ethical innovation.*" An example in our context follows.

In response to the actions taken by Yahoo's "fossilizing ethic" strategy, Twitter decided to follow an "ethical innovation" strategy and create the Innovators Patent Agreement (IPA) for its employees in regard to patents they created. The IPA has two key components: first, if an employee creates and assigns its patent to Twitter, the company will not use it to sue anyone unless the company is sued first; secondly, if the patent is sold to a different party, it can still only be utilized as the inventor intended (McHugh 2012). This novel approach to patent creation appeals to engineers who value "innovation over patents" and "want to see their inventions have an impact on people's lives" (Raustiala & Sprigman 2012). The concern for others falls within the norm of the ethics of responsibility. The IPA approach represents a significant shift in the usual relationship between employees and employers, in which all decision-making rights are usually given to the employer regarding patents created by the employee (Schultz & Urban 2012). The result is an approach where an awareness of the ethical perspective of patent-creating employees is taken into account in order to effectuate long-term innovation. Thus, the social exchange in this instance is governed by an ethics of responsibility norm that enables innovation.

Finally, Quadrant IV reflects the opposite behavior found in the first quadrant. Here we see innovation taking place but with no regard to the ethics of responsibility, or any long-term, other-regarding concern. Rather, the innovations promoted by the organization are short-term in nature, usually with an immediate economic motive. Short-term profits serve as the motivation for decision-makers to act in a manner ignorant of ethical norms. For example, LeMenestral and Van Wasserhove (2004) describe an innovative operating model in the banking industry that was utilized to aid bankers achieve greater short-term profits by manipulating customers' service fees

without their immediate knowledge. This decision, while innovative, violates customers' rights and demonstrates a lack of ethics. We consider this, "*Unethical innovation.*"

An example of the principles inherent in "unethical innovation" can be found in some of the recent actions of Goldman Sachs. The company generated large revenues during the sub-prime mortgage crisis through the use of financial instruments such as the credit default swap (CDS). CDSs are one of the most complex products used by investment banks, and are similar to a form of insurance that allows one to bet that an entity will default on some type of obligation. (Tanner & Lacewell 2011). Goldman Sachs filed aggressively for numerous financial instrument patents in the CDS area (Tanner & Lacewell 2011). CDSs are "a way to increase the leverage in the system, and the people who were doing it knew that they were doing something on the edge of fraudulent...They were not well motivated." (Morgenson 2010). It appears as though Goldman Sachs either ignored the principles contained in their own CDS patent applications or found these principles inconvenient to exercise, with their judgment being blinded by the enormous profits from their CDSs (Tanner & Lacewell 2011). The history of CDS markets and attempts to regulate them show that clever risk management tools can and will often become extremely lucrative but also potentially risky financial instruments in the hands of financial "innovators" (Koszeg 2012). As one commentator noted:

Innovation in the area of finance – often lionized as crucial to rendering markets more efficient and hence as a key driver of social wealth – is actually subject to ethical criticism, or at least caution. And the worry is not just that particular innovations in this area have been problematic. The worry is that the *pace* of innovation has made it hard for regulators, investors, and ratings agencies to keep up (MacDonald 2011).

Goldman Sachs actions with CDS patents epitomize the unethical innovation described in Quadrant IV. Next we discuss the potential implications for future work in this area.

Implications

It can be established that the processes by which patents are granted are being driven by economic motors and are increasing the process of time acceleration. Furthermore, the political institutions which craft the patent laws are slowing down acceleration due to the inherent qualities found in the process for creating those laws. As a result, these institutions are pushing the decision-making aspects of patent law to more nimble actors, such as the U.S. court system. But the courts lack the authority to make significant changes to patent law from a temporal perspective. By analyzing this problem with the aforementioned general concepts and theories, we do not pretend to offer generalized solutions for all types of innovation, for all types of organizations and for all types of countries in the world (in terms of economic development). Rather, we limit our investigation in this present paper to current patent law challenges of global companies in the United States and to innovations with a short-term life cycle common to the technology sector.

Additionally, there exists a disconnect between the ethical foundations of patent law that we propose and the current norms of patent law processes. Both utilitarianism and the deontological approach are being utilized to support patent law systems in capitalist societies. Given these two disparate foundations, there exists the managerial discretion for agents to design the social and economic exchanges in the prior section. However, under both of these analyses, the concept of “common good” from a societal perspective is being given short shrift. Too much emphasis is being placed upon the incentive provided to the creator in order to elicit the

patentable creation. To remedy this, we are proposing a foundation based on the ethic of responsibility. One component of this newly proposed approach would be the reduction of patent terms under U.S. patent law. Such a change, based upon the ethic of responsibility, would more effectively realize the goal of serving the “common good,” and successfully respond to the arguments presented in this paper. However, to what extent managers other countries and in other industries with innovations with other life cycles could learn from our research, should be examined in future research.

Thus, both 1) the “de-synchronisation” between the pace of technological development and the pace of patent law development and, 2) the change of meaning given to the ethical value of utility, have culminated in a patent duration that is disconnected from both its subject matter and its ethical moorings. The result is an improper temporal duration for which patent protection should exist, given the rapid rate of the technological acceleration of time and the ethical standards we propose for patent law systems. We hope this paper enhances the intellectual property dialogue about current patent law. We believe our duality approach to ethic and innovation centered around a long-term ethic of responsibility may be a potential normative solution to the problems with the current patent law process. An additional contribution is that we offer a usable, workable the ethical foundation of patent law. By utilizing the ethic of responsibility company approaches toward patent policy can be properly evaluated within broader contexts. While in this present research we focus on a particular business/legal context, we envision this standard being pragmatically useful for decision makers with a going concern.

Finally, future research on the ethics of responsibility should continue to look for a pragmatic operationalization which, on one hand, does not imply a compulsory philosophical or metaphysical grounding of responsibility, and which, on the other hand, allows the integration of

the three levels of our presented concept of ethics. For the authors of this present piece, the Integrative Social Contract Theory (ISCT) of Donaldson and Dunfee (1999) represents such a promising operationalization approach. It is considered “the most powerful conceptual framework for both normative theorizing and positive empirical research at the intersection of business, management, and ethics and law” (Van Oosterhout & Heugens 2009: 729). It is possible to utilize the ethics of responsibility as a hypernorm which governs both micro and macro social contracts and would be adaptable over time. Brenkert (2009) recognizes the need for universal standards that supercede all local arrangements in contracting, but laments that ISCT does not consistently do this across varying contexts. In short, a moral justification of hypernorms could be addressed with the ethics of responsibility. This suggestion would not be limited to a patent law application opening up many future avenues of work.

References

- Acevedo, A. 2012. 'Personalist business ethics and humanistic management: Insights from Jacques Maritain'. *Journal of Business Ethics*, 105, 197-219.
- Aronson v. Quick Point Pencil Co., 440 U.S. 257, 262 (1979), citing *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974).
- Atkinson, R.D. and Ezell, S.J. 2013. 'Building the global innovation economy'. *Futurist*, 47:1, 14-20.
- Baio, A. 2012. 'A patent lie: How Yahoo weaponized my work'.
<http://www.wired.com/business/2012/03/opinion-baio-yahoo-patent-lie/>.
- Barton, J.H. 2000. 'Intellectual property rights: Reforming the patent system'. *Science*, 287:5460, 1933-1934.
- Bernstein, R.J. 1994. 'Rethinking responsibility'. *Social Research*, 61:4, 833-852.
- Bevan, D. and Corvellec, H. 2007. 'The impossibility of corporate ethics: For a Levinasian approach to managerial ethics'. *Business Ethics: A European Review*, 16:3, 208-219.
- Boldrin, M. and Levine, K. 2013 'The Case Against Patents'. *Journal of Economic Perspectives*, 27:1, 3-22.
- Borsen Hansen, T. 2006. 'Academic and social responsibility of scientists'. *Journal of Science and World Affairs*, 2:2, 71-92.
- Brady, F. N., and Dunn, C.P. 1995. 'Business meta-ethics: An analysis of two theories'. *Business Ethics Quarterly*, 5:3, 385-398.
- Brenkert, G.G. 2009. 'ISCT, hypernorms, and business: A reinterpretation'. *Journal of Business Ethics*, 88, 645-658.
- Brismark, G., and Alfalahi, K. 2008. 'Patent strategies – a fork in the road toward 4G'.
http://www.ericsson.com/ericsson/corpinfo/publications/ericsson_business_review/pdf/308/308_62_65_patent-strategies.pdf.
- Carroll, A.B. 1979. 'A Three-Dimensional Conceptual Model of Corporate Social Performance'. *Academy of Management Review*, 4:4, 497-505.
- Chisum, D. 1998. *Principles of Patent Law*. London: Foundation Press.
- Christensen, S.L. 2008. 'The role of law in models of ethical behavior'. *Journal of Business Ethics*, 77, 451-461.

- Cody, M. and Lynn, R. 1992. *Honest Government: An Ethics Guide for Public Service*. New York: Praeger.
- Diamond v. Chakrabarty, 447 U.S. 303, 307 1980, quoting *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 480-81 (1974).
- Donaldson, T. and Dunfee, T.W. 1999. *Ties That Bind*. Boston, MA: Harvard Business School Press.
- Etzioni, A. 1988. 'Normative-affective factors: Toward a new decision-making model'. *Journal of Economic Psychology*, 9:2, 125-151.
- Geibler, K. 1999. *Vom Tempo der Welt: Am Ende der Uhrzeit at 89*. Freiburg: Herder.
- Graham v. John Deere Co., 383 U.S. 1, 8-9 (1966).
- Greene, J. 2011. http://news.cnet.com/8301-1023_3-20087693-93/googles-top-lawyer-rips-apple-microsoft-and-oracle/
- 'Has the idea machine broken down?'. *The Economist*, January 12, 2013. <http://www.economist.com/news/briefing/21569381>.
- Jonas, H. 1974. *Philosophical Essays: From Ancient Creed to Technological Man*. Englewood Cliffs: Prentice-Hall.
- Jonas, H. 1984. *The Imperative of Responsibility: In Search of Ethics for the Technological Age*. (trans. of *Das Prinzip Verantwortung*) trans. Hans Jonas and David Herr (1979). ISBN 0-226-40597-4. Chicago: University of Chicago Press.
- Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470 at 480, 1974.
- Kinsella, S. 2010. 'Reducing the cost of IP law'. January 20, 2010, <http://mises.org/daily/4018>.
- Koszeg, F. 2012. 'The evolution of credit default swaps and efforts to regulate them: What will be the impact of JP Morgan Chase's recent \$2 billion trading loss?', Monday, July 16, 2012, <http://www.bna.com/evolution-credit-default-n12884910685/>.
- Leveque, F., and Meniere, Y. 2004. 'The economics of patents and copyrights', <http://www.cerna.ensmp.fr/Documents/FL-YM-eBookIP.pdf>.
- Levinas, E. 2006. *Entre Nous: Thinking of the Other*. London: Continuum Books.
- Lewin, P. 2007. 'Creativity or coercion: Alternative perspectives on rights to intellectual property'. *Journal of Business Ethics*, 71, 441-455.

- MacDonald, C. 2011. 'Unethical innovation'. March 31, 2011, <http://businessethicsblog.com/2011/03/31/unethical-innovation/>.
- Maritain, J. 1962. *An Introduction to Philosophy*, trans. E.I. Wakin. New York: Sheed and Ward.
- Maitland, I. 2002. 'Priceless goods: How should life-saving drugs be priced?'. *Business Ethics Quarterly*, 12:4, 451-480.
- McHugh, M. 2012. 'Twitter announces new patent strategy: trolls need not apply'. <http://www.digitaltrends.com/social-media/twitter-announces-new-patent-strategy-trolls-need-not-apply/>.
- Melle, U. 1998. 'Responsibility and the crisis of technological civilization: A Husserlian meditation on Hans Jonas'. *Human Studies*, 21, 329-345.
- Morgenson, G. 2010. 'Quoting Martin Meyer, It's time for swaps to lose their swagger'. *New York Times*, February 28, 2010.
- Nozick, R. 1974. *Anarchy, State, and Utopia*. New York: Basic Books.
- Phillips, R.A. 2010. 'Ethics and network organizations'. *Business Ethics Quarterly*, 20:3, 533-543.
- Quinn, G. 2012. 'Yahoo and Facebook settle patent battle with strategic partnership'. <http://www.ipwatchdog.com/2012/07/08/yahoo-facebook-settle-patent-battle-with-strategic-partnership/id=26227/>.
- Raustiala, K. and Sprigman, K. 2012. 'The Twitter I.P.O.'. <http://www.freakonomics.com/2012/05/03/the-twitter-i-p-a/>.
- Rentocchini, F. 'Sources and characteristics of software patents in the European Union: Some empirical considerations'. *Information Economics Policy*, 23:1, 141-157.
- Resnik, D.B. 2003. 'A pluralistic account of intellectual property'. *Journal of Business Ethics*, 46, 319-335.
- Rosa, H. 2009. 'Social acceleration: Ethical and political consequences of a desynchronized high-speed society'. In *High speed society* ed. by Rosa, H. and W. Scheuerman. State College, PA: The Pennsylvania State University Press.
- Rosa, H. 2010. *Alienation and Acceleration, Toward a critical theory of late-modern temporality*, Oslo: Nordic Summer University Press.
- Schultz, J., and Urban, J. 2012. 'Twitter has a savvy new patent strategy'. <http://www.law.berkeley.edu/13373.htm>.

- Schumacher, E. and Wasieleski, D.M. 2013. 'Institutionalizing ethical innovation in organizations: An integrated causal model of moral innovation decision processes'. *Journal of Business Ethics*, 113:1, 15-37.
- Shu, P. 2012. 'The long term impact of business cycles on innovation: Evidence from the Massachusetts Institute of Technology', Cambridge, MA: MIT Job Market Paper.
- Spinello, R. 2003. *Cyberethics: Morality and Law in Cyberspace*. New York: Jones and Bartlett.
- Swisher, K. 2012. 'So it's the Kodak strategy for Yahoo – the last refuge of the vaguely patented'. <http://allthingsd.com/20120228/so-its-the-kodak-strategy-for-yahoo-the-last-refuge-of-the-vaguely-patented/>.
- Tanner, C., and Lacewell, S.K. 2011. 'Wall Street and patents: Financial innovation or ethical dilemma'. *Journal of Academic and Business Ethics*, 4
<http://www.aabri.com/manuscripts/10727.pdf>.
- Thomas, R.E. 2008. 'Debugging software patents: Increasing innovation and reducing uncertainty in the judicial reform of software patent law'. *Santa Clara Computer and High Tech Law Journal*, 25, 191-241.
- Van Oosterhout, J., and Heugens, P.M.A.R. 2009. 'Extant social contracts in global business regulation: Outline of a research agenda'. *Journal of Business Ethics*, 88, 729-740.
- Weber, M., Henderson, A.M. and Talcott, P. 1947. *The Theory of Social and Economic Organization* 1st American Edition. New York: Oxford University Press.

Ethical Innovation for Patent Law

Figure 1: Duality of Ethic and Innovation (from Authors 2013)

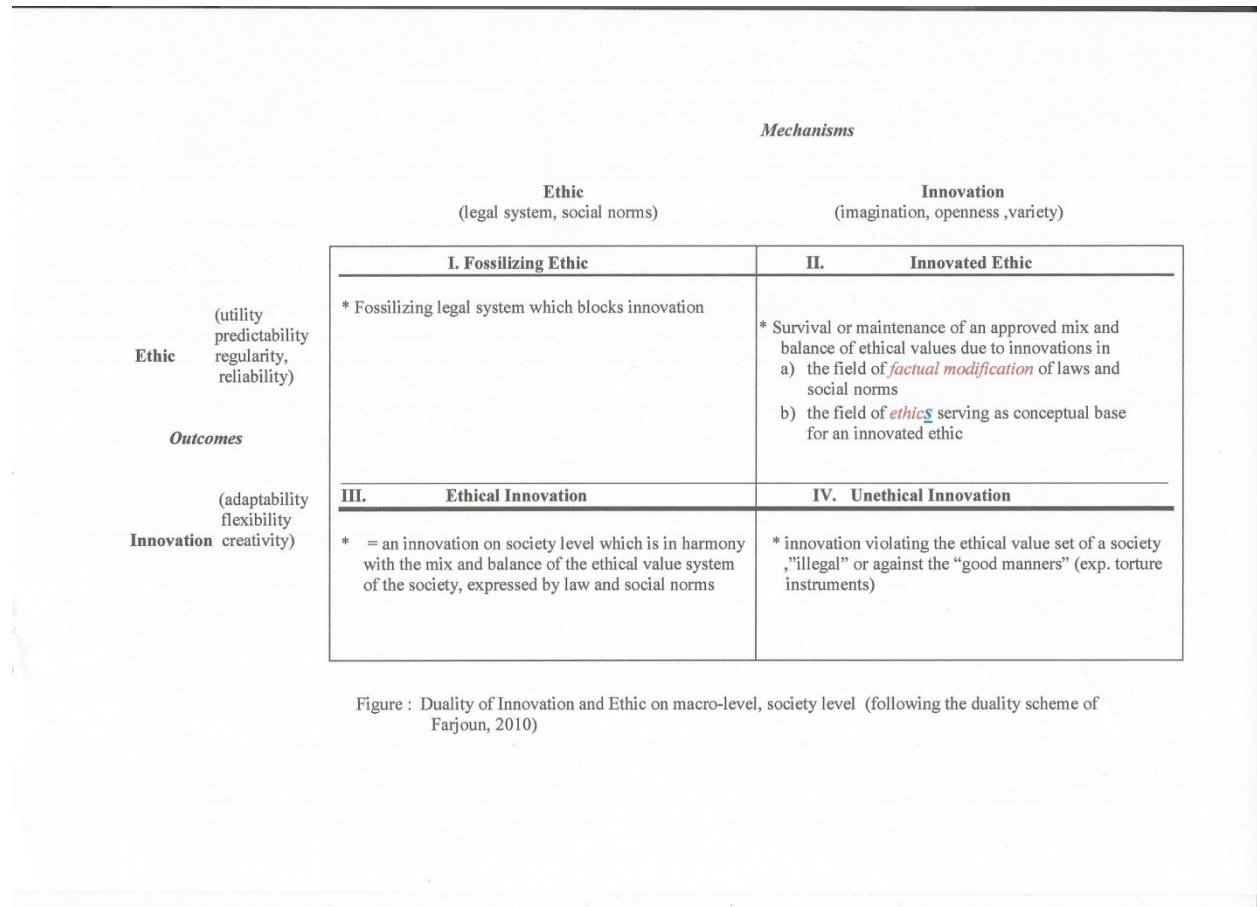


Figure : Duality of Innovation and Ethic on macro-level, society level (following the duality scheme of Farjoun, 2010)