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Ethics for Indian Cybertariats

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Editorial: On IRIE Vol. 25

India is the world's largest provider of IT services accounting for approximately 140 billion of revenues. The industry employs about 10 million workforces today. According to Google estimates, the Indian developer community will be the largest in the world by 2018.

While in the very beginning and rather stable for a long time India's competitive advantage was mainly being significantly cheaper India is gaining today more and more prominence also in terms of intellectual capital with several global IT firms setting up their innovation centers in India. Indeed, the IT industry has led to a fundamental transformation of the country concerning almost every sector: from economy to labour, education, science, politics and even culture and religion.

These two aspects of the development in India illustrate two very important issues for Information Ethics:

- Firstly, in contrary to the early discussion of the phenomenon called Digital Divide IT doesn't cement the separation of haves (of digital access in the Western world) and have-nots (in the rest of the world). It rather is one of the most powerful and fastest developing sources of value creation in human history.
- Yet, secondly, we observe another divide caused by the transformational power of the digital technologies equally important and demanding: the creation of privileged highly individualized workplaces on the one hand - allowing for self-fulfilment and self-control through the new technologies. And on the other hand, a precarious "cybertariat", which is just as online but online for labour virtually round the clock, mainly externally controlled by algorithms (be it in vehicles scheduled by Uber, be it in the high-tech warehouses of Amazon or offering their workforce on online exchanges on pay-as-you-go basis) without any social security against layoffs, unemployment or regarding their actual working conditions.

The latter change of paradigms raises questions that cannot be answered from classical business ethics. How shall our working world be organized under the circumstances of digitalization and subjectification? How can industrial democracy be transformed into a digital. What should it aim for? How can new forms of industrial action in digital capitalism look like?

The tearing pace of the development in India raises these questions at the utmost urgency. Nonetheless, under the subject "Ethics for Indian Cybertariats", Indian scholars have also initiated the necessary intellectual discussion to govern these issues and find answers to the questions posed by it. We are thankful that we can share this in this wonderful issue.

Sincerely yours,

the editors of IRIE

Gopal T V, Anthony Lobo, Pavan Duggal:

Ethics for Indian Cybertariats

Abstract:

"India is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend and the great grandmother of tradition"

- Mark Twain

"Cybertariat" refers to the Societal Governance deploying the Information and Communication Technologies [ICT]. Indian Cybertariats strive to achieve Inclusion in the context of very intricate relationships amongst Religion, Experience and Language. There are several ethical challenges ahead on the road to digitization. This issue is a modest attempt at highlighting the crucial concerns that determine the progress of the largest democracy in the world.

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Introduction

The current consumerism in the ICT domain is resulting in the building of the social structure on a major fault-line called "Digital Divide".

In India there are as many as four types of digital divides to reckon with.

The first divide is that which exists within every nation, industrialized or developing, between those who are rich, educated, and powerful, and those who are not.

A second digital divide, less often noted, is linguistic and cultural. For Indians who speak no (or little) English, the barriers to the Information Age are almost impossible to surmount. Local language and local content are essential. However, the pace of work in the area of "Language Technologies" is painstakingly slow.

The third digital divide follows inevitably from the first two -- it is the growing digital gap between the rich and the poor nations.

The fourth divide is that which is emerging between the elite few beneficiaries of the lucrative technologies such as ICT and equally talented many who studied other less lucrative but equally important areas of science and technology.

The four types of the Digital Divide in India can be aggravated by the way the liminal space is interpreted.

"Liminality is derived from 'limen', meaning threshold. The challenges for inclusion in the Indian Context are best comprehended through the "Liminal Space". The 'liminal space' might be read as a metaphorical realm where ideas and concepts: artistic, political, cultural, social or otherwise, are in constant states of contestation and negotiation.

Liminality is neither completely inside or outside any given situation structure or mindset. Liminality can result in the collapse of certainty and gives ample scope for many ethical dilemmas in the Cybertariats. India has unique views of interpreting Liminality that enabled civilizations flourish all over the world.

The "Liminal Space" is in between the known and the unknown. It is a transitional space of an accentuated experience resulting from crossing the threshold of what is known. The concept of the 'liminal space' as introduced by anthropologist Victor Turner, suggests the idea of ambiguity and ambivalence. This in-between space should allow active exchanges of ideologies, concepts and methods of working. There is an indication of a transition from one state or space to another, an on-going search for answers, yet the end point might not or need not be defined.

The "Fountain Head of Ideas" that India has been for the entire world has copious methods of adapting the technology for governance through the Indian Cybertariats.

Some Core Concerns

Predictions that widespread usage of computers often results in revolutionary changes in the employment opportunities for the people were dominating the late 1950s and early 1960s. In the middle of the 1960s, privacy came into sharp focus. In 1967, Alan Westin published the book titled **"Privacy and Freedom"**. In 1976, Joseph Weizenbaum published the book titled **"Computer Power and Human Reason - From Judgement to Calculation"**. Both these highly influential works made many professional societies form working groups and committees to address the emerging global challenges in Cyberspace.

The most serious fall out of liminal space is in the domain of "Surveillance". Cooperation amongst the devices / things with different sensing, computing and communication capabilities is resulting in growing number of

research problems in information ethics. These include domotics (domestic robotics), environmental monitoring or "smart / intelligent cities" and so on. Due to paucity of floor space, the compact and very powerful devices are also being embedded within the inner side of the ceiling in many facilities.

"The belief that surveillance societies are not going to emerge because of efforts in data protection is naive; in fact, the existence of Data Protection Commissioners may actually stimulate the flavoring of surveillance societies by lulling the public into a false sense of security."

- David Flaherty

Psychologists call "liminal space," a place where boundaries dissolve a little and one is on the threshold to move across the limits of what one is and what one is to be. It represents ambiguity, of marginal and transitional state. It manifests as several mystic effects including faith healing.

Liminality is also said to be destructive and chaotic. Hence, the Indic methods warrant a strict adherence to certain practices. Only experience can justify / provide any rationale for certain practices. Indians are neither liars nor outliers. It is a fact that the liminal space is modeled in a characteristic Indian way. The data deployed by the Indian Cybertariats always runs the risk of being skewed. "Information Ethics" may be a better method in many such contexts. The following challenges in mapping the "Virtual World of ICT to Reality" in the Indian context of liminality emerge.

- Specifying the kinds of work which involves ICT and the corresponding Job Roles?
- Can there be "e-minister", "e-inclusion" or "e-work" definable in practice?
- The myth of procuring ICT with an assumption that it is working for some other customers of the said vendor.
- The myth that all the technical capacities that are necessary are readily available or can be purchased or hired at reasonable cost.
- The myth that a better version of the ICT is in the offing while the integration and testing of this version has barely begun.
- Humanizing the ICT judiciously to negotiate the landmines in entire process.
- Is our ICT Infrastructure capable of managing and optimizing the innate and respectful feature of garnering and documenting Indic Data and the Software that makes it actionable?
- The "Knowledge Worker" in the Indian Context of Ethos, Pathos and Logos
- What is the meaning of a given symbol for a particular person and / or a specific group?
- What are the facts about the particular person or specific group does the enable the given symbol to have acceptable meaning?
- The changing roles of the Law Makers, Laws and the Citizens

"If you can't measure it, you can't manage it" won its place in the Big Book of Business Dogma because the business world, or at least the bureaucratic edifice it relies on, is all about measurement. If we can slap a metric on something, we're going to do it. We love to measure things, because it makes us feel as though we're really doing something.

Measurement warrants stopping the action, getting outside of it and holding it up against a yardstick, exactly the opposite of the activity that would create products or ship them, make customers happy or move our business forward in any way. Most of the time in the business world, goals come down from on high, and the appropriate measuring devices, rubrics or protocols come with them. **Measurement is really our drug in the world.**

There are many things that cannot be measured and still must be managed.

"It is impossible to escape the impression that people commonly use false standards of measurement - that they seek power, success and wealth for themselves and admire them in others, and that they underestimate what is of true value in life."

- Sigmund Freud, Civilization and Its Discontents

"We tend to overvalue the things we can measure and undervalue the things we cannot."

- John Hayes

Karl Pearson is often considered to be the father of the modern discipline of statistics, which emerged from his work in mathematical biology or biometry. Pearson attempted to make Eugenics an integral aspect of his theory on Statistics. Liminality is crucial to factor both "good [as in Public good]" and "the biometric entity that makes it".

"Pluralism matters because life is not worth living without new experiences - new people, new places, new challenges. But discipline matters too; we cannot simply treat life as a psychedelic trip through a series of novel sensations."

- Tim Harford, "Adapt: Why Success Always Starts with Failure"

About this Special Issue

"India does not live in its towns but in its villages. But if the cities want to demonstrate that their populations will live for the villagers of India the bulk of their resources should be spent in ameliorating the condition of and befriending the poor. We must not lord it over them, we must learn to be their servants. When the cities realize that they must live for the welfare of the poor, they will make their palaces and institutions and the life of their inhabitants correspond somewhat to our villages."

- Mohandas Karamchand Gandhi, Young India, 23 April 1931

As this issue reaches the reader, India is firmly on the road to Digitization that began with a currency change. India is pushing forward towards digitization. We are now looking at a "Young Digital India" with all of us having a stake thanks to the rapid strides made with globalization as a start. The way Indic information ought to happen / happens makes one think again "Is it an "Ethical Dilemma" or a Call on Conscience?"

This issue of IRIE will explore the cultural and ethical dimensions of Indian Cybertariats in a digital age, looking at the implications, challenges and future of a digitally governed global village.

This special issue has four articles written exclusively by leaders in the field. It is very vital to observe that two of the editors were actively involved in two major International conferences related to the theme of this issue during November 2016. The summaries of these conferences are very timely and stimulating.

Three very important articles are in the further reading section of this special issue. They are very thought provoking and make the reader progress further in the areas addressed by this theme issue.

Acknowledgements

The editors thank all the authors who have written original articles and those who have kindly consented to include their articles in the further reading section.

The editors place on record their sincere thanks to Prof. Rafael Capurro, Dr. Felix Weil and Dr. Jared Bielby of the International Center for Information Ethics [ICIE] for the excellent support and co-ordination.

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Javier Livas:

Trust, Technology and Requisite Variety

Abstract:

The Cybernetic State is about using what we know now about cybernetics to create a better society for all. It is about satisfying people's needs from a platform of individual freedom and responsibility. It is also about using computers wisely. In order to do that, technology has to produce transparency so that as many people as possible contribute to the new social order. To create a transparent government implies making it easy to understand and very dependable.

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My good friend and mentor, Stafford Beer once gave a lecture where he explained what The Cybersyn Project had been in Chile in the early 1970s and how it was going to work. As time has gone by, the technology for creating a government with control in real time has improved by leaps and bounds. It would be much easier to do it now, unfortunately what has not evolved at the same pace is the cybernetic knowledge of those in power.

The key to understanding governance is knowing the Law of Requisite Variety or Ashby's Law. It simply says that in matters of control: "Only variety absorbs variety." Though this may sound tautological or self-evident, what it really means is that in order to control the perturbation of some system, its variety (or different states it can adopt), must be matched by the variety of the control system. A thermostat shows as much "variety" as the climate it is trying to control (up to a certain point of course).

I have another explanation that I call the variety equation. Everything that you want to do or transform requires a given amount of information, or control, or variety. This resulting quantity has to be matched by the control system or regulator.

In the design of the State individual freedoms are given the outmost priority. In fact, the Constitution is the set of limitations (controls) that the people impose on the Government in order to protect their freedoms. In theory at least, there is a balance between our freedom and our obligations to the State. If all works well then the variety equation is satisfied.

However there are many variety strategies that can lead to the same result. In that case you would prefer the solution that maximizes freedom and still gets the final result the people want.

For instance, let's assume that the government wants to stop criminal activity. It has two strategies. Hire many policemen or educate the young to be law-abiding citizens all the time.

Golf relies on each golfer to apply penalties on himself. This is the extreme of what an ideal society would want. This is ethics and trust at its maximum expression. The other extreme is have a policeman for every citizen and then police watching other police, and so on.

The police do not come alone. They bring with them attorneys, judges, prosecutors, jails, and so on. All these inputs try to achieve requisite variety, which means being able to dissuade people not to commit crimes.

The other strategy is to educate people to always act in an ethical manner. If everybody acted correctly you would not need the judiciary and everything that comes with it. By ethical behavior I mean doing the right thing right and at the right time. Just as a golfer is expected to do. Professionals golfers do it all the time!

What happens in real life is that every society is trying hard to teach children to learn to behave correctly. But since this is hard to achieve, then much noise is produced and the variety of situation explodes beyond any form of control.

Technology is a control amplifier. Trust is also on the same side of the control equation, opposite the perturbation side. Together, trust and technology they can prevent crime from happening by remembering who the bad guys are. The problem is on the opposite side with its perturbation variety demanding to be matched or else. You can fix certain problems by throwing money at them, but sometimes it just makes the problem worse.

Ideally any country should try to create a culture where the government produces wise laws and these are respected and obeyed by everybody. It is to a great extent a problem of good communication. Law and the judiciary must act as a last resort, after education and negotiation has run its course without success.

Raghubir Sharan & Bijoy Boruah:

Ethical Concerns of Human-Being, Cyber-Being and Cybertariat: An Educational Perspective

Abstract:

Few would deny that machines (along with intelligent machines) are a cultural creation of great significance. The Human race has shown extraordinary skills in achieving this glory. But this is not the glory of an unblemished modern humanity. While humankind has been admirably powerful in creatively controlling external forces, there has not been a similar display of control over the inner forces of selfish desire and the will to individual power. Education, in its true spirit, is a noble endeavour dedicated to a proper balancing of the external and the internal forces operative in the human psyche. The currently overwhelming prevalence of STEM education seems to be more aligned to the 'external' end of this spectrum of human drive, whereas the disciplines of the Humanities critically address themselves to the imminent problem of imbalance and are attuned to the pursuit of the 'internal' end. Whether we can hope for a future far better than the past, or fall into a state of despair by doing worse than our past, crucially depends on the extent to which higher education in contemporary times is wedded to the virtue of attaining the balance.

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Introduction

This article draws its primary inspiration from the following thoughts which are part of the Nobel Lecture of Bertrand Russell in 1950 and later published as book (Russell, 1954) .

- I cannot bring myself to believe that the human race, which has in some directions shown such extraordinary skill, is in other directions so unalterably stupid as to insist upon its own torment and destruction. (Russell, 1954, p. 148)
- Our age is gloomy, but perhaps the very fears that it inspires may become a source of wisdom. (*ibid.*)
- If this is to happen, mankind must, throughout the dangerous years to come, avoid yielding to despair, and keep alive the hope of a future far better than anything in the past. (*ibid.*)

This hope of a 'future far better than anything in the past', which was expressed in 1950s, was contingent upon the acceptance of some ethical imperatives for human beings, which were systematically documented in "*Human Society in Ethics and Politics*" (Russell, 1954). Although it is desirable to take stock of the cross-currents of various developments of the human situation in the last six decades, it is not possible to undertake such a vast task within the scope of such an article. Narrowing the scope of this topic, we therefore want to focus our attention on certain educational issues concerning the learning and teaching of ethics for human-being, cyber-being and 'cybertariat'.

Ethics for the Industrial Age: Human Beings in a Machine-dominated World

An engineer, being a human agent endowed with moral responsibility, is expected to create a harmonious balance between the role of being a professional and that of being a citizen amongst his or her conspecifics. However, there appears to be a possibility of imbalance in this very relationship: while there is a professional demand or pressure for action for profit, there is the contrary demand for action to be governed by principles of social justice and moral worthiness. Various moral theories like utilitarianism, deontology and virtue ethics have been proposed as ways if the desired balance is to be achieved. This academic and ideological effort has been affirmatively responded to by industrial and other business corporations, which have systematically set up Corporate Social Responsibility (CSR) units in a bid to achieve the said balance.

What is crucial to the question of desired balance is the spirit in which the project of CSR is pursued. It would be a deplorable hypocrisy if CSR is viewed as a state-legislated obligation to be met, while keeping the motive of corporate profit independent of moral consideration and reckoned as the ultimate goal. The ethics of CSR must instead be a self-legislated moral obligation, and the spirit driving this moral self-legislation is the deep sympathy with the humanity in abject poverty.

In other words, the 'real caution to be exercised throughout the dangerous years to come' is seriously to attend to the welfare of the section which is described by Mahatma Gandhi as 'the very bottom [that is] often hidden' from our view. This cautionary thought and moral concern has been the preoccupation of great thinkers and leaders both in the West and in the East. It is precisely an appalling lack of concern for the plight of the people hidden at the bottom line that makes the issue of industry-academia intersection very significant. This is where the undesirable imbalance becomes a matter of ethically motivated critical social discourse.

While this imbalance and the critical social discourse in which it is addressed constitutes the vital background of our discussion in this paper, the task here is not to dwell on it at the general level. Rather, our task is restricted to some contemporary ethical discussions on the nature and status of Cyber Beings.

Ethics for the Cyber-Age: Human Beings co-existent with Intelligent Machines

1. Signals of shift from the Industrial (machine) Age to the Cyber (intelligent machine) Age had already started appearing in the early 1950s. Bertrand Russell was engaged with ethical concern of human beings caught up in the machine-dominated Industrial Age. Norbert Wiener had started critically reflecting on the ethical concerns of a society where human-beings and intelligent machines would coexist. Wiener documented his views in his book *The Human Use of Human Beings* in 1950/1954.

2. About six decades later, Terrell Bynum closely looked at developments in Information and Computer technology and summarized the developments to make a case for the introduction of a new discipline of Information and Computer Ethics. Bynum reorganized the ethical principles (first enunciated by Norbert Wiener) to be followed in Cyber Society. (Bynum, 2015). This aspect is very much part of the overall concern of this paper and builds on an earlier attempt (Dhariwal et al, 2010).

Wiener noted in 1950/54 that the moral discourse prevalent in the industrial age, in which man and machine had learnt to coexist, was based on the following principles:

1. ***The Principle of Human Freedom and Justice***
2. ***The Principle of Human Dignity***
3. ***The Principle of Compassion and Benevolence***

Wiener then suggested that these principles should continue to be the guiding principles in the Information Age as well, where man and very intelligent machines would be coexisting. Bynum revisited these principles after six decades of experience of the Information Age and reformulated Wiener's Principles as follows (Bynum 2001/2015):

The Principle of Freedom: Justice requires "the liberty of each human being to develop in his freedom the full measure of the human possibilities embodied in him".

The Principle of Equality: Justice requires 'the equality by which what is just for A and B remains just when the positions of A and B are interchanged'.

The Principle of Benevolence: Justice requires 'the existence of a good will between man and man that knows no limits short of those of humanity itself'.

The Principle of Minimum Infringement of Freedom: 'What compulsion the very existence of the community and the state may demand must be exercised in such a way as to produce no unnecessary infringement of freedom'

These four principles embody Wiener's ethical theory so far as the new information age is concerned. In an age of increasing interference with human freedom and dignity and thus with human flourishing, it is imperative that the human society be morally committed to increasing human happiness rather than decreasing it.

Review of The Human Use of Human Being (HUHB)

Norbert Wiener, the author of this book, had the reputation of being an extraordinary human being: a child prodigy, Harvard PhD at 18, mathematician with great insight in engineering, creator of science of Cybernetics and a concerned human-Being. This book, HUSB, is concerned with how Man could and would relate to the newly emerging and proliferating technologies in the decade of 1940s. Though written in 1950 (and again in 1954 due to certain events), it continues to be relevant in the context of teaching, learning and practicing ethics in the Cyber and Information age.

Wiener's main program of inquiry was aimed at extending the use of concepts and techniques of proven value in the physical sciences and technologies to (i) the life sciences and eventually to (ii) the social sciences, or the study of society.

Let us keep in mind that HUHB is not a tightly reasoned, unified treatise. At best, it is a collection of personal essays tied together a bit loosely by a set of common concepts and metaphors prevalent in 1950. But whoever pioneers the making of a new discipline like Cybernetics, or introducing a new concept like Information, is quite likely to write something up in a somewhat random and unfinished way. Indeed, the same thing can very well be said about Carnot's book in which he introduced the discipline of Thermodynamics and the idea of Entropy. This work had seen the light of the day during the decade 1820. The idea of Entropy had become clear and well-entrenched by the decade of 1940, and by then Thermodynamics also came to be accepted as a proper engineering discipline. By making innovative use of the ideas of Entropy and Feedback, Wiener so extends both these ideas as to formulate the concept of Information and thereby introduces the new discipline of Cybernetics.

Since this enterprise of conceptual innovation is so very promptly undertaken and impressive headway made, it is no wonder that the whole program looks so tentative and exploratory. But what is even more remarkable is the clarity with which the moral and social repercussions of cybernetics and information are documented by Wiener even at this nascent stage. The summary of this by Bynum (2015) and by Dhariwal et. al. (2010) has already been mentioned in Section 3.

In HUHB, Wiener has reformulated many biological and social problems so that they can be modeled in engineering terms and thus made ultimately tractable to their mathematical representation in the language of the Industrial Age. However, the impressive breakthrough made in this direction of a mathematical-computational re-understanding of human phenomena must be viewed with circumspection. One must beware of the possibility of distorting the complex nature of human problems and human understanding under the magical spell of mathematical-formalist construal of such problems. That the human element is not compromised or lost sight of is a cautionary signal that must be properly attended to in such a venture. This is a social and intellectual responsibility that has been a difficult burden to Wiener's program, and it has created many difficulties in the way of a proper appreciation of HUHB. The following passage quoted from the chapter "Progress and Entropy" of HUHB provides us with a clear impression of the flavour of Wiener's thinking:

Feedback is the property of being able to adjust future conduct by past performance. Feedback may be as simple as that of common reflex, or it may be a higher order feedback, in which past experience is used not only to regulate specific movements but also whole policies of behavior. Such a policy feedback may, and often does, appear to what we know under an aspect as a conditioned reflex, and another as learning. (Wiener, 1950, p. 33)

Ethics for the Cybertariat

Thus far we have been concerned with the way ethical principles have evolved in the Industrial Age and then in 'Cyber and Information' Age. In the present section we take up the issue of difficulties involved in actual acceptance and enforcement of these principles in contemporary society.

What really complicates the ethical scenario in the Information Age is the emergence of a new category of workers emerging from the lower middle classes. In loose analogy with the proletariat of the Industrial Age, a worker of this class is being designated as a 'cybertariat' (Huws, 2003, 2015). A cybertariat is someone whose labour is characterized as 'Virtual Work in a Real World' performed jointly and seamlessly by both intelligent machines and humans. This is an entirely new situation with an unprecedented change in the agency of labour, so much so that it demands a new ethics. What is unprecedented in this new scenario is the recognition and inclusion of artificial agency (of machine laborer) in a world of labor constituted, until

now, of natural agency (human laborer). It is this co-existence of natural and artificial agency, of human beings and intelligent machines that was anticipated by Wiener.

At this point it is incumbent on us to be ethically reflective about the social consequences and implications of this postmodern and perhaps posthuman cybertariat culture. We need to reflect particularly on the rate at which the Information Age is making its transition towards cyber society with the proliferation of intelligent autonomous machines. What prospect does this sort of spectacular advancement in digital technology have for the human world in the near and distant future?

It is quite true that the Information Age bears testimony to phenomenal intellectual and technological progress on our part. We may therefore wonder whether this intellectual ascendancy to such a remarkable height also promises a parallel increase in human wisdom; so that the onset of cyber culture is indicative of fulfilling Russell's 'hope of a future far better than anything in the past'. Alternatively, we may wonder whether the cyber-cultural upsurge forebodes ethical crisis of a kind that only betrays Russell's pious hope for humanity. Both these possibilities can be contemplated in the context of what was anticipated and raised by Wiener at the nascent stage of cybernetics.

Keeping this contemplative imperative in view, we may do well selectively to pay attention to the following remarks, made by Wiener, in the chapters "Progress and Entropy" and "Language, Confusion and Jam". The first two passages are expressive of Wiener's perceptive understanding of the status of the 'automatic machine' as being the economic equivalent of 'slave labour', and also of how this new situation would motivate rapid industrial profit.

Let us remember that the automatic machine, whatever we think of any feelings that it may or may not have, is the precise economic equivalent of slave labour. Any labour which competes with slave labour must accept the economic conditions of slave labour (Weiner, 1954, p. 220).

Under the circumstances, industry will be flooded with the new tools to the extent that they appear to yield immediate profit irrespective of what long time damage they can do (Weiner, 1954, p. 219).

But the next remark is expressive of a sombre thought of uncertainty, about two disjunctive possibilities for humanity, either positive or negative. It is a 'two-way sword'; the possibility of destroying humanity is as much a matter of grave concern as is the rosy picture of high economic benefit for human progress.

.... However, there is nothing in the industrial tradition which forbids an industrialist to make a sure and quick profit, and to get out before the crash touches him personally... Thus the new industrial revolution is a two-edged sword. It may be used for the benefit of humanity, but only if humanity survives long enough to enter a period in which such a benefit is possible. It may also be used to destroy humanity, and if it is not used intelligently it can go very far in that direction (Weiner, 1954, p. 220).

However, the balance seems to tilt towards optimism, given Wiener's awareness of the presence of thinkers who are capable of responsible management of new technologies.

There are, however, hopeful signs on the horizon... I have been delighted to see that awareness on the part of a great many of those present of the social dangers of our new technology and the social obligations of those responsible for management to see that the new modalities are used for the benefit of man... the routes of good will are there, and I don't feel as thoroughly pessimistic as I did at the time of publication of the first edition of this book" (Wiener, 1954, p 162).

We have gone ahead of Wiener's assertion by more than six decades, and are in a position to assess his tilt towards optimism, despite the fact that he was fully aware of the negative side of this new age. What we witness during these six decades of human history is far from being a vindication of that optimism. The ethical propensity of the industrial and financial elite of the developed world (which has ushered in the Information Age) has not really been of the kind that ensures that 'new modalities are used for the benefit of man'. What

seems to have gained preponderance is the ever changing and continued drive for invention and manipulation, so that an attractive market flooded with new products of the Information Age is constantly kept alive in order mainly to prolong the regime of the elite.

Before concluding this paper let us go back to where we started, that is the Nobel Lecture of Bertrand Russell.

- I cannot bring myself to believe that the human race, which has in some directions shown such extraordinary skill, is in other directions so unalterably stupid as to insist upon its own torment and destruction (Russell, 1954, p. 148).
- Our age is gloomy, but perhaps the very fears that it inspires may become a source of wisdom. (*ibid.*)
- If this is to happen, mankind must, throughout the dangerous years to come, avoid yielding to despair, and keep alive the hope of a future far better than anything in the past. (*ibid.*)

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Na. Vijayashankar:

Ethics for Indian Cybertariats - LAG Neutrality Challenges and Solutions

Abstract:

The growth of Cybertariats as a new class of workers who represent an integration of the Cyber Society work with existence in Physical space has opened up new challenges in the management of the work force.

The key concerns or issues are those which arise in the world of Cybertariats because of the "LAG neutrality" namely the "Location Neutrality", "Age Neutrality" and "Gender Neutrality" of a Cybertariat worker.

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 - Naavi is also the author of a book in Kannada titled "Antarjaala AparaadhagaLu" released in 2005.
 - He is also the author of "Cyber Laws Demystified" which is a comprehensive discussion on Cyber Laws released in 2006.
 - In 2010 Naavi released the book "Cyber Laws for Engineers", an E Book version of which has been released in 2011 along with two other books "Cyber Laws for Every one" and "Cyber Crimes and ITA 2008".

Impact of Location Neutrality

The first and foremost issue regarding the rise of Cybertariat workforce is the impact on the local employment and the issues arising therefrom.

The Cybertariat workforce is location independent since they can work from anywhere and anytime and still are virtually present in the workplace. The industry loves them because they can hire them by shopping economically across the globe and also fire them without as much of an impact as it creates when they fire the physical workforce. The industry can keep only the "Work Goal" as the criteria for maintaining the Cybertariat work force and free themselves from other distracting aspects of human management.

The Cybertariat workforce essentially works on a Virtual identity. In many instances the real identity may not matter at all. Most commercial workforce which are distant from the national security domains do not need either an identified work force nor a permanent workforce. They can be hired and fired like a "Job Worker".

What makes an economic sense for the businessmen to hire Cybertariat workers instead of the physical workers, creates a serious ethical issue of whether industries can be oblivious of the social impact of local job losses to technology workers from another place.

The frequent references of Obama and now Donald Trump to Bengaluru IT industry as a threat to US economy stems from the fact that, for a Chicago company, the remote Bengaluru worker may be more efficient and more economical than a comparable worker sitting in Chicago. While this does affect the employment potential in the physical space of Chicago, the profitability and global competitiveness of the US Company which opts to use a Cybertariat Bengalurian instead of the US based Chicago resident, improves.

Whether the trade-off of possible local un-employment with more profit generation for the company/country is beneficial or not is an economic decision. However, this also raises the ethical issue of whether it is the responsibility of the industry to share its prosperity with the local community by providing a stable employment scenario to the community so that the community lives in harmony.

In the recent days, concerns to the Cybertariat hiring are arising because of the "Security Issues". Any cyber work involves handling of data which is personal and some times also sensitive. The security of such data is therefore a concern for "Privacy" as a part of the democratic tradition and also as a means of preventing Cyber Crimes.

A standing example of how "Privacy" and "Security" concerns affect the Cybertariat workforce is evident in the fact that after the increasing number of data theft reports from USA, the flourishing "Home Based Medical Transcription Industry" in India seems to be withering away.

A workable solution towards balancing better economic sense with softening of the local sentiments is to be worked through a "Corporate Social Program" which makes it obligatory for the Cybertariat employer to contribute to the development of alternate employment opportunities for the local workforce.

If for example, the cities of Bengaluru and Chicago enter into a Cybertariat Workforce Treaty, they can ensure that Obama need not introduce a "Bengaluru Tax" nor Trump needs to put an embargo on "Export of Data" to Bengaluru but negotiate a reverse flow of benefits from Bengaluru to Chicago either in the form of cyber related work at a different level or even through import of say manufactured goods from Chicago to Bengaluru.

Age Neutrality Impact

As compared to the Location Neutrality, the Age Neutrality raises an issue of whether "Earning Potential" of an individual needs to be "Retired" after a person attains a particular age. In a society where "Old Age Security" is important with raising life span and decreasing family support at old age, it is some times cruel to retire an otherwise able and efficient worker just because his age certificate indicates that he has crossed a certain age.

Cybertariat workforce are free from this obligation of "Retirement" both because they work on short term assignments as well as with a focus on work output rather than other considerations.

The Cybertariat employers however have not yet fully exploited the potential of "Age Neutrality" of workforce as we still see them going with the normal recruitment norms applicable for the physical world. They therefore look at providing "Work From Home" option to persons who love to drive to their office rather than being confined to within their homes in front of their parents. On the otherhand, a middle aged person who loves to work from home and also attend to some obligations associated with staying at home would love the work from home concept more than driving down to work. Work from home for such middle aged and seniors would be a blessing and they would provide better output per unit of investment to the hirer.

Again this age neutrality could raise an ethical issue of the obligation of industry to support the younger generation who is looking for a "Primary Source of Income" for earning a livelihood rather than providing additional revenue as a supplementary income to a middle aged or senior worker who already have enough savings for his basic necessities .

Balancing the requirements of the young society with the senior society is therefore an obligation that the Cybertariat industry needs to manage.

Again, the solution lies in generating specific alternate avenues of employment which the younger generation consider it an enjoyable occupation in replacement of the not so enjoyable nine to five office job which can be split into two or three slots and filled up by multiple senior persons working from home.

Gender Neutrality Impact

The third key aspect of Cybertariat workforce is the fact that the concept of "Good Looking", "Male or Female" has no relevance to the work.

In certain types of work, "Voice" could be a factor of employment but with some voice changing software available in the market, real time voice changing could be a technically and commercially feasible option to be used by Cybertariat workers to completely negate the advantages or disadvantages of the gender of a Cybertariat worker even when the work involves a voice interaction.

In countries like India, we are still struggling with concepts such as "Gender based Reservation" and "Gender Based Discrimination" in workforce policies. Rise of Cybertariat workforce kills the concept of such gender based discrimination and brings in an equality between the male and female workforce. It eases the obligations of the employer such as extending leave to employees beyond certain limits only on gender based considerations and generally helps in improving the productivity of the entire workforce.

Again the advantage that the Gender Neutrality provides to the Cybertariat employer also provides a challenge to the ethical obligations that the society may like to pursue in providing employment based on the gender of the employee.

While the gender neutrality may reduce the preference that the society now provides to women in the form of easy working hours and longer maternity leave etc., Cybertariat workers simply do not care about working

hours and maternity leave since they can work as long as their health permits and be beneficial to both themselves and the employer.

In summary we may observe that there are several ethical issues that arise out of the rise of Cybertariat work force. But these provide several economic benefits to the employer and the disadvantages are often a reflection of our expectations created because of our experience with the workspace in the physical world. As we get used to the Cybertariat work space, we can certainly find a balance between the economic advantages and ethical challenges and perhaps achieve a better harmony and benefit to the society on the whole. Managing the transition without being bogged down by the old principles of what is an ideal work space is however a necessity to harness the benefits of Cybertariat work culture.

Pavan Duggal:

Cyber Terrorism And Cyber Law - Duties Of Service Providers

Abstract:

The year 2017 has dawned in a new era. This is an era where cyber terrorism and cyber extremism are increasingly going to be significant factors in our day-to-day lives. Whether we like it or not, today social media platforms are infiltrated with cyber terrorists and cyber extremists. In addition, Cyber radicalization as a phenomenon is constantly on the rise.

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Important Cyberlaw Trends Of 2017

The year 2017 promises to be a year of tremendous developments as far as Cyberlaw jurisprudence is concerned.

The year 2017 is likely to build upon the foundations of Cyberlaw jurisprudence which has been placed at a strengthened position in the preceding years especially in the year 2016. It is hard to crystal gaze and predict specifically. However, on the basis of the information available, some broad trends of Cyberlaw jurisprudence can be detected on the horizon.

Consumer Protection Issues

As more and more consumers join the digital bandwagon at the global level, we are likely to see jurisprudence evolving concerning consumer protection issues in cyberspace. Consumer protection issues are already marked as important issues in some jurisdictions while in other jurisdictions, consumer protection is virtually non-existent. The year 2017 is likely to see further development of jurisprudence impacting consumer protection in the year 2017.

Blockchain Legalities

The year 2017 is further likely to see more work being done on the legalities pertaining to blockchains as a transformative technology. With increased adoption of blockchains in banking, financial and other sectors, there is a need for more work to evolve jurisprudence concerning blockchains at a global level. The further adoption and strengthening of usage of crypto currencies across the world further means that work on the legal challenges raised by crypto currencies need to be done in 2017 so as to enable countries to have common minimum platform of regulating activities done using crypto currencies.

Social Media Jurisprudence

Social media will continue to rise in 2017. New social media platforms are increasingly engaging the attention of the netizen community. The legalities concerning social media jurisprudence require more discussions and debate. There is an urgent need to protect women and children on social media from unwarranted exposures and influences and Cyberlaw needs to play a significant role therein

Cyber Radicalization and Cyber Terrorism

As cyber radicalization and cyber terrorism continue to grow unabated, the year 2017 is likely to see more focus on coming up with national and international frameworks to effectively regulate the same. Counter narratives to deal with cyber radicalization, would require enabling legal support from legal frameworks all over the world. Cyber terrorism jurisprudence would need to be expanded in 2017 to cover the emerging new activities being engaged in by cyber terrorists all over the world.

Regulation Of Intermediaries as Data Repositories

The year 2017 is likely to see more focus on the regulation of increased role of intermediaries and service providers as data repositories, with increasing compliance and due diligence requirements. Countries across the world are increasingly likely to examine the important complex role played by the intermediaries in the cyber ecosystem and put more responsibility on such data repositories concerning cyber security as also protection of third party data.

Data Protection and Privacy

The year 2017 is further likely to see the focus on protecting and preserving data as also personal privacy. In that context, the year 2017 is likely to see increased discussion and debate on how to protect and preserve data and personal privacy in accessing consumer data.

Encryption Balancing

Since encryption is a very important subject, the year 2017 is likely to see further calls for need to develop legal principles in such a manner which can help create golden balance between protection of privacy using encryption and the intrinsic rights of the sovereign states to have access to backdoors.

Individual Rights Versus Cyber Sovereignty

The year 2017 is further likely to see a conflict emerging between protection and preservation of individual rights on the Internet and increasingly bigger ambit of cyber sovereignty of sovereign nations. As freedom of speech and protection of fundamental rights on the Internet engage the centre-stage attention in different jurisdiction, Cyberlaw jurisprudence is likely to be called upon to develop robust effective and efficacious principle which can help balance both the competing demands from different stakeholders in a delicate manner.

Norms of Behaviour In Cyberspace

The year 2017 is further likely to see more discussions on the applicability of international law to cyber warfare issues. Discussions around rules and norms of behavior in the cyberspace expected from all stakeholders in the cyber ecosystem will increasingly engage the attention of the relevant stakeholders.

The aforesaid are some of the important trends in Cyberlaw jurisprudence that one can detect emerging in the horizon. Needless to say, I am not a Soothsayer and it is not possible to predict comprehensively. However, on the basis of the developments that have taken place in the year 2016 and earlier years, it is expected that the aforesaid issues will increasingly become more significant in terms of their importance and would further help in contributing to the evolving Cyberlaw jurisprudence at global, regional and national levels.

Duties of Service Providers

The rationale behind the emerging trends is crystal clear. Cyber terrorists are increasingly focusing on those areas on the Internet where majority of people are converging and social media platforms are clearly one of them. Consequently, more and more cyber terrorists are infiltrating social media networks. It is common knowledge that cyber terrorists are using social media for outsourcing terrorist designs and approaches as also for disseminating terrorist contents for misleading innocent young minds accessing the Internet.

In this scenario, the entire role of intermediaries and services providers becomes critical. Recently, it has been reported that Twitter as social media network has been sued by a Florida woman Tamara Fields, whose husband Lloyd died in a terrorist attack. The plaintiff has accused Twitter of having knowingly allowed ISIS as a terrorist group, to use the Twitter network to spread propaganda, raise money and attract recruits. Twitter has denied the said charges.

While we await the decision of that case, the important factor that is gaining centre-stage attention is that intermediaries and service providers increasingly have a duty to ensure that their networks are free from dissemination of cyber terrorist content as also data.

Gone are the days where service providers were merely pipe providers. Today, the service providers and intermediaries have undergone metamorphosis into huge data repositories. In today's scenario, service

providers and intermediaries have various obligations, though the said obligations are not being completely complied with.

Going forward, I am of the view that today service providers and intermediaries need to be straddled with some basic duties in the context of cyber terrorist content on their network. I enlist 6 important legal duties for intermediaries and service providers, which become more relevant and topical in today's times:-

- a) Service providers have a duty to take care and caution towards ensuring that their networks do not get misused for cyber terrorist and cyber extremism purposes.
- b) The service providers have a duty to exercise due diligence while discharging their duties under the law.
- c) The service providers further have a duty to ensure the security and stability of their networks and further ensure that their stable, secure networks are not prejudicially impacted by cyber terrorist content, propaganda as also information in any manner.
- d) Service providers also have a duty to protect the members/users on their platforms from exposure to undesirable cyber terrorist and cyber extremist data and content.
- e) There is a duty for service providers to be sensitive of the sensibilities of users on their networks.
- f) Intermediaries have a larger societal responsibility towards ensuring that their networks do not get misused as tools for dissemination and propagation of terrorist content and information as also platforms for enabling cyber terrorists to target their respective targets.

It needs to be noted that most of these duties are already intrinsically known to stakeholders, though they are often not enforced. All the aforesaid duties are those, which appeals to common sense and need to be duly documented in cyber legal frameworks to ensure that service providers mandatorily comply with the same.

Seen from the perspective of service providers, the service providers may not necessarily welcome imposition of any such duties on them. They would take the argument that they already have been straddled with enough other compliance. Further, in the context of the United States, service providers take the plea of exemption from liability as service providers in their capacity under US laws.

The service providers often also argue that the responsibility of fighting cyber terrorism is purely that of the Government and that the Governments cannot outsource their statutory and sovereign functions to be performed by service providers. While that argument may have some merits that still does not mean that intermediaries and service providers can look the other direction, while their networks are being misused for dissemination, propagating or spreading cyber terrorist content and information.

The entire issue pertaining to intermediary liability needs to have a relook, given the fact that the world is now going through a changed scenario. A new chapter needs to be written in the evolving jurisprudence on intermediary liability. Further, countries in different parts of the world increasingly now need to focus on documenting the aforesaid duties of care for intermediaries and service providers to ensure that the said intermediaries do not in any manner, conspire or abet in the commission of any cyber terrorist activities, merely by virtue of them providing their platforms for the dissemination, spread, propagation of cyber terrorist activities, information, data as also propaganda.

We need to quickly realize that cyber terrorism, cyber extremism and cyber radicalization are three sisters which combined together, can have the effect of prejudicially impacting not just the Internet but also societies and nations at large. In such a scenario, Cyberlaw frameworks need to develop quickly to enforce the duties

of intermediaries towards ensuring that their networks are not misused or abused by cyber terrorist activities or cyber extremism forces.

As the world wakes up to a new era, the three sisters of cyber terrorism, cyber extremism and cyber radicalization are beginning to make their prejudicial impact felt. It is high time that Cyberlaw as a jurisprudence evolves in the direction of ensuring the protection and preservation of Internet as a network of network and also for implementing the manifestation of peoples' expectations that social media networks should not be allowed to be misused for cyber terrorism, cyber extremism and cyber radicalization purposes.

Anthony Lobo:

4th National Cyber Security Workshop, 11-12 Nov 2016, Mumbai

http://www.ewh.ieee.org/r10/india_council/CyberSecurity/4thCyberWorkshop2016/

Abstract:

The 4th National Cyber Security Workshop organised by IEEE India Council was held in Mumbai at the sprawling Yantra Park, Thane Campus of Tata Consultancy Services on 11 & 12 November, 2016. This event follows two successful editions of the workshop in Ahmedabad (2013) and Bangalore (2014 & 2015).

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Introduction

An impressive line-up of domain experts took the participants through the minefield of security issues in the cyber world covering computing, telecom, finance, automotive, law enforcement, SCADA and allied applications.

Sessions

The sessions were interactive and down to earth and the speakers included computer scientists, security experts, the CISO of a mobile service provider along with an advocate specialised in cyber law, all of who shared an insider's view with the participants over two days.

- **Cyber Security for Financial Transactions - Issues and Countermeasures**
MR NANDKUMAR SARAVADE, Officer on Special Duty, Reserve Bank of India
- **Information Security in an Enterprise : A Reckoner**
MR BRIJESH DATTA, SVP and CISO, Reliance Jio Infocomm
- **Cyber security of industrial control systems**
DR ZIA SAQUIB, Executive Director, C-DAC
- **Cyber Laws and Crimes**
ADV VICKY SHAH, Advocate Information Security & Cyber Law
- **Threat perception and attack scenarios in automotive environment**
PROF S K SINHA, Professor (Retd) Indian Institute of Science, Bangalore
- **Web Security**
DR R K SHYAMASUNDAR, Senior Professor TIFR, Mumbai
- **Internet of Things (IoT) Security**
MR AVINASH KADAM, ISACA IDRBT
- **Hardware Intrusion: A Silent Enemy**
DR ANIL K ROY, Faculty, DA-IICT, Gandhinagar

Joining the participants at the venue were over 100 online participants who were also able to interact with the expert speakers.

An added attraction was the offer of ISACA's "CSX Career Starter" training material provided gratis to all registrants. This comprised their Cybersecurity Fundamentals Study Guide together with an attractive discount on the ISACA Cybersecurity certification programme. The Workshop provided a very timely insight into the intricacies of the internet, which on one side offers boundless opportunities for information sharing, commerce and connectivity yet posing the challenges of data theft, criminal hacking, invasion of privacy, and boundaries of monitoring by supervising agencies. The event was organised by Dr Amit Kumar and Dr Anil Roy of IEEE India Council.

Pavan Duggal:

International Conference on Cyberlaw, Cybercrime & Cybersecurity

<http://www.cyberlawcybercrime.com>

Abstract:

This article reports from the International Conference on Cyberlaw, Cybercrime & Cybersecurity (17th & 18th NOVEMBER, 2016, New Delhi - www.cyberlawcybercrime.com). The Conference was addressed by more than 150 speakers backed by more than 80 supporters. It was a wonderful opportunity to network with international thought leaders under one roof.

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Highlights:

- Conference was addressed by more than 150 speakers
- Conference having more than 80 supporters
- Wonderful opportunity to network with international thought leaders under one roof

Objectives:

The objectives of the International Conference on Cyberlaw, Cybercrime & Cybersecurity are as follows:-

- The International Conference on Cyberlaw, Cybercrime & Cybersecurity will look at the emerging legal, policy and regulatory issues pertaining to cyberspace and cybercrimes.
- To identify the emerging Cyberlaw, Cybercrime & Cybersecurity trends and jurisprudence impacting cyberspace in today's scenario.
- To create far more awareness about the newly emerging kinds of cybercrimes that are impacting all stakeholders in the digital and mobile ecosystem.
- To identify the areas in cyber crimes where Cyberlaw needs to be further evolved so as to meet with the expectations and needs of the relevant stakeholders of the digital and mobile ecosystem.
- To work in the direction of creating an international network of cybercrimes and cyber-legal professionals which could then be an important voice in the further development of Cyberlaw, Cybercrime & Cybersecurity jurisprudence across the world.
- Cybercrimes are now beginning to impact corporates in their new avatar. What are the major international Cyberlaw, Cybercrime & Cybersecurity trends? What kind of new manifestations of cybercrimes are beginning to emerge that corporates need to be careful of? What international best practices need to be kept in mind by corporates for protecting themselves from being victims of Cybercrimes? What kind of overall anti-Cybercrime strategies do corporates need to have in place? These and a variety of other issues are sought to be addressed in the International Conference on Cyberlaw, Cybercrime & Cybersecurity.

Proceedings during the Conference:

The International Conference on Cyberlaw, Cybercrime & Cyber Security 2016 aimed to examine and analyze the emerging Cyberlaw, Cybercrime and Cybersecurity trends of today's times. The International Conference was attended by various international delegates and speakers as also representatives from the national Diaspora representing the stakeholders in the digital ecosystem and alive web. About 600 international and national delegates and attendees from the corporate and government sector participated in the International Conference on Cyberlaw, Cybercrime & Cybersecurity.

The International Conference had more than 150 distinguished speakers and participants, which came from 39 different nations to address the conference.

The International Conference on Cyberlaw, Cybercrime & Cybersecurity was supported by more than 80 international and national organizations. These would include UNESCO, UNODC, ITU in the UN Family, as also by Council of Europe, Europol Cybercrime Centre, Interpol, Internet Corporation for Assigned Names & Numbers (ICANN), Internet Society, World Federation of Scientists, International Association of Prosecutors, Global

Prosecutors E-Crime Network, Asia Cloud Computing Association, Ministry of Electronics & Information Technology, Government of India, Ministry of Law & Justice, Government of India.

The conference was inaugurated by Hon'ble Mr. Justice Dipak Misra, Judge, Supreme Court of India. In his inaugural address, Hon'ble Mr. Justice Dipak Misra pointed out that cyber crime had increased "proportionately" with the increase in mobile and internet penetration in the country. He further pointed out that there is need for international bondage which shall have the singular aim to preserve cyber security. The governments and stakeholders need to be more flexible. There is also need to develop jurisprudential principles concerning cyber law. The Conference was addressed by Ms. Aruna Sundarajan, Secretary, Ministry of Electronics & Information Technology, Government of India. In her speech, Ms. Aruna Sundarajan stated that India is "leapfrogging" to use digital technology due to lack of "conventional infrastructure". In addition, Mr. Suresh Chandra, Secretary, Ministry of Law & Justice, Government of India had also addressed the Conference. The conference was also addressed by Dr. Indrajit Banerjee, Director, UNESCO as also by Dr. Henning Wegener, World Federation of Scientists.

The Conference Director Mr. Pavan Duggal focused on the need for the countries ask to make the reporting of cyber security breaches as mandatory. He highlighted the need for cyberlaw jurisprudence to grow so as to represent the aspirations of all stakeholders in the digital and mobile ecosystem. He also spoke about the emerging issue of attribution of cybercrime activities and challenges raised by Internet jurisdiction and connected legalities.

Outcome Document:

The participants of the conference approved the distinctive Conference Outcome Document. By means of the said Conference Outcome Document, the participants of the conference called upon the conference to take variety of steps in the coming year. In addition, the Conference Outcome Document further called upon national governments and nation states to take various steps for promoting the cause of Cyberlaw, Cybercrime and Cybersecurity. The following important key decisions have been arrived at the conference.

For the Conference:

- To take thought leadership in contributing towards evolving Cyberlaw jurisprudence
- To work and contribute towards evolving cyber security law jurisprudence by coming up with common denominators and principles which are accepted by nations concerning protection and preservation of cyber security
- To work on collating principles of cyber security law jurisprudence in collaboration with distinct thought leaders and international stakeholders including International Commission on Cyber Security Law
- To work with the international organizations and stakeholders for the purposes of coming up with legal frameworks on how to deal with the challenges posed by Security, Privacy and Freedom
- To collate international best practices concerning Cyberlaw by working with all relevant stakeholders for the benefit of the entire community and comity of nations
- To work towards harmonizing principles on Cyberlaw globally to include ethical values, virtues and balancing conflicting value perceptions in all instruments to strengthen cyber laws, aligned with international cooperation principles
- To tie-up with international stakeholders and collate international best practices concerning emerging jurisprudence concerning Cyberlaw, Cybercrime and Cybersecurity and further to engage in distinct

deliberations with stakeholders to help collate common universally accepted principles concerning Cyberlaw, Cybercrime and Cybersecurity

- To work for and contribute towards the respect of International Law enshrining the Freedom of Opinion and Expression
- To work on issues concerning Darknet jurisprudence as also legal, policy and regulatory issues concerning Darknet
- To strengthen the Permanent Standing Committee on Cyberlaw, Cybercrime & Cyber Security, recommended by the 2014 conference

For the Countries and National Governments:

- To work together towards evolving international solutions to deal with the legal challenges presented by jurisdiction and attribution on the Internet
- To mandate provisions for reporting cybercrimes and breaches of cyber security by various stakeholders and further encourage them to come up with appropriate enforcement mechanisms to enforce such reporting
- To achieve the golden balance between protecting national interests, sovereignty, integrity and security on the one hand and the protection and preservation of individual liberty, rights and obligations on the other hand
- To have in place robust legal frameworks for protection and preservation of Critical Information Infrastructures and to promote information sharing between public and private sectors to protect critical assets from cyber security threats; To work in close interaction with all stakeholders in the cyber community as also space community at the inter-governmental level for increased global awareness of the need to protect space assets and space systems, including critical infrastructures as well as to encourage enhanced cooperation and coordination for finding and implementing common approaches to the protection of communications and space systems.
- To proactively deal with the issue of detection, investigation and prosecution of cybercrimes on an expeditious basis
- To work for a universal cyber penal law and internationally binding rules of cooperation in law enforcement, in order to close existing loopholes in the persecution of cyber criminals
- To participate actively in all international endeavors to extend International Law, and particularly the International Law of Conflict, to the requirements of the digital environment with a view to generate consensus rules of law and behavior limiting conflict and conserve cyber peace
- To introduce legal, policy, administrative and pragmatic frameworks as a priority towards establishing a safe and secure cyberspace and aid in its further development.

The conference participants urged that a united effort is necessary to be adopted by all stakeholders to maintain cyberspace that is safer, more resilient, and remains a source of tremendous opportunity and growth for years to come.

Photographs – international conference on cyberlaw, cybercrime & cybersecurity 2016



**Hon'ble Mr. Justice Dipak Misra
Judge, Supreme Court of India
Inaugurating the Conference**



**Ms. Aruna Sundarajan, Secretary,
Ministry of Electronics & Information
Technology, Government of India
being Felicitated**



Release of the Book on "LAW ON AADHAR" authored by Mr. Pavan Duggal



Inaugural Session in Progress



Mr. Pavan Duggal Addressing the Delegates



Mr. Pavan Duggal with Dignitaries on the Dias



**Hon'ble Mr. Justice Dipak Misra
Judge, Supreme Court of India delivering the Inaugural Address**

Further Readings

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- **Nancy Shulock (1999):** *The Paradox of Policy Analysis: If It Is Not Used, Why Do We Produce So Much of It?* Journal of Policy Analysis and Management, Vol. 18, No. 2, 226–244
- **Jan Holvast, Penny Duquenoy and Diane Whitehouse (2005):** *The Information Society and its Consequences: Lessons from the Past.* in: Jacques Berleur, Chrisanthi Avgerou (Ed): Perspectives and Policies on ICT in Society. An IFIP TC9 (Computers and Society) Handbook. Volume 179
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The Paradox of Policy Analysis: If It Is Not Used, Why Do We Produce So Much of It?

Nancy Shulock

Abstract

This article explores the apparent paradox that our society invests heavily in policy analysis when empirical studies, political science theory, and common wisdom all suggest that analysis is not used by policymakers to make better policy decisions. It offers a critique of the traditional view of policy analysis and presents an alternative view derived from contemporary literature on the policy process and decisionmaking. The alternative view suggests that there are legitimate uses for analysis other than the problem-solving use originally envisioned but apparently rarely attained. The two views imply different patterns of use of analysis by legislative committees—a contrast that I subject to an empirical test. An examination of quantitative data on policy analysis use by congressional committees from 1985 to 1994 lends support for the alternative view. The research has two implications. First, despite its scientific origins, policy analysis may be a more effective instrument of the democratic process than of the problem-solving process. Second, the profession of policy analysis may be in better shape than many who are calling for fundamental changes to its practice seem to believe. © 1999 by the Association for Public Policy Analysis and Management.

INTRODUCTION

There is an apparent paradox in our society: We invest tremendous resources in policy analysis, yet common wisdom, political science theory, and years of empirical research suggest that analysis is not used by policymakers to make better policy. Legislatures, in particular, have been shown to be particularly impervious to policy analysis [Davidson, 1976; Jones, 1976; Mooney, 1991; Robinson, 1989; Weiss, 1989; Whiteman, 1985], yet a vast amount of analysis makes its way to legislative committees. This article offers a theoretical basis for resolving the paradox and tests the theoretical claim with data on policy analysis use by congressional committees from 1985 to 1994.

To shed light on this paradox, I suggest a fundamental redefinition of policy analysis and its use in a legislative environment. I argue that the rationalist foundation of traditional policy analysis unduly limits our understanding of policy analysis and its

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role in the policymaking process. Traditionalists view analysis as a tool for choosing among alternatives in an effort to solve problems. Failure to substantiate widespread use of this kind has led to despair about the future of the profession [Kirp, 1992] and has generated suggestions for major changes in its practice [DeLeon, 1997; Durning, 1993; White, 1994]. In my view, policy analysis is more a tool of the democratic process than the problem-solving process. Its value lies in its contribution to the understandings that citizens have of issues and the political process. These understandings can profoundly affect policy outcomes and popular support for those outcomes. Analysis can lead to better policies if by "better" we mean more responsive to, and supported by, the public.

My analysis of congressional committee use of policy analysis indicates that policy analysis may, in fact, be used in a manner consistent with this alternative definition. The principal implication of the research is that the policy analysis profession may not need a major overhaul, as some have suggested, but may simply need to be evaluated by a more appropriate standard.

THE PARADOX

The last two decades have seen tremendous growth in the policy analysis profession. Policy jobs have proliferated at all levels and branches of government as well as outside government, policy journals and professional organizations have been established, and graduate education in public policy has expanded dramatically. The rapid growth has made policy analysis "one of the established knowledge industries in late twentieth century America" [Dunn, 1994, p. 50].

Paradoxically, this investment has occurred without evidence that policy analysis makes a significant contribution to the solution of policy problems. To the contrary, there is substantial documentation that analysis is not used by policymakers to solve problems or even to choose among alternatives in the design of public policies [Booth, 1990; Caplan, 1975; Mooney, 1991; Webber, 1984, 1986; Weiss, 1977a, 1977b; Weiss and Bucuvalas, 1980; Whiteman, 1985]. More disheartening are the empirical findings on policy analysis use within legislatures. Strategic and conceptual, rather than substantive and concrete, use is more common [Whiteman, 1985, 1995] and insider information, rather than outside expertise, is reported to be more useful [Mooney, 1991]. Despite the tremendous information resources at the disposal of Congress, use of policy analysis falls well short of most people's expectations [Davidson, 1976; Frye, 1976; Haveman, 1976; Jones, 1976; Robinson, 1989; Verdier, 1989; Weiss, 1989]. The overlapping system of committee jurisdictions militates against use of analysis by fragmenting the attention given to a single policy issue [Davidson, 1976; Frye, 1976; Weiss, 1989]. A focus on the costs and benefits of policy measures to society as a whole "answers questions that few legislative policymakers are interested in either asking or having asked" [Haveman, 1976, p. 247]. Written analysis is unsuited to legislators, who "read people," not reports [Weiss, 1989, p. 414] and is only one of many sources of information competing for attention [Whiteman, 1995]. Whiteman, in fact, found that the more salient an issue is to constituents, the less analytical information is used.

The theoretical literature on legislative decisionmaking is equally discouraging. Distributive theory, in both its original and institutional variants, holds that legislators have little use for substantive information that relates policies to their probable outcomes in society. Legislators are rewarded for their positions, not for the policy outcomes that result from their positions [Ferejohn, 1986; Mayhew, 1974; Shepsle, 1986; Shepsle and Weingast, 1987, 1994]. Members require political information about

other legislators' positions and strategies [Austen-Smith, 1990; Cox and McCubbins, 1994; Lupia and McCubbins, 1994; Shepsle and Weingast, 1994], not substantive information about how policy will affect social welfare.

The policy process literature is no more hopeful than the political science literature. Kingdon [1995] claims that problems and solutions follow different chronologies. If solutions are attached to problems, it is largely fortuitous. If information has an impact on policy outcomes, it does so only over the long term. Sabatier and Jenkins-Smith [1993] argue that policymakers' core beliefs are unaffected by policy information and that major policy change results from external factors, such as inflation and elections, not from ideas and analysis.

What explains this paradox? Why do we invest so heavily in analysis, lacking evidence that it makes any difference in solving our myriad policy problems? Why do legislators request more policy analysis than they can digest while reporting that "political" and "insider" information is far more valuable? Why do interest groups and think tanks bombard legislators with policy reports that are not read? Is this investment misguided or is policy analysis used in some other, as yet undocumented, way that sustains and justifies the policy analysis industry?

TRADITIONAL AND INTERPRETIVE VIEWS CONTRASTED

The key to resolving the paradox may rest with embracing an alternative conception of policy analysis based on a more contemporary set of theoretical premises. A number of premises underlies the discipline and practice of policy analysis. These can be traced to the discipline's formative years, which coincided with the ascendancy of welfare economics, rational choice theory, and incremental understandings of the policy process. Traditional policy analysis presumes that experts trained in proper analytical techniques can apply them systematically to the political marketplace, can discover and measure the impact of policy on citizen interests, can project policy consequences with some accuracy, and can affect the decisions of identifiable clients, who will use the analysis to solve policy problems. It is an optimistic view that reflects the positivism of the social sciences that form the core of its interdisciplinary approach. It is driven as well by the "stages" view of policymaking in which one of the final states is a timely recommendation to a client.¹

The client orientation, I believe, emerged naturally from the prevailing view of policymaking as relatively orderly, in contrast to today's emphasis on the more dynamic aspects of the process. Analysis is viewed as advice to a client, rather than as a contribution to a broader political discourse, and its usefulness is assessed as its contribution to eventual decisions or actions by policymakers.

I suggest an alternative, "interpretive" view of policy analysis, with a different theoretical bent leading to a very different notion of "use."² The differences are

¹ Public policy schools typically present a linear problem-solving paradigm ending with a recommendation to a client. In one of the first books to describe the role of the policy analyst, Meltsner [1976] writes, "Whether he knows it or not, every analyst needs a client. Without a supportive client, his work will not be used. . . ." (p. 5). More recently, policy analysis was defined as "client-oriented advice relevant to public decisions" [Weimer and Vining, 1989, p. 1].

² My use of "interpretation" as an important concept in information use is not new [Feldman and March, 1981; Smith, 1984]. Durning [1993] identifies four classes of changes needed to address perceived shortcomings of traditional policy analysis. One—"interpretative participatory policy analysis"—asks the analyst to seek input from citizens. My approach is *descriptive*, not *prescriptive*, based on contemporary understandings of the policy process.

Table 1. Premises of policy analysis: traditional versus interpretive view.

	Traditional	Decisionmaking
Decisionmaking	Rational choice: decisionmakers set goals and maximize utility by choosing best means; prospective rationality; problems can be solved by systematic thinking	Ambiguous goals, uncertain means; decisions not primarily about projecting consequences but about process and organizational legitimacy; retrospective rationality
Politics	Marketplace of preference satisfaction; struggle over whose interests are best met by policies (costs, benefits); aggregate of individual interest = public interest	Polity: collective social struggle to shape issue interpretations and preferences about the public interest; debate and discourse can lead to learning
Information	Objective, ideally conclusive, useful problem-solving tool; reduces uncertainty about the relation between policies and outcomes	Inherently inconclusive; reflects values; partisan; information frames understandings of problems; cause-effect in social/political world is indeterminate
Public opinion	Inattentive, politically unsophisticated citizens whose interests can best be conveyed to policymakers by experts	Potentially attentive and capable citizens who mobilize around issue "frames," to whom policymakers pay attention
Policy process	Linear, stages, subgovernments; decisionmakers and experts; passive citizens; monopoly jurisdictions; incremental change	Nonlinear; constant battle over agenda; politics of ideas; competition over jurisdiction and issue interpretations; dynamic change
Use of policy analysis	Instrument of problem-solving process; used by client or decisionmaker to help make choices among competing policies	Instrument of democratic process; used by policymakers, interest groups, and citizens to interpret issues, discover public interest, and justify actions; symbol of rational decisionmaking

outlined in Table 1. Building on newer scholarship stressing uncertainty in decisionmaking [Cohen, March, and Olsen, 1972; Dryzek, 1993, Kingdon, 1984, March and Olsen, 1976, 1989], the social aspects of politics [Dryzek, 1990; Hill, 1992; Stone, 1997], the framing contributions of information to the mobilization of political interests [Jones, 1994; Neuman, 1986; Popkin, 1991; Sniderman, Brody and Tetlock, 1991; Stone, 1997], and the competition among committees for jurisdiction [King, 1997], I propose that policy analysis is used in three ways not validated by the traditional view: (a) as language for framing political discourse, (b) as legitimate rationalization for legislative action where prospective rationality is inhibited by "garbage can" decision environments, and (c) as a symbol of legitimate decision processes that can increase support for governance processes in a society that values rationality. Although this kind of use is not what policy analysts might hope for, it is neither a trivial nor illegitimate use of information resources.

RESEARCH DESIGN AND FINDINGS

Is policy analysis a tool for problem solving or a weapon in the battle to shape debate, claim jurisdiction, and gain public approval of legislative activity? The research design I employ to investigate this question focuses on two variables that can help us distinguish between the traditional and the interpretive views—committee jurisdiction and the degree of public attention to policy issues.

Committee Jurisdiction

Committees are the arenas for discussion of the merits and substance of most legislation and the place where policy analysis and other research information is most likely to be considered. Traditional views of policymaking were founded upon monopoly committee jurisdictions. Each committee had its own policy area, which provided opportunities for specialization or logrolling. Prior to the 1974 reforms, committees did technically have monopoly over jurisdictions because bills were referred to a single committee. However, complex legislation increasingly strained the definitions of jurisdiction. The 1974 congressional reforms allowed three types of multiple referral—joint, split, and sequential. Over the next 20 years, multiple referrals were used with growing frequency [King, 1997].³ Newer scholarship has focused on jurisdictional competition, in light of the fluidity of jurisdictions and the multidimensionality of most policy issues [Jones, Baumgartner, and Talbert, 1993; King, 1997]. This scholarship on congressional committees complements scholarship on the policy process that stresses the importance of framing and issue definition in the evolution of policy [Baumgartner and Jones, 1993; Jones, 1994; Rochefort and Cobb, 1994].

The interpretive view of policy analysis, which I derive from these newer understandings of the legislative and policy processes, suggests that committees would have a greater need for policy analysis when they face greater jurisdictional competition, because of the value of information in framing and interpreting issues advantageously. This leads to my first hypothesis:

Hypothesis 1: Policy analysis use by committees is greater in cases of jurisdictional competition than in cases of jurisdictional monopoly.

If policy analysis is used in the battle among committees to frame issues and claim jurisdiction, there should be greater use of policy analysis when committees are competing for jurisdiction. If policy analysis is used as a problem-solving tool, there might actually be less use of analysis with jurisdictional competition because no single committee would be in a position to approach the issue comprehensively. There is no reason, from the traditional perspective, to expect that use of policy analysis would increase as jurisdictional competition increases. Confirmation of this hypothesis would lend support to the interpretive view.

Measuring Jurisdictional Competition

I measure jurisdictional competition in two ways. One is specific to each case; the other is a contextual measure of each committee's jurisdictional environment. For the first, I use dummy variables to classify cases according to the five referral situations, because each situation carries different implications for the nature of the jurisdictional competition. These five referral situations are:

³ The 1995 reforms severely limited the use of multiple referrals.

Table 2. Likely continuum of jurisdictional competition by type of referral.

Type of referral	Level of competition	Reason
Split	Low	Provisions of the bill have been divided; committees are considering different titles
Sequential—secondary	Low	Committee has little reason to invest resources in issue definition battle because primary committee has already reported the bill
Single ^a	Middle (average of high and low)	Most single referrals are “potentially sequential” with committee having incentive to use information to fend off further referral; the remainder are single dimensional bills where competition is absent
Joint	Middle	Multiple committees consider the whole bill, but practice is to limit committees to issues within their established domain, diminishing the level of competition among committees
Sequential—primary	High	All are cases of a multidimensional bill where committee has incentive to frame issues to prevent sequential referral or at least put its mark on bill before it is referred onward

^a An ideal research design would set up separate categories for these two types of single-referral situations, one of which would be predicted to exhibit low competition and the other high. Determining the dimensionality of each issue is, however, beyond the scope of this study.

- Single referrals, where the bill goes to one committee only
- Split referrals, where the bill is divided, with separate parts going to different committees but no shared responsibility for reviewing the same provisions⁴
- Joint referrals, where the whole bill is referred simultaneously to more than one committee⁵
- The first committee in what ultimately becomes a sequential referral
- A secondary committee in a sequential referral

⁴ As King [1997] explains, split referrals have become very rare, as joint referrals have increasingly been made with attention to respecting committee jurisdictional boundaries (p. 102).

⁵ The 1995 Gingrich reforms eliminated joint referrals, replacing them with a modified type of sequential referral, but that was after the period studied in this research.

King's recent, detailed study of congressional committee strategies to claim jurisdiction over policy areas and specific legislation helps us understand that these different cases might fall along a continuum of jurisdictional competitiveness [King, 1997]. Table 2 displays the five different referral situations and the associated level of competition. The two somewhat counterintuitive findings from King's research are that most singly referred bills are "potentially sequential" (that is, not clearly within one committee's jurisdiction) and that jointly referred bills are monitored by committee "border cops" to minimize the degree to which committees deliberate on the same issues (p. 102).

The second measure of jurisdictional competitiveness is a contextual variable that measures the percentage of each committee's referrals, which were referred to other committees as well, in a given two-year session. For example, if 400 bills were referred to the House Judiciary Committee in the 103rd Congress, and 200 of those bills were also referred to other committees (excluding the House Rules Committee), the measure of jurisdictional competitiveness for the House Judiciary Committee in the 103rd Congress would be 0.50. The higher the measure, the more the committee shares jurisdiction with other committees and, according to interpretive theory, the more the committee would use policy analysis to help in the competition over issue definition and jurisdictional venue.

Public Attentiveness to Issues

Hypothesis 2: Policy analysis use by committees is greater when public attention to issues is high.

If legislators use policy analysis to explain their actions and seek constituency approval for legislative processes, then we should find greater use when legislators need to be concerned with public opinion. It could be argued that legislators using policy analysis in the effort to solve problems would likewise use more analysis when public attention is high. However, Table 1 reminds us that in the traditional view, analysis is conclusive—it actually reduces uncertainty about the impact of policies and facilitates decisionmaking. So, from the traditional perspective, we might expect legislators to spend more time reviewing studies or to obtain information more quickly, when public attention is high. We would not necessarily expect them to refer to a greater number of studies. In fact, one problem that politicians have with academic research is that studies so often contradict one another, impeding problem resolution.

Measuring Public Attentiveness

My operationalization of the public attentiveness variable is based on studies by Baumgartner and Jones [1993] and Jones [1994] of the dynamics of policy change. They have found that when jurisdictional monopoly prevails for a particular issue area, that area will be characterized by "subgovernment politics." Political activity will be dominated by those narrow interests most directly affected. Other interest groups and the general public will be inattentive to these policy issues. Consequently, legislators need be concerned about appealing for public support of their actions primarily when jurisdictional competition is present. When this condition is satisfied, *and* when the policy issue under consideration is salient, as measured by its coverage in the popular press, the public should be most

⁶ The newspapers are *The New York Times*, *The New York Times Book Review*, *The New York Times Magazine*, *The Wall Street Journal*, *The Washington Post*, *Los Angeles Times*, and *The Christian Science Monitor*.

attentive to their legislators' actions. I measure issue salience as the number of articles published in a database of seven newsarticles⁶ on the subject of the bill during the six-month period up to the publication of the committee report. The resulting interaction between jurisdictional competition and issue salience measures the degree of public attention to the bill at hand.

The Dependent Variable—Use of Policy Analysis

The interpretive view suggests to me that the use of policy analysis is positively affected by the two independent variables described earlier: jurisdictional competition and public attentiveness. I introduce a novel measure of the use of policy analysis. I count the number of citations of analytic reports in the "committee reports" filed by committees after consideration and often after amendment of bills.⁷ These reports are a rich source of evidence of "use" in accordance with the interpretive definition. A wide variety of studies and other analytical information is available to committee members and their staffs as a result of testimony and materials submitted to the committee. Committee reports include sections, often quite extensive, describing the information presented to the committee and explaining how it was considered by the committee to be relevant to its actions.

Committee reports are written by committee staff, approved by the staff director and the committee chair, and subject to review by members of the committee. The reports follow standard formats across all committees because their structure is governed by a House Rule.⁸ The sections of the reports where citations of policy analysis are typically found are "purpose and summary," "background and need for legislation," "committee consideration," and "additional, supplemental, and dissenting views." The fact that policy analysis is frequently cited in the latter section validates the committee report as a measure of policy analysis use in the interpretive sense: Members use the report to justify their actions. Their comments include explanations of why they voted against a measure or why they voted for a measure even though they had reservations. References to policy analysis in committee reports take many forms. Consequently, I developed rules for counting references to ensure consistency across cases. My principal aim was to count each reference to a report, study, or other published analysis in which the committee report cites a substantive point. The same report is counted more than once in a committee report if it is cited with reference to different aspects of the committee's consideration of the issue or if it is cited once in the main body of the report and again in a dissenting opinion at the end of the report. Multiple references to the same report must be counted because I am tracking not simply the number of studies at the disposal of the committee but the instances in which the content of those studies was found relevant to the committee's deliberation and committee members' interests. I make no judgment of quality or objectivity of the cited research, consistent with the interpretive theory premise that policy analysis necessarily reflects values. Table A.1 displays the use of analysis in one committee report. Each entry in the table counts as one instance of use by the committee.

⁷ Reports are filed only when a committee completes action and "reports" out the bill.

⁸ The one exception is the House Ways and Means Committee, whose reports tended to follow a different format that was long on descriptions of proposed law changes and short on explanations of the need for legislation or the reasoning of the committee. For this reason, I include a dummy variable for Ways and Means cases.

Control Variables

Committee Specialization

Highly specialized committees should be more familiar with experts and policy research. A control for committee specialization avoids confusing increased use of policy analysis with increased ability to find it. I construct a measure of committee specialization that reflects individual member experience sponsoring legislation in the relevant subject area.⁹ I compute the percentage of all of the bills authored by committee members during the two-year session that were referred to that same committee. For example, of the 509 bills authored by members of the House Agriculture Committee in the 100th Congress, 147 were referred to the House Agriculture Committee. The specialization measure for House Agriculture that session is 0.289, indicating that nearly 30 percent of committee member bill sponsorship involves agricultural issues.

Other Controls

I control for any impact the party of a bill's sponsor might have on the introduction of information during hearings. Bills sponsored by Republicans (the House was controlled by Democrats for all of the years of the study) may have received less genuine consideration and study. For similar reasons, I distinguish the 103rd Congress (Democratic president) from the 99th through 102nd (Republican president). In the four congresses with divided government, Democratic committee chairpeople may have been less receptive to expert testimony and materials submitted by the executive branch than they were in the 103rd Congress. Finally, I control for the unique characteristic of Ways and Means committee reports. These are organized differently than all of the others, de-emphasizing the sections that report the use of information and focusing on technical explanations of proposed provisions versus existing law.

Case Selection

I offer data on the use of policy analysis by committees of the House of Representatives from 1985 to 1994. The unit of analysis is the committee-bill pair. Each House committee to which a particular bill is referred is a separate case, provided the committee "reported out" the bill by submitting a written committee report to the floor. In selecting cases, I control for the availability of policy analysis, over time and across cases, so that findings of policy analysis use are not biased toward those cases where more policy analysis is available. By the mid-1980s the profession of policy analysis was well established. There should be no systematic variation in the availability of policy analysis across the selected time period, 1985 to 1994. To control for systematic variation across cases, I use only bills identified in the *Congressional Quarterly Almanac* as the subjects of "key votes." The *Almanac* identifies sixteen votes each year as "key" House votes. I assume that key votes occur with respect to major policy issues for which there is a reasonable pool of available research.

I select all domestic policy bills during the 10-year period that are subjects of the key votes, excluding resolutions, bills that originated in the Senate, and appropriations and budget reconciliation bills. Fifty-one bills meet these criteria. These bills entailed 129 committee referrals

⁹ Krehbiel [1991], in his work on the impact of specialization on legislative organizations, measures specialization by committee seniority. I believe a member becomes a specialist by engaging in legislative work in a particular area, not just by accruing years of service.

Table 3. Profiles of committee use of policy analysis ranked by average number of citations per case.

Committee	Number of cases	Total number of citations	Average number of citations	Congress ^a	U.S. General Accounting Office	Federal	University ^b	Task force ^c	Other ^d
Science, Space, and Technology	3	68	23	24	1	24	1	6	12
Agriculture	6	130	22	28	24	30	5	35	8
Energy and Commerce	14	282	20	29	43	106	6	3	95
Education and Labor	10	163	16	16	39	27	15	9	57
Banking, Finance, Urban Affairs	7	80	11	10	48	9	2	3	8
Judiciary	17	170	10	2	9	38	3	16	102
House Administration	3	22	7	3	0	14	0	0	5
Foreign Affairs	3	18	6	1	3	10	0	1	3
Interior/Natural Resources	6	37	6	4	9	8	0	0	16

^a Includes Congressional Budget Office, Congressional Research Service, Office of Technology Assessment, and committee and subcommittee reports.

^b All citations that identified author by university affiliation, including law review articles.

^c Includes federal-level task forces, commissions, and panels.

^d Includes industry groups, independent research or consulting firms, scholarly books and articles, state and local agencies, and sources without sufficient citation information to place in another specific category.

Table 3. Continued.

Committee	Number of cases	Total number of citations	Average number of citations	Congress ^a	U.S. General Accounting Office	Federal	University ^b	Task force ^c	Other ^d
Ways and Means	18	101	6	8	16	63	0	4	10
Merchant Marine and Fisheries	6	28	5	6	8	7	0	0	7
Post Office and Civil Service	2	9	5	4	0	0	2	0	3
Government Operations	4	12	3	2	1	8	1	0	0
Public Works and Transportation	5	9	2	2	0	6	0	0	1
Armed Services	1	0	0	0	0	0	0	0	0
Total	105	1129	11	139	201	350	35	77	327

^a Includes Congressional Budget Office, Congressional Research Service, Office of Technology Assessment, and committee and subcommittee reports.

^b All citations that identified author by university affiliation, including law review articles.

^c Includes federal-level task forces, commissions, and panels.

^d Includes industry groups, independent research or consulting firms, scholarly books and articles, state and local agencies, and sources without sufficient citation information to place in another specific category.

(excluding referrals to the House Rules Committee and to all Senate committees), and resulted in 105 committee reports. Fifteen different committees of the House are represented in the data.

Results

Table 3 summarizes the amount and source of citations of policy analysis in the committee reports. It shows that there was a substantial amount of citation of analytic reports—more on the average by some committees than by others. It shows, as well, that federal government sources were the most heavily cited and that the General Accounting Office and congressional sources were also heavily cited. The ranking of committees by average number of citations per report masks the high variability *within* committees of the use of analysis. For example, the committee with the highest average use, Science, Space, and Technology, cited no analytic reports for one of its three cases. Similarly, the Judiciary Committee (also a fairly high user of analysis) cited no analytic reports in 6 of its 17 cases, but cited reports 72 times in 1 case. My point is that there is no direct correlation between committee (and therefore policy area) and use of analysis. Instead, the important source of systematic variation appears in the level of jurisdictional competition, which is the subject of my research design.

Table 4. The significance of jurisdictional competition and public attentiveness in predicting use of policy information ($N = 105$).

Test Variables	Coefficient	<i>t</i> -value
Jurisdictional competition	36.50	1.82**
Referral type = single	-12.72	-2.26
Referral type = split	-24.17	-2.248***
Referral type = joint	-11.09	-2.03**
Referral type = sequential— secondary	-21.84	-4.01***
Public attentiveness	0.01	1.33*
Control Variables		
Bill sponsored by Democrat	6.36	0.81
Unified government (1993–1994)	-1.59	-0.36
Specialization	26.13	1.65**
Ways and Means Committee	-8.64	-1.26*
Constant	-5.15	-0.41
R-Square	0.23	

* Statistically significant at the 10-percent level.

** Statistically significant at the 5-percent level.

*** Statistically significant at the 1-percent level.

Table 5. Use of policy analysis varies by type of referral (findings from 105 cases).

Referral Type	Average number of citations of analysis in a committee report
Sequential—first	24.6
Joint	13.6
Single	11.0
Sequential—secondary	4.3
Split	2.7

Table 6. Public attentiveness: the interaction of competition and salience—more policy analysis is used when public attentiveness is high (values in box are average number of citations of policy analysis per case).

	Low jurisdictional competition ^a	High jurisdictional competition ^b
Low salience ^a	Low public attentiveness <i>n</i> = 33 9.45	<i>n</i> = 22 10.41
High salience ^b	<i>n</i> = 27 7.93	High public attentiveness <i>n</i> = 23 18.00

^a Less than mean.^b Greater than or equal to mean.

Table 4 shows the findings of the regression analysis with respect to the two test variables. The results provide strong support for the first hypothesis—that use of policy analysis will be greater where jurisdiction is competitive. All five jurisdictional variables are significant—three at the 1 percent level. The coefficients of the “referral-type” variables are negative, indicating significantly less use of policy analysis in all other types of referral than in the omitted referral category (sequential—first). Table 5 shows the average number of actual policy analysis citations per case for each of the five referral types. It reveals a pattern consistent with the continuum displayed in Table 2, with more use of policy analysis in jurisdictionally competitive situations.

Support for the second hypothesis is somewhat less strong. The public attentiveness variable is significant at the 10-percent level. Where public attentiveness is high, policy analysis use by legislative committees is greater. Table 6 shows the nature of public attentiveness more directly. The lower right cell shows that cases with the highest level of public attentiveness had the highest average use of analysis.

CONCLUSION: THE FUTURE OF POLICY ANALYSIS

This article posed a paradox: Why does our society continue to invest heavily in policy analysis amid consensus that analysis is not used? Through theoretical argument and empirical analysis I have suggested that a resolution lies in a new understanding of policy analysis. From a nontraditional, interpretive perspective, I conclude that analysis is, in fact, used extensively. My view belies the pessimism of many critics of the current state of the profession.

In "The End of Policy Analysis," David Kirp [1992] practically sounds the death knell for policy analysis but stops short of recommending any changes, placing the blame squarely on the shoulders of policymakers. Kirp laments "the retreat from analysis in public life." He attributes this retreat to "deep, structural, and permanent" changes in American politics and policy "that are abidingly hostile to the possibilities of analysis." We have, according to Kirp, witnessed the "triumph of the postmodern sensibility in the domain of policy," which favors anecdotes over policy substance, pessimism over the incrementalist's optimism, passion over reason, and media sound bites over reasoned political discourse. In Kirp's view, policy analysis, as traditionally conceived and practiced, has a "proper place in public decisionmaking," but sadly, one that is not now honored (p. 694).

Echoing this theme some four years later, Terry Davies [1996], director of Resources for the Future's Center for Risk Management, complains that "the value of objective policy analysis, especially in the U.S. Congress, is falling almost as fast as the exchange value of the U.S. dollar..." More defiant than Kirp, Davies seems intent that policymakers should be force-fed policy analysis in spite of their "know nothing approach to policy" (p. 1). In a "Message from the Director" in the Center's Winter 1996 *Newsletter* Davies asserts that:

[T]he Center for Risk Management is committed to the propositions that policymakers and citizens are better off knowing the facts and that the consequences of policy initiatives should be examined before the policies are enacted. Unlike some other institutions, we do not think that a catchy anecdote is a substitute for in-depth policy analysis. (p. 1)

Although Davies gives lip service to postmodernism with his acknowledgment that there is no such thing as purely objective research, he asserts that "within these constraints, we are committed to searching for the truth. . . ." (p. 1). He concludes with the promise to forge ahead, regardless of the demand for the work products of his staff:

The value others attach to our work will fluctuate, but we adhere to a faith that there will always be a place for knowledge and information, even in times of radical change. (p. 1)

Another set of critiques of traditional policy analysis argues that new forms of policy analysis must be devised to remedy the deficiencies of the traditional form. This view sees the lack of demand for the product as an indication that the product needs to change. Two types of deficiencies of traditional policy analysis are usually presented—an overreliance on a positivist framework and an antidemocratic tendency. A certain consensus appears to be taking shape about some of the possible forms a new policy analysis would take—all generally prescribing greater participation by the analyst with those potentially affected by the policies under consideration. Dan Durning [1993] offers a four-part typology of "participatory policy analysis" calling for various degrees of shared responsibility between analysts and citizens (or "stakeholders") for generating information and turning it into advice. Each would involve a greater or

lesser degree of transformation in the analyst's role.

White [1994] offers another typology, describing three revisionist views of policy analysis, each responding in its own way to the challenge posed by Thomas Kuhn's [1962] claim that all bodies of knowledge are "theory laden." All three emphasize the need for discourse in the analytical enterprise, as a means to interpret the plurality of values and arguments available to apply to any policy issue.

The critiques and accompanying prescriptions for a reinvented policy analysis place heavy new demands on the policy analyst as well as on our political institutions. Many of these demands are highly unrealistic and are acknowledged as such even by their proponents. These difficulties may explain the attitudes of Kirp [1992] and Davies [1996]—it is improbable that political "outsiders" can become equal partners in political debate with experts and "insiders," and that social scientists can shed their value predispositions and become equally able to present competing worldviews. Perhaps it is more likely that attitudes valuing traditional analysis will simply resurface.

In my view, none of these radical changes is necessary. As interesting as our politics might be with the kinds of changes outlined by proponents of participatory and critical policy analysis, we do not need these changes to justify our investment in policy analysis. Policy analysis *already* involves discourse, introduces ideas into politics, and affects policy outcomes. The problem is not that policymakers refuse to understand the value of traditional policy analysis or that policy analysts have not learned to be properly interactive with stakeholders and reflective of multiple and nontechnocratic perspectives. The problem, in my view, is only that policy analysts, policymakers, and observers alike do not recognize policy analysis for what it is. Policy analysis has changed, right along with the policy process, to become the provider of ideas and frames, to help sustain the discourse that shapes citizen preferences, and to provide the appearance of rationality in an increasingly complex political environment. Regardless of what the textbooks say, there does not need to be a client in order for ideas from policy analysis to resonate through the policy environment.¹⁰

Certainly there is room to make our politics more inclusive. But those critics who see policy analysis as a tool of the power elite might be less concerned if they understood that analysts are only adding to the debate—they are unlikely to be handing ready-made policy solutions to elite decisionmakers for implementation. Analysts themselves might be more contented if they started appreciating the appropriation of their ideas by the whole gamut of policy participants and stopped counting the number of times their clients acted upon their proposed solutions. And the cynics disdainful of the purported objectivism of analysis might relax if analysts themselves would acknowledge that they are seeking not truth, but to elevate the level of debate with a compelling, evidence-based presentation of their perspectives. Whereas critics call, unrealistically in my view, for analysts to present competing perspectives on an issue or to "design a discourse among multiple perspectives," I see no reason why an individual analyst must do this when multiple perspectives are already in abundance, brought by multiple analysts. If we would acknowledge that policy analysis does not occur under a private, contractual process whereby hired hands advise only their clients, we would not worry that clients get only one perspective.

Policy analysis *is* used, far more extensively than is commonly believed. Its use

¹⁰ The breadth of analysis that was cited in the House committee reports convinces me that we are well beyond the client-analyst model, even as that model continues to be taught in graduate schools. The ideas of an army of analysts from universities, think tanks, lobby groups, executive branch offices, state and local governments, and elsewhere found their way into the rooms and halls of Congress, whether or not there was any immediate "client" who found use for the analysis.

could be appreciated and expanded if policymakers, citizens, and analysts themselves began to present it more accurately, not as a comprehensive, problem-solving, scientific enterprise, but as a contributor to informed discourse. For years Lindblom [1965, 1968, 1979, 1986, 1990] has argued that we should understand policy analysis for the limited tool that it is—just one of several routes to social problem solving, and an inferior route at that. Although I have learned much from Lindblom on this odyssey from traditional to interpretive policy analysis, my point is different. Lindblom sees analysis as having a very limited impact on policy change due to its ill-conceived reliance on science and its deluded attempts to impose comprehensive rationality on an incremental policy process. I, with the benefit of recent insights of Baumgartner, Jones, and others into the dynamics of policy change, see that even with these limitations, policy analysis can have a major impact on policy. Ideas, aided by institutions and embraced by citizens, can reshape the policy landscape. Policy analysis can supply the ideas.

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APPENDIX

Table A.1. Example of policy analysis use from committee report 99-336, Labor-Management Notification and Consultation Act of 1985.

Source of analysis (full citations are often not provided in the committee report)	Point of citation
House Committee on Small Business, "Conglomerate Mergers—Their Effects on Small Business and Local Communities," 1980	Conglomerate corporations, because they lack local community ties and loyalties, are far likelier than other businesses to shut down or relocate facilities.
A Brookings Institution study of manufacturing plant closings from 1978–1982	During a recession, the rate of disinvestment accelerates and the number of plant closings and cutbacks soars.
A study published by the Public Research Institute of the Center for Naval Analysis	Workers under the age of 40 experienced a 13.4 percent drop in average earnings in the year after closure relative to the year before closure. Workers over the age of 40 suffered a 39.9 percent reduction.
Study by Professor Barry Bluestone, director of the Social Welfare Institute at Boston College, of New England United Auto Workers	Victims of plant closings suffer severe financial losses. Half of the displaced workers were still unemployed 27 months after they lost their jobs.
Louis Jacobson's study of plant closing victims	Financial losses of plant closing victims persist long after they find new jobs. Six years after a closing, the average worker in the steel, meat packing, automobile, and aerospace industries earned 12 to 8 percent less than before the shutdown.
Bureau of Labor Statistics survey of displaced workers	Documents continued joblessness or reduced earnings of displaced workers one to five years later.
Study by Charles Craypo, professor of Labor and Industrial Relations at Cornell University, and William Davidson, professor of economics at the University of Notre Dame, of effects of brewery closing on its 233 production workers	Mortality rate for the displaced workers was 16 times greater than the comparable rate for males having the same age distribution.
Study by Dr. M. Harvey Brenner for the Joint Economic Committee	Studied relationship between unemployment and premature mortality, finding that unemployment causes death by murder, alcoholism, cardiovascular disease, and—most directly—suicide
Dr. Sidney Cobb and Dr. Stanislav Kasl	Seven-year longitudinal study of plant closing victims found their suicide rate to be 30 times greater than normal.
1978 Report to the Federal Trade Commission	Displaced workers find it difficult to adjust to new employment, with the emotional and psychological effects being especially severe for the over-40 worker.
Joseph Cipparone, University of Michigan <i>Journal of Law Reform</i>	The adverse effects of a plant closure usually are not limited to the displaced workers and their families. The community suffers too. Local businesses lose profits, which causes more lost jobs. As people leave to find jobs, property values decline.
Analysis by University of Michigan's Industrial Development Division	The shutdown of the McLouth Steel Corporation would have cost the state and local governments, and school systems an estimated \$11 million in lost taxes.
Anaconda, Montana, Chamber of Commerce survey of 36 local firms	Documents impact of plant closure on unemployment, food stamp rolls, other business layoffs, and business activity.
Studies by Professors Gary Hansen of Utah State University and Nancy Folbre of the University of Massachusetts	Documents the practices of corporations in failing to provide notice to employees of impending closure.
Bureau of Labor Statistics survey of displaced workers, January 1984	Documents that one-half of 11.4 million workers displaced between 1979 and 1984 received no advanced notice and did not expect the layoff.
Another Bureau of Labor Statistics Report	Fewer than 20 percent of union employees are protected by a contractual requirement that the employer give advance notice of a plant shutdown.

The Information Society and its Consequences: Lessons from the Past

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INTRODUCTION

Without doubt the year 1976 was an important year for the discussion on Computers and Society. In that year Joseph Weizenbaum's *Computer Power and Human Reason* was published and IFIP's TC 9 on Computers and Society was founded. In this contribution we want to give a short overview of the history since then and answer the question "what lessons can be learned from the past twenty-five years?" Following a review of the vigorous debate on the development of computers in society that has taken place during that period, four main questions are raised:

1. Is the Information Society a new phenomenon or is it a question of emphasis?
2. Has the development led to a new revolution as never seen before, as many scientists and policy makers would have us believe?
3. What are, in a general sense, the consequences of this evolving information society?
4. Can information technology be controlled, and if so, what are the main instruments of control?

COMPUTERS AND SOCIETY

The history of the Computer and the history of Computers and Society do not run in parallel. Despite the work and the ideas of forerunners, like Schickard, Pascal, von Liebnitz, Babbage, Hollerith and many others, the history of the computer can be seen as having started in the mid 1930s, when Turing, Zuse and Aiken were producing working computers with a practical function. The real start however was shortly after the end of the Second World War.

The consequences of computers on society were first seen in the field of labour. This is not surprising when we look at the enormous amount of literature devoted to the relationship between technology in general and work. Commencing with the influence of industrialisation and work in the middle of the 19th century through to the publications in the 1960s, we see a history of incremental development. It is one continuing story, in which sociologists and political scientists play a dominant role. Predictions that computer technology would soon create revolutionary changes in the number of people employed and in the length of the working week date from the late 1950s and early 1960s. At the same time we see the effects upon the content of the work studied and discussed.

Surprisingly in the middle of the 1960s, there was one other field where the consequences of computing were seen very sharply: privacy. In 1967 the famous and influential book *Privacy and Freedom* by Alan Westin was published [24]. This book was the finishing touch to a project on 'The Impact of Science and Technology on Privacy' that was carried out between 1962 and 1966. Alan Westin was Director of Research of the project. Following this publication there were a number of articles and books on this subject. There was a change of emphasis from the computer as the cause of threats to privacy, to its role in data processing. An important difference with those publications dealing with labour questions is that it was not sociologists or political scientists writing about the issue this time, but lawyers. There are several other fields where the implications of computing were perceived and studied [21]. The organisational consequences are quite substantial, and one major issue has always been the extent to which the introduction of the computer leads to greater organisational centralisation. At the same time it became clear that the computer would, in any case, affect society at large: the growth in the service sector. Already by the 1950s over half of the United States labour force was employed in service industries, although it was argued that the shift would continue to progress gradually.

It was theorised that radical changes could be expected if computerised information systems were to be used as efficiently and effectively in the political decision-making process. Such amenities as education and medical

care could be provided to all members of society. The relationship between computers and democracy received greater attention. Some believed that more and more decisions would be placed in the hands of experts, whereas others believed that computers could be used to establish a system of direct democracy. Ideally citizens should have a direct voice in political decision-making. Through the sheer amount of information and the number and speed of new discoveries, there could be great difficulty for people in trying to keep 'well informed'.

Therefore computers could have a great effect on education. In other words, the computer was seen as an aid in the process of using knowledge. Using computers in schools for instructional purposes was an important challenge, although computers raised the fear that they would increase dehumanisation by substituting machines for live teachers.

Computers were seen as having major consequences for the natural as well as the social sciences when computers were used for both data analysis and problem solving. One field, art, was seen as rather futuristic: "The use of computers in the arts has often been a subject of either good-natured humour or ridicule." [21, p.19] Somewhat greater progress has made towards an understanding of human cognitive processes. Cybernetic research compares the functioning of the human brain with the functioning of computers.

Many of the developments and implications outlined above are from the reader on computers and society, *The Computer Impact*, the first attempt to bring essays on implications of computer technology together in one volume. As the editor, Irene Taviss, stated, the essays are intended to present a broad sampling of the major issues raised. They were selected to give the reader a sense of the concrete developments of computer technology and their implications in specific spheres of social activity. Taviss hesitated on the choice of the title, although the most appropriate title for a discussion on the social implications of computer technology might appear to be *Computers: Curse or Blessing?* It is clear that the computer generated great fears and great hopes. "It has become a symbol for all that is good and all that is evil in modern society." [21, p.3]

Although this book was one of the first with a general overview and a vision of computers in society as a whole, it was important not necessarily for the attention it received, but for the discussion that was generated as a result.

The real start of the social discussion on Computers and Society was probably the publication of Daniel Bell's *The Post-Industrial Society* [2]. Bell's analysis posits that the advanced countries were moving from the industrial stage towards a 'post-industrial stage' of development. He claimed that the majority of economically active people would earn their living from different kinds of post-industrial service sector occupations. In a

pre-publication he indicated his notion of a 'knowledge society', characterised by research and development and a knowledge field with a large proportion of the Gross National Product and a large share of employment [1]. Although his analysis was North American in orientation, we can assume it could be extended to a variety of other countries.

As Annti Kasvio [17] rightly observes, the term 'post-industrial' was however used for the first time by Alain Touraine in his book *La société post-industrielle*, which was published in 1969. In this book, and following the tradition of sociologists dealing with computer technology, Touraine studied the consequences of the new society on labour and the industrial working class.

A BREAKTHROUGH IN THE DISCUSSIONS – THE WEIZENBAUM PERIOD

In 1976 a book was published that influenced the discussion on computer and society in an enormous way. It was Joseph Weizenbaum's *Computer Power and Human Reason* [22]. In this book the way in which computers can be used is criticised for the first time, specific applications are censored or perhaps even 'excommunicated'. Weizenbaum had been shocked by the way people reacted towards the computer program ELIZA, that he had designed to play the role of a psychologist or doctor. This experience led him to attach new importance to the question of the relationship between the individual and the computer.

In his analysis Weizenbaum came to the conclusion that too much power is given to technology, in particular the computer. Many problems are seen as technical problems that can be solved by a computer. The computer is seen as more powerful than human beings, and 'common sense' is replaced by science. The consequence is an over-emphasis on rationality and instrumentalism. Those who protest against this development are perceived as anti-technological, anti-scientific and, finally, as anti-intellectual. In reality, however, the price - which in Weizenbaum's view is actually paid - is servitude and impotence. Therefore human beings, in particular scientists and engineers, have responsibilities that transcend their situation. Every individual must act as if the whole future of the world, of humanity itself, depends on him or her.

Two kinds of computer applications might either not be undertaken at all, or - if they are contemplated - should be approached with the utmost caution. The first kind includes all projects that propose to substitute a computer system for a human function that involves interpersonal respect, understanding, or love. These are the human functions for which computers ought not to be substituted. The second kind of computer application that

ought to be avoided is that which can easily be seen to have irreversible and not entirely foreseeable side effects. If computers cannot be shown to meet a pressing human need that cannot readily be met in any other way, then their use ought not to be pursued.

THE BEGINNING OF THE DEBATE ON THE IMPACT OF THE INFORMATION SOCIETY

The growth of interest in computers and information technology is largely due to this initial publication by Weizenbaum. Other resulting publications are two voluminous books published in 1979 and 1980. The first is *The Computer Age: A Twenty-Year View*, edited by Michael Dertouzos and Joel Moses [8], the second *The Microelectronic Revolution*, edited by Tom Forester [11]. Both books have similar content, although not necessarily treated in the same order. Dertouzos and Moses' publication contains five main chapters: Prospects for the Individual, Trends in Traditional Computer Uses, Socio-economic Effects and Expectations, Trends in the Underlying Technologies, and Critiques. Forester's book starts, as promised in the title, with the technical: The Micro-electronic Revolution, followed by Economic and Social Implications, and ends with a view of the future: The Micro-Electronic Age. Although many of the impacts of computing are mentioned, in both books the emphasis is on economic aspects, in particular, the impact for employment and labour.

It is both remarkable, and at the same time revealing, that in both volumes three articles are copied. The first is Bell's famous article on information society,¹ the second a critical reaction of Weizenbaum on Bell's ideas, and the third a reply to Weizenbaum by Bell. Since these articles are widely discussed and have each in their own way contributed to a more general discussion of the social implication of information society, we will give a short overview of them.

In the comprehensive tradition of his earlier publications Bell gives an overview of the changes on societal level [4, pp. 163-212]. What he was calling in 1968 the Knowledge Society and in 1973 the Post Industrial Society, becomes the Information Society, a term that has since been adopted to describe this society. In Bell's view, we are living in a society in which information and knowledge are the crucial variables. This information explosion can only be handled through the expansion of computerised and subsequently automated information systems. This means that the computer is only a tool for managing mass society, since it is the mechanism that orders and processes the transactions - whose huge number has been mounting almost exponentially because of the increase in social interactions. His basic premise is "that knowledge and information" are

becoming the strategic resource and transforming agent of the post-industrial society. Inevitably, the onset of far-reaching social changes, especially when they proceed as these do through the medium of specific technologies, confronts a society with "major policy questions". In his view, any technology, such as the computer, is only instrumental, and its impact depends on other social and cultural factors.

In his response Weizenbaum speaks of the 'Computer' Revolution - to make clear that it is not information that causes the changes but the computer [439-463]. He agrees that society is transforming into an information society, however it is not information that is responsible for that but the computer. The central question therefore is not who is responsible for the information, but who is responsible for the actions based on these computer systems. The crucial issue is that of responsibility and control, and the consequences of the computer.

In his reply Bell does not add anything to the content of the argument. He begins with the remark that Weizenbaum is knocking down an open door. He repeats that the computer is purely instrumental. The crucial decisions are sociological, not technological. In his view Weizenbaum is a moral absolutist with tunnel vision.

Clearly stark positions are taken up. While both authors agree that we are tending to live in an information society, their analysis differs and, with that, so do their questions as to what has to be done to prevent unforeseen, and unwanted, side effects. In Bell's vision it is information and knowledge that determine the development and there is nothing that can or should be done to handle or correct this development. Weizenbaum on the other hand blames the computer and incites human beings, especially scientists, to take up their responsibility and raise questions such as: "Who is the beneficiary of our much-advertised technological progress and who are the victims? What limits ought we, the people in general, and scientists and engineers particularly, to impose on the applications of computation to human affairs? What is the impact of the computer, not only on the economies of the world or on the war potential of nations and so on, but on the self-image of human beings and on human dignity? What irreversible forces is our worship of high technology, symbolized most starkly by the computer, bringing into play? Will our children be able to live with the world we are here and now constructing? Much depends on answers to these questions" [23].

In a sense the Weizenbaum-Bell dispute is the forerunner of the debate which still dominates today. It is not only information versus computer, but it is also the discussion between the optimist and the pessimist, between people who see information technology as a societal blessing and those who only see the darker side, the side of the shadow. The discussion between information and technology was more or less decided in favour of the latter, when Tom Forester presented his next volume on *The Information*

Technology Revolution [12]. From that time on everybody talked of the new science of collecting, storing, processing, and transmitting information. Although the position seems to be a compromise between Weizenbaum and Bell, in reality the emphasis is always on technology.

SOCIAL IMPLICATIONS AND THE TEACHING CURRICULUM

Already in the beginning of the 1970s there began a search for a curriculum on Computers and Society. Among the first to raise attention to this idea was E. Horowitz and his colleagues, who cited three purposes for such a course:

- To educate computer scientists on the present and future impact of computer technology;
- To investigate some of the difficult moral questions concerning the responsibility of scientists; and,
- To gain a more humanistic perspective on the use and misuse of computers. [14]

Some years later these courses were elaborated in more detail. Two of them became more or less examples of university-level courses, because they had a broader impact and were more seriously discussed in the literature. Willy Jensen made a distinction between the broad arena where the consequences of computers were to be observed [16]:

- Economic life: trade, industry, automation, management, structural changes;
- Government: new services, bureaucracy;
- Work: employment, quality of labour;
- Culture: education, communication, informational media, quality of information, minorities;
- Leisure: quality of life, social contacts, entertainment, telework.

All of these developments were seen to have important consequences on democracy, freedom, protection of privacy, welfare and possibilities of control

A most important and useful classification was made by Friedrich, who classified the consequences of computing into the social aggregate hierarchy of international, national, business and individual levels [15]:

International level: the battle on the information market. Examples are the exploitation of databases, communication satellites, and the computer industry.

National level: national information monopolies, technology policies. Political questions are solved with computer supported planning and

decision systems, networking, the gap between citizen and government, vulnerability of society due to the dependency on information.

Business level: quality of work, employment, control of the workplace, personal information systems.

Individual level: man in control. Loss of individual space of freedom, privacy, technical relations instead of human relations, technical help instead of human help.

THE POST WEIZENBAUM PERIOD

After publication of the volumes by Dertouzos and Moses, and Forester, a whole range of books were published detailing the social implications of the information society - very often as a spin-off of a conference devoted to such a theme or as a specific project such as in IFIP-WG9.2 [5]. This period culminated in *The Information Age* trilogy of Manuel Castells in which he searches for the social and economic dynamics of the information age [7]. In these books Castells sees as his main task the analysis of the informational modes of development of societies. This analysis revolves around three fundamental axes: the changes that take place in the areas of material production, human experiences, and the structures of power. Two main trends are seen as the driving force: globalisation of the economy and the digital revolution.

In the mid 1990s, when information was recognised as an important factor of economic growth, we see a political interest emerging. One of the early actors in this field was the Japanese Ministry of Industry and Trade (MITI), which made Japan the global leader in the development and production of microelectronics [17]. After the stock market crash in 1987 and the economic recession in the early 1990s many political leaders looked to the digital revolution as a form of salvation. We can cite, as an example, the United States' National Information Infrastructure Programme, launched by president Bill Clinton and vice-president Al Gore.

This kind of stance was taken up in the European Commission's report 'Europe and the Global Information Society'. The report was prepared for the European Council meeting in Corfu by the so-called High-Level Group on the Information Society, chaired by Martin Bangemann [13]. The report starts with two key messages. The first is that the advent of the information society is inevitable and will lead to an industrial revolution comparable to that of the 19th century. The second is that Europe's entry into the information society will be, as stressed also by Jacques Berleur and Jean-Marc Galand in this book, market-driven. Therefore a common regulatory framework must be set up at the level of the European Union in order to

maximise the effect of the market while guaranteeing an appropriate level of protection for intellectual property, personal data, and network security.

This last statement is noteworthy insofar as, for the first time at international level, it was accepted and admitted that the development towards an information society is accompanied by risks. "The main risk lies in the creation of a two-tier society of have and have-nots, in which only a part of the population has access to the new technology, is comfortable using it and can fully enjoy its benefits." [13, 8] but this is not the only risk. A regulatory response is also needed in key areas like intellectual property, privacy and media ownership. Above all encryption becomes increasingly important, with the provision that governments need power to override encryption for the purpose of fighting against crime and protecting national security.

Whether this attention to societal risk was purely instrumental in terms of avoiding the possibility that 'individuals will reject the new information culture and its instruments', it was the first time that an internationally influential body accepted and confirmed that there are indeed risks. In light of the influence this report has had for various national programmes in their approach to the development of an information society, and that these programmes have almost always paid attention to societal and human aspects of the information society, its relevance cannot be underestimated.

INFORMATION SOCIETY

In his article on the Information Society, Bell uses four criteria to judge when this entry has been accomplished [4]

- In almost all social processes, storing, processing and use of information are the central factors (information as new energy instead of the previous human power and electricity);
- More than half of the employed population consists of people working in the information sector (information as an important economic force);
- Information technology (computer and telecommunications) form the most important infrastructure in society;
- Most social and political decisions are changed drastically by the use of information and information technology (information as an important factor of change).

Looking at these criteria we can confirm that, at the start of the 21st century, we have indeed entered the information society, but at the same time we can raise the question: What is new in that? Have we experienced the revolution that many people would have us believe?

As we have seen, Forester first speaks of the microelectronics revolution and later of the information technology revolution. Barry Sherman uses the

word ‘The New Revolution’ and even Castells uses this heavily laden word: “A technological revolution, centred around information technology, is reshaping, at accelerated pace, the material basis of society” [7].

But is this society indeed a radical new phenomenon or has it been more an evolution than a revolution? To answer this question we will reconsider the four criteria presented by Bell, starting with the importance of information.

THE RISE OF THE INFORMATION SOCIETY: REVOLUTION OR EVOLUTION?

As a consequence of the use of terminology, it is clear that the main feature of information society and information technology is information. Recording, processing and distributing information is as old as mankind. Proof of this can be seen in the caves in France, Spain and Africa, just as in Egyptian hieroglyphics. Distributing information in a very primitive form can be seen in the smoke signals of North American Indians and the horn blowers in some other countries. The importance (and consequences!) of information can also be read about in the Bible where the history of the first census takings is told. Counting people is an early instrument in the preparation of war making.

During the Middle Age the importance of information rose, strongly related to the development of the first important type of information technology: printing. Although there is discussion whether printing was first developed by the German Johannes Gutenberg or the Dutchman Laurens Janszoon Coster, there is nevertheless agreement on the importance of this invention.

As a consequence, the production of paper was stimulated, becoming one of the main products of the Industrial Age. In 1714 a new phase in this development was the invention of the typewriter by the Englishman Henry Mill, the forefather of the electric typewriter and the modern text processor. Information is more than text. Information is also a means to recording and distributing of sound and images. Thomas Edison’s name is strongly related to the development of recording and distributing sound. Telephone, telex and telegraph are the results of his creativity, just as some time later was the gramophone. This development was later combined with the microphone, developed by Alexander Graham Bell and first demonstrated at the World Exhibition in Chicago in 1876.

Even more impressive is the development of the practice of recording and distributing images. For the first time images were automatically recorded successfully in the middle of the 18th century. This resulted in the first photographic-style images at the beginning of the 19th century, rapidly

leading in the direction of the modern cameras and movies ('moving pictures'). All these inventions have come together in computer technology, which finally combines text, sound and images using the calculating principles of Pascal and numerous others.

Information is, as we have seen from this short overview, an important factor of the new form of information society, but to say that it is a new phenomenon is going too far. Information has always been important. Its importance has increased and it is perhaps more important than ever, but it cannot be seen as the factor underlying society. This means at the same time that there have always been people working on the collection, processing and distribution of information. Their number has also increased. On the one side, as a consequence the number of more traditional jobs has been reduced. On the other side, new information jobs have been created (such as programmers and system analysts). All these are signs that society has changed, but it is not the first time that a new technological invention has had societal consequences. The same has been seen with telex, telephone and television. The most important difference is that we have, for the first time, a convergence of all the technical components with the result that the consequences have been more rapid and radical. However, they have not been revolutionary in the sense that the consequences are unexpected and unpredictable. One of the proofs of this is that even now, after twenty-five years, nobody can tell exactly when the information society has made its entrance, in the same way that it is impossible to say when the industrial revolution came into force.

We therefore prefer to speak of gradual evolution instead of revolution. This means that we are almost never totally surprised by the consequences of the development, but in most cases can more or less predict not only what the consequences are, but also to what extent and in what areas they are likely to appear. For that reason we can even make an analytical scheme, in part based on the teaching courses presented by Jensen and Friedrich, of the fields where the consequences of the information society will become visible.

TOWARDS A MODEL FOR AN INVENTORY OF THE CONSEQUENCES OF THE INFORMATION SOCIETY

Looking at the developments of the last twenty-five years, we can see a variety of technical innovations, all of which in one way or another have influenced human life. Describing all these consequences asks for a kind of classification. The first distinction was made between consequences for the labour force and those affecting everything else. Other distinctions or classifications took the particular sector where the consequences were seen

as a starting point: healthcare, education, business, transport, art and science, defence and the mass media. Although this type of classification had the advantage that each separate sector could be described in detail, the disadvantage was the resulting overlap. A lot of developments happened in each and every sector with consequences there for labour, privacy and human relations.

Although the classifications of Jensen and Friedrich have advantages and disadvantages, a combination of classifications has been shown to be the most appropriate analytical structure: that is, there is a distinction between macro-, meso- and micro- levels.

The macro level describes society as a whole: national and international. At that level we can think of the consequences for employment, the digital divide, distinctions between the information rich and information poor, the growing vulnerability, and the problem of information overload.

At a lower level we have the meso-level or the level of the organisation, institutions, and the people who work and live in that organisation. This includes organisational changes, quality of labour, and privacy of the employee. With privacy we are on the frontier of the meso- and the micro-level.

At the micro-level the consequences for the individual are the primary focus: telework, privacy, human relations, and family life. Although this classification - as with all analytical distinctions - has some overlaps, it has proved useful for describing the general consequences of computing.

CONTROLLING INFORMATION TECHNOLOGY: THE DEBATE

The conclusion we have made in this contribution - that technological development is an evolution rather than a revolution - is more than a mere statement. It is also a conviction that consequences may be predicted and that it is possible one way or another to control the development - in particular the all too negative consequences. This argument opposes the ruling attitude of technological determinism, which asserts that developments can neither be predicted nor controlled. Such determinism reduces humankind to powerless pawns who can only accept their fate and wait to see what other people will do to help them. It is our belief that more can be done by human beings themselves than is often admitted.

Over the course of time there has always been a vehement discussion between the optimists and pessimists regarding the possibility of controlling technology. It is as Abbe Mowshowitz observed: "The central question is the nature of technology's role in our society. Is it purely instrumental, as most observers believe; or has it become an autonomous, formative element

in human affairs?" [18] The pessimists believe that technology is a completely autonomous power in itself that cannot be controlled. In other words, the consequences of technology, both positive as well as negative, have to be accepted as they are.² The optimists, like Dorothy Nelkin, believe that in one way or another technology can be influenced and directed. This view is at the same time a vision of the future, so perfectly demonstrated by the statement of James Branch Cabell: "The optimist proclaims that we live in the best of all possible worlds, and the pessimist fears that this is true".³ Langdon Winner, who made a study of autonomous technology, agrees that that it is not a conflict between pessimists and optimists, but a question of whether technology is out of control and follows its own course. In his view therefore technology influences all aspects of human life. It is a form of technological determinism that has as its characteristics firstly, that the technical base of a society is the fundamental condition affecting all patterns of social existence, and secondly, that changes in technology are the single most important source of change in society [25].

The discussion on autonomous technology and technological determinism was in particular fuelled by publication in 1954 of a book by the French sociologist and philosopher Jacques Ellul *La Technique ou l'enjeu du siècle* [9]. This book received international attention after its American translation to *The Technological Society*. In Ellul's view "technique" [technology] as a totality of methods is always striving at absolute efficiency, with the consequence that spontaneous actions disappear and we are left in a completely artificial world. In this world the individual's role will be less and less important in technical evolution. Technique has become a power endowed with its own peculiar force and is for that reason influencing everything: the economy, the state and the essence of what it is to be a human being. In that sense it even influences human behaviour, which is now oriented to adapting humankind to the technical world. In Ellul's view, in the technological society, there is no place left for a vulnerable human being. "The state, on the contrary, has need of whole, strong human beings, in full moral, intellectual, and physical vigour, who alone can serve it best. What the state requires is the technical means for integrating completely whole beings, and these means are on the point of becoming reality" [9, 386]. It will come as no surprise that Ellul's vision on the future is gloomy. Through the developments of technique the state will become totalitarian and will absorb citizens' lives completely. Although Ellul was challenged in his opinions by numerous opponents, he never changed his mind and in later publications he repeated his forecasts of a totalitarian society.

In discussing Ellul's view of technology we should not underestimate the period in which the book was originally written (1954) – that is, the social and political context in which it was set. It was written at the time of

the Cold War, when human beings seemed to be less important, and when they were intensively studied not only by sociological methods, but in particular by psychological testing. It was also the period of the lie detector. In that sense Ellul's pessimism to a greater or lesser extent was endorsed by philosophers like Helmut Schelsky, Erich Fromm, Forester, and Langdon Winner. It is the virtue of Winner, however, that he focussed attention on the problem of human beings in a technological society.

Ellul has been severely attacked for his pessimism, or as some have called it, fatalism. In particular his belief in technical determinism, the argument that technique is the prime mover controlling all developments, was fundamentally criticised. Determinism as a part of philosophy is a notion that has been in evidence since its beginning, only the name of prime mover has changed: God, Economy, Culture, Power. The difference is however that technical determinism in particular is criticised as not making a distinction between technology, technique and the use of technique. Freeman, Layton, and Winner are among Ellul's critics. As Winner states "Ellul fails to notice any difference between invention and technical implementation and apparently believes that for all intents and purposes these activities are identical" [25, 64]. In his, and others, view there is a clear distinction between what is happening in the laboratory and what happens when discoveries are put to work in the world at large.

Therefore a distinction should be made between the knowledge aspect and the application aspect. In some languages this distinction can be clarified in terminology between technology and technique⁴. Between both aspects there is a time lag, although due to technological developments this lag is becoming smaller and smaller⁵. But it is not only necessary to make a distinction between technology and technique, between knowledge and application, but also between the application and use of the technique. Numerous examples show how the use of technique is dependent on several societal aspects, money, the state of the art, and politics. Therefore it is too simple to say that technology is absolutely determined. Technique can, to a greater or lesser extent, be controlled.

THREE FORMS OF CONTROL

The question that we should therefore ask is: what can be done? To answer this question we would again go back to the past and offer up the old classification of Nelkin [19]. Nelkin presented a general model for control, which can be used for assessing control mechanisms. She uses the well-known distinction between control at three stages: afterwards, before and during and calls them respectively reactive, anticipatory and participatory control. Reactive control is oriented towards the protection of interests of

human beings and is a type of control exercised by institutions and government reacting to a certain development. Well-known forms of reactive control are legal and other punitive or disciplinary measures that attempt to prevent all too negative consequences. Also included in this category are the possibilities of claims and complaints, as are expert groups that are installed once the developments are started.

Participatory control deals with the involvement of citizens in the introduction and regulation of technology. In this capacity the most well known forms are protest movements and activities aimed at raising awareness. In some sense this has also been introduced in the labour movement under the heading of participatory design. Another form that is sometimes mentioned is self-regulation, under the condition that (consumer) organisations are involved in the process.

Anticipatory control consists of procedures for predicting social, political and economic consequences of new scientific and technological developments. This is particularly important when consequences are becoming visible, usually when the development has matured and changes are almost impossible. The most well known form of anticipatory control is Technology Assessment: identifying the possibilities of applied research and technologies together with the unwanted side effects. "It is a method of analysis that systematically appraises the nature, significance, status and merit of a technological process" [p 428].

Looking at these forms of control it is significant that reactive control is the one that is most used, followed by participatory control. Despite all pressures, participatory control has had little or no influence. For an appropriate form of control of information technology all three types of control are needed in combination. The practice, however, is that the emphasis is placed on reactive control, and for a small part on participatory control. For David Flaherty such practice gives every reason to be critical. "The belief that surveillance societies are not going to emerge because of efforts in data protection is naive; in fact, the existence of Data Protection Commissioners may actually stimulate the flavouring of surveillance societies by lulling the public into a false sense of security." [10, 381] The dangers exposed by Flaherty's observation of reactive control are alarming. A greater emphasis should be placed on the two other forms of control, anticipatory and participatory.

CONCLUDING THE DISCUSSION ABOUT THE INFORMATION SOCIETY

Reviewing these last twenty-five years and more, we can see three important periods. The first period (before 1976) can be seen as the period of growing

awareness in several fields. The most dominant are labour and privacy. In numerous articles and books the consequences of computing, mostly in a negative sense, are predicted as a result of the emergence of the computer. The privacy discussion during this period is concerned with computer privacy, rather than informational privacy.

The second period (1976-1993) can be seen as the period of growing scientific awareness with, as an important starting point, the critical analysis of Weizenbaum who confronts computer power with the importance of human reason. Numerous analyses are made based on inventories of the consequences of computing. The publications of Dertouzos and Moses in collaboration, and Forester, are the most significant examples. It is also the time that university courses on the theme of computers and society were started. Together with these analyses some thought is given to what can be done. Faced with a dominant trend towards technological determinism, legal solutions are sought. As Nelkin observes, it is the time of reactive control.

Starting around 1993, a third period of political awareness begins. At this time, it is not the social implications that are of concern, but the consequences of these consequences. They are seen as a potential obstacle for the use and the development of the so-called electronic highway (which we now commonly think of as simply the Internet) and thus hindering the possibilities for economic growth. In an integrated way all types of measures are promoted to tackle the various social implications. A combination of legal, technical and self-regulatory measures is suggested.

What however is missing is an holistic approach – only in this way we will be able to get a real grip on the development of the information society. Such a holistic approach can be reached when at least three conditions are met:

- First of all we have to be convinced that technique is not autonomous but can in a way be predicted and controlled;
- The three stages of development in social consequences of information communication technologies – awareness, scientific knowledge and political willingness – must be integrated;
- In controlling technique a combination of reactive, participatory and anticipatory control is necessary.

It is in this arena particularly that TC 9 ‘Computers and Society’ has attempted to focus its activities and to show the whole sphere, breadth, depth, and complexity of discussions in relation to the introduction of computing into the social arena.

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- 1 Although it is sometimes suggested that Bell was the person who introduced the term 'information society', Marien states that information society apparently was first used in Japan in the late 1960s by Kenichi Kohyama. See Michael Marien "Some Questions for the Information Society" in [12, pp. 648-660].
 - 2 As a consequence the distinction between the optimists and pessimists is not always true - some believe that this autonomous technology will bring a better world and others are opposing this.
 - 3 Our translation of the following German expression "Der Optimist erklärt, das wir in der besten aller möglichen Welten leben; de Pessimist fürchtet, das das wahr ist". Cited in Heinz Brandt, Nostalgie als Schwellenangst, in *Technologie und Politik, aktuell Magazin*, nr. 1, Reinbeck bei Hamburg: Rowohlt, 1975, p.33-47.
 - 4 It is curious that Winner mentions the distinction but at the same time uses technology and technics in the same sense in the title of his book.
 - 5 In particular Alvin Toffler gives several examples of the diminishing lag. See Alvin Toffler, *The Third Wave*, New York, Toronto, London: Bantam Books, 1980.

Ethics Statements on Web sites of Indian Companies

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Ethics Statements on Web sites of Indian Companies

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Abstract

This paper examines the corporate code of ethics of Indian companies as displayed on their websites. With the Securities and Exchange Board of India (SEBI) having made it mandatory for listed companies to frame a code of conduct and to place it on their websites, the question arises whether corporations are doing so merely as a requirement or whether they seem to be using it to make the best impact on the general public through the powerful mass medium of the internet. The official website of a company is its face to the wider world, including and beyond its various stakeholders, and it would thus be expected that companies would be keen to use this medium to present their formulated codes to project their image as ethically strong and transparent entities.

The codes of 60 top Indian companies displayed on their websites were studied for location of ethics statements, and the readability of these was calculated using the Flesch reading ease and Flesch–Kincaid grade level scores. The implication from the findings is that companies have the opportunity to present their ethical position with greater care on readability so that the material is comprehensible to a larger set of the public. In terms of layout too, the ethics codes could be made more easily accessible. More care also needs to go into framing of ethics statements as values-based rather than rule-based. This would help not only fulfil a mandatory requirement but also in articulating a unique identity for internal stakeholders to embrace, and for building a distinct image among competitors, in the public mind.

Ethics Statements on Web sites of Indian Companies

Introduction

De George (2005) narrates the history of business ethics as one comprising three strands, with roots for the strand of “ethics in business” going far back in religious and other traditions, as well as in various philosophical schools. The concern with presenting a business entity as an ethical one has been brought to the fore in contemporary times with frequent corporate scandals undermining public faith in the ethical values of companies. The benefits of establishing strong corporate governance procedures and of communicating these, are widely recognised (McGee, 2008; SEBI, 2003). Today, concern about the ethical conduct of business appears to be growing in society in India as in the developed world. Scandals and revelations of corporate malpractices whet the demand for greater transparency from businesses about their ethical positions and wider media attention fuels this demand. Stakeholders now expect companies to abide by regulations and norms, and carry out business in a principled manner. According to Waddock et al (2002), businesses are facing pressure to act responsibly as well as profitably from a number of sources including “primary stakeholders such as owners, employees, customers, and suppliers; secondary stakeholders such as non-governmental organizations (NGOs), activists, communities, and governments; and general societal trends and institutional forces” and consequently, businesses are increasingly trying to show themselves as responsible and compliant. One manifestation of this concern is the formalisation of ethics statements of organisations. Ethics statements serve a dual purpose – in addition to reflecting a company’s stand to the public, ethics statements help employees to be clear about the conduct expected from them in various situations. Further, placing the statement in the public sphere serves to show to the public how seriously the issue is taken by them internally and what specific messages they are giving to their internal constituents. Communication on a mass medium serves as a public attestation of commitment to the issue by, in a sense, allowing the world to watch you. Also, the highly visible, public communication of a company’s ethical stance may serve to build strong coherence between identity and image although care has to be taken to avoid dissonance between “the *official* communication . . . and what is *experienced* by the staff or *perceived* by external publics” (Polet 1999). It is to be seen whether the actions of companies with regard to communicating their ethical stance on the internet reflect this understanding of the role of such communication in creating a positive image as an ethically strong entity.

The internet today serves as a medium with a large and fast growing reach. “The emergence of new media, particularly the Internet, has enabled more rapid and easy access to information about corporate activities as well as more interactive modes of communication between the corporation and its multiple stakeholders” (Antal et al, 2002). Corporate web sites have become powerful tools for promoting corporate identities and building relationships with audiences (Topalian, 2003). According to Kent, Taylor and White (2003), “For organizations, Web sites provide a controlled channel through which they can communicate with stakeholder publics and the media. For stakeholders, Web sites provide publics with a channel through which organizations can be viewed and better understood” (63). In addition to marketing and other commercial activities through the web site, companies have recognised the benefits of an online presence and put up various kinds of information targeted at various segments of their stakeholders on their web sites. In fact, today, various stakeholders such as creditors, customers, and employees, actually expect access to “documents that will give them an accurate view of a company’s position and standing” including that on corporate ethics (Jiang et al, 2009). Thus, with stakeholders

gathering information about organisations and forming an impression about them, one would expect the latter to be keen to highlight information that helps to create a favourable impact.

Many studies have been done on web sites in general and corporate reporting in particular. However, the focus of the latter has often been on financial reporting (for example, Healy and Papelu, 2001; Ashbaugh, 1999, Khan, 2007, Botosan, 1997). Ettredge et al (2002) looked at the relationship of corporate financial reporting – both mandatory and voluntary – with a firm's need for new external equity capital while many others such as Chaudhri and Wang (2007), Coope (2004), Esrock and Leichty (1998), have focused on the use of web sites for Public Relations and CSR. Ashbaugh et al (1999) explore the use of Internet financial reporting by companies to build and maintain relationships with a range of stakeholders such as customers, suppliers, employees and shareholders. The content of web sites has also been focused on, with scholars carrying out content analysis of web pages (Esrock and Leichty 1999), and of home pages, specifically (Li et al 1997), as well as analysing the readability of annual reports (Li 2008), of mission statements (Sattari et al 2011), and of marketing information on B2B web sites (Leong et al 2002). The focus of the latter on the readability of web sites derives from the understanding of the strategic and marketing value of such statements, and is underpinned on the assumption that firms would be interested not only in maintaining these sites but also in evaluating their readability for the target audience. "The study demonstrates that readability formulae can potentially yield a quick gauge as to the ease or difficulty of reading online text" (Leong et al 130). A similar focus on the readability of ethics statements being posted by organisations on their web sites would help to assess how far these show care of reaching out to the various stakeholders. Connolly-Ahern and Broadway (2007) carried out content analysis on web sites to study the impression management techniques being used by companies. They found that although web sites have become important impression management tools for corporations because they represent a constantly available source of information for an organisation's publics, corporate web sites are not using the full two-way communication capabilities of the web. However, very few studies such as Sanderson and Varner (1984), and Farrell and Farrell (1998), have focused on the language of ethics statements/codes. Studies with a particularly Indian focus could not be located, thus indicating the dearth of work in this area.

There is thus a gap in terms of studies of corporate web sites' use of the medium to post statements reflecting their ethical stance. The present study seeks to address this gap by studying how Indian companies are using their web sites to project an image of themselves as ethical and transparent specifically through their presentation of their ethical stance as articulated in the ethics statements provided on their web sites. The focus is on both the content and design features with a view to assessing how well these are used to reach the wide public and to create a positive image of the company as an ethical entity. Choices made by these organisations in terms of nomenclature, inclusion/exclusion of voluntary details, as well as the complexity of language used and the prominence given to the information, combine to indicate the keenness to reach out to the intended readers for the desired impact. This is an exploratory study, among the first to focus on Indian companies and examining the ways in which both the mandatory requirement for uploading the code of conduct for board members as well as voluntary codes/ethical statements are currently being presented on corporate web sites. It attempts to provide initial insight into how Indian companies are using the corporate web sites to communicate their corporate governance practices – specifically, the code of conduct/ethics. As online communication is dynamic, and such a study can provide a snapshot in time, there is value to be gained by comparing the practices of a large number of companies at a given point in time and using this data to provide some directions

for the future. The paper begins with a discussion of the literature on ethics statements/codes. Next, it delineates the methodology and goes on to provide a discussion of the results. It ends with possible future directions of study. Such a study may serve as a benchmark in the Indian context to compare the evolution of the codes with time, with the scores on readability indices providing an empirical and objective basis for noting the direction of shifts in codes. The study aims to provide an overall picture of the nature and content of ethics statements of Indian companies. It does not aim to cover the issue of enforcement of the codes or the impact of these on actual ethical conduct. It also does not extend to the receivers communication, the objectives and the actual user experience. Focus on these could be the subject of future studies.

Communicating through corporate websites

For companies around the world, the powerful mass medium of the internet allows companies make the best impact on the general public through corporate web sites. The official web site of a company is its face to the wider world, including and beyond its identified stakeholders, and it would thus be expected that companies would be keen to use this medium to present their formulated codes or other ethical statements to project their image as ethically strong and transparent entities. This would be especially pertinent given the context of the public's loss of faith in the ethics of business, and of the increased need to distinguish oneself, given the increasingly competitive environment in most industries following the opening up of the Indian economy. Whether for investor relations or relations with stakeholders ranging from activists and advocacy groups to general public and potential customers, such attempts would serve to distinguish one's image as a company with a strong ethical culture with abundant voluntary information establishing how much value is set by this position.

The questions arising from this are: *where and how* are the mandatorily required codes of conduct for board and senior management being posted on web sites, and *what* are the voluntary statements reflecting the ethical stance of companies being provided on web sites and *how* is this information being presented in terms of accessibility and textual features? It is assumed that organisations today would be aware of the vast reach of the internet medium to a very large range of stakeholders and would be keen to reflect an image of themselves as ethical entities through the information they choose to post on their web sites. The hypotheses, therefore, are that one would find, in addition to meeting mandatory requirements, a variety of voluntary ethics statements on the web sites of the top Indian companies and these would be provided with due care on easy accessibility for a visitor to the site, and would be in basic language options and in a readable style.

A study by the investor relations consultants Blunn & Co. found in 2003 that of the 135 companies under review, less than 25percent published their companies' corporate codes of ethics (Jones, 2003). Kaptein's study (2004) of business codes from around the world noted that because a business code was not a statutory requirement, "as more companies adopt a code, those who refrain from doing so will increasingly be confronted with stakeholders who will want to know why a code is not viewed a desirable instrument to manage ethics, integrity and social responsibility". In the current Indian context when both the framing of code of conduct for board and senior management as well as of putting it on the web site are mandatory requirements, those companies who do not present their codes in an accessible manner and with a view to its readability, or provide few details, may be similarly confronted with stakeholders questioning this lack of keenness to share their position on ethical issues

and wondering why this has apparently low priority for the company. In addition, companies can distinguish themselves as ethically strong by posting additional, voluntary information about their ethical stance. A high degree of care on the amount of disclosure on the issue, on easy accessibility, and on the ease of comprehension for the largest possible segment of the public would indicate a corporation's awareness of the role of formulating ethics statements and of disseminating these through the company's web site in helping to build the reputation of a company. Despite a corporate web site that displays mandatory disclosures having become a norm, there is yet no standardization of content and format. With much of these matters – of content detail and presentation styles over and beyond the mandatory requirements – left to the companies to decide, there is a lot to be gained in terms of the impression of transparency and ethical focus to be created in the minds of a range of stakeholders.

Corporate codes of conduct

The reasons for establishing and communicating corporate codes of conduct are many; Pelfrey and Peacock (1991) provide the following: they set the ethical tone internally, “explain the company's ethical philosophy, provide information on legal and ethical issues, provide a set of enforceable rules, or provide a public relations statement of company ethics” (14). Citing a Conference Board survey published in 1988, they provide the following further reasons: ensuring “commitment of the CEO to the code”, helping “maintain public trust and credibility”, fostering “greater managerial professionalism”, protecting “against improper employee conduct”, defining “ethical behaviour in the light of new laws or social standards”, and ensuring the “maintenance of high ethical standards in the face of changing corporate culture and structure (decentralization, acquisitions, and mergers)” (14). Not only is formulation important but also dissemination and implementation. I am not extending the focus to the implementation, although it is no doubt of great importance because stakeholders would be quick to recognise mere window-dressing if the actual conduct bears out the claims made on such documents.

No doubt, these are strong and valid reasons for organisations to value the formulation and dissemination of ethical codes and other statements pertaining to their ethical stance. Not only are some of these required by regulation, organisations may see merit in formulating and disseminating these both to internal as well as external audiences. The climate of suspicion and skepticism in the light of corporate frauds and unethical practices makes it imperative for organisations to announce their stance on ethical matters concerning the conduct of internal constituents to the public. As Cochran and Weaver (1995) put it, “the perception of ethical failure in large organizations today places a burden of proof on all businesses. Every firm needs to demonstrate it's ethical, and company codes, company ethics programs and other activities are visible ways to do just that. . . . it's no longer enough for a business to provide employment, return on investment, and goods or services. Rather, society expects you to remedy societal ills, provide individual fulfillment and assist individuals in managing their personal lives. If you choose to ignore these social demands, you'll be subject to more laws, regulations, bad publicity and lawsuits.” Moreover, as the business environment becomes more culturally mixed, the requirement for “trust and a clear set of behavioral expectations for employees” also assumes greater significance (Cochran and Weaver 1995). New, loosely structured organisational forms compared to “traditional, hierarchically controlled businesses” that Cochran and Weaver mentioned in 1995 as requiring trust among more autonomous players, may also explain the growing perception in Indian companies today of

the importance of defining norms, and providing clear guidelines for defining the company's ethical stand. According to Kaptein (2004), business codes not only clarify the objectives pursued by the company, its norms and values, but also what it can be held accountable for. For stakeholders other than the internal ones, the objective of posting ethical statements/codes on the mass medium of the internet is that of projecting a certain image of the firm. The more effort the organisation seems to have spent on the matter indicates to these external stakeholders the value it has for the organisation, and by extension shapes the readability it has for them. In 1984 Sanderson and Varner found to their disappointment that about three-fourths of the contents the codes studied by them were concerned with complying with various federal laws rather than with ethical issues. They note that "codes are written with a combination of two or more objectives: to explain the company's philosophy of ethics, to provide information on legal and ethical issues, provide guidance for complex ethical decisions, to provide a set of enforceable rules, and to serve as a public relations statement on company ethics" (29). According to them, a well-developed code would cover the general philosophical objectives of the company as well as specific and enforceable rules (30). With the former not in place, employees do not get a sense of the basic ethical beliefs rationales and commitments of the organisation at large, nor broad principles guiding them in contexts where specific rules do not apply. As far as the rules are concerned, they should be specific and clear, both about prohibited conduct as well as about enforcement procedures. Without these, there is a likelihood of employee morale going down due to fear of arbitrary and subjective enforcement. Sanderson and Varner (1984) concluded that codes of conduct were still in their infancy from the finding that most business codes were highly concentrated on legal matters, with over two thirds of the documents consisting of laws and legal interpretations. While studying the contents of contemporary codes on Indian web sites it would be revealing to see how if codes have moved from such a focus in the 1980s. Explicit reference to compliance with Clause 49 or to other laws/legal requirements is taken in the present study to indicate such a focus.

Liu et al (1997) focusing on the targeting of customers through web sites note that "company intentions can also be assessed from the interactive nature of the home pages" (342). The same may be said about the intentions of a company being indicated by its use of interactive features on the web site. In fact, while the feedback function was the only interactive feature in the late 1990s, with the evolution of technological capabilities there are even more ways of engaging the reader/visitor in today's times. A company that chooses to only put up its content – especially that related to corporate governance in general and ethical codes in particular – in PDF downloads, may be inadvertently showing that it is not particularly keen to utilise the potential of the web site to create a strong impression on various stakeholders as visitors are likely to avoid downloads so as to not disrupt their browsing, leading to an impression of no transparency in terms of disclosures. Pollach (2005) in her study of the 'About Us' sections on corporate web sites found that while companies do indeed recognise that self-presentation on the World Wide Web presents them with both opportunities and challenges, they were not displaying awareness of the fact that it is a pull medium that requires users to make choices about the content they want to be exposed to and that they will only choose to view a page if they know it exists. She concluded by pointing out that companies needed to make more efforts to help users find what they are looking for and at the same time entice them to see pages they would otherwise not choose to see. The present study of the ethics statements/codes on corporate web sites is similarly targeted at exploring what the presentation and content of these indicate about the organisations' intent.

The drive towards codifying corporate ethical stance

Prior to 2005, Indian companies were not obliged to explicitly formulate their ethical position for both internal and external stakeholders. No study of the number of Indian companies who already had such codes of conduct in the public space of the internet prior to 2005, has been located, so as to provide a comparative picture from which a clear inference may be derived about the effect of this mandatory requirement on the formulation and display of such conducts on company web sites.

In the US context, Pelfrey and Peacock (1991) credit the Treadway Commission report of 1987 with setting the trend of corporate codes by recommending that all publicly held companies develop and enforce written codes of corporate conduct and review the compliance with the codes by corporate audit committees. This was triggered by revelations of financial misreporting and misleading of investors in the mid-1980s. Cochran and Weaver (1995) demonstrate that the emergence of corporate codes of conduct picked up speed as a result of the federal corporate sentencing guidelines, enacted in 1991, that applied “legal pressure on all organizations to implement formal mechanisms for implementing business ethics. So your good-faith efforts to foster ethical behavior . . . [could] reduce your exposure to the established reprimands under the sentencing guidelines.” Richard T. De George (2005) covers the history of business ethics and of the business ethics movement and the growth of the area as an academic field in the US. He too, finds that although there were some industry-wide voluntary codes of ethical conduct in the 1980s, it was the 1991 U. S. Federal Sentencing Guidelines for Corporations. By providing “an incentive for corporations to incorporate ethical structures within their organizations,” the law led to “a concerted effort on the part of most large companies to incorporate into their organizations the structures required” (De George 2005). This has got a further push through the more recent, the Sarbanes-Oxley Act of 2002, in the aftermath of “a rash of scandals involving Enron, WorldCom, Arthur Andersen and other prominent corporations” (De George 2005).

Comparable historical studies of an “ethics movement” in India or specifically of ethics statements/codes of Indian companies are not available. In the aftermath of successive stock market crashes, the Securities and Exchange Board of India (SEBI) decided in 2001, to introduce a code of ethics for directors and other functionaries of stock exchanges. Consequently, amendment to Clause 49 of the Listing Agreement relating to Corporate Governance made by the Stock Exchanges at the instance of SEBI through a circular dated 29th October, 2004 (effective date 1st April, 2005, extended up to 31st December, 2005) has made it mandatory for listed companies to lay down a code of conduct for all board members and senior management of the company and to put up the code on their web site (SEBI 2004). All board members and senior management personnel are required to affirm compliance with the code on an annual basis and the Annual Report of the company is required to contain a declaration to this effect duly signed by the CEO. An exception is made to the applicability of the revised Clause 49 for Mutual Funds and for “other listed entities which are not companies, but body corporate (e.g. private and public sector banks, financial institutions, insurance companies etc.) incorporated under other statutes.” For these, Clause 49 would “apply to the extent that it does not violate their respective statutes and guidelines or directives issued by the relevant regulatory authorities” (SEBI 2004).

Despite making the formulation and display of a code of conduct on the company website a mandatory requirement, this directive is quite general and does not go into the specificities of

form or content. As a result, although listed companies have drawn up codes of conduct and put them on their web sites, there is much diversity of approach in the actual content, style, tone, and nature of the codes across companies. One tendency is for codes that are generic in form and content, without any specific reference to the particular industry and company, so much so that they could be used interchangeably by quite different companies without making any difference. Another is that towards heavily rule-based codes, revealing the impetus of playing safe and codifying a large number of norms and requirements, in contrast to codes meant to inculcate ethical conduct through appeal to values. Such codes may be seen as the mere fulfillment of a statutory requirement. Murphy (1995) found from a study of over 200 companies, that most codes were rule-based rather than value-based. This tendency may also be surmised, to some extent, from the care given to readability of the codes, that is, whether there is focus on communicating in a manner easing the reader's grasp. The explicit reference to this requirement being fulfilled may also signal the focus on compliance rather than on being driven by the company's conviction of the value of both the framing as well as dissemination of the code through the web site, signaling an attempt to reach a wider set of stakeholders than internal constituents.

While framing and displaying a particular ethical code may be mandatory, there are many other than statements that companies may choose to frame/disseminate in order to communicate their ethical stance. According to Murphy (1995), ethics statements can be classified into several types with the most common being value statement, corporate credo, and corporate code of ethics. He defines these thus:

- Value statement: succinct statement, often stemming from the firm's mission and give direction to it. While not exclusively devoted to ethics, these provide insight into how firms view ethical issues on relation to their operating principles.
- Corporate credo: set of basic beliefs, "delineates a company's responsibility to stakeholders and is usually a several paragraph statement outlining its ethical posture" (Murphy 1989).
- Corporate code of ethics: "more detailed discussions of a firm's ethical policies. Codes commonly address issues like conflict of interest, relationships with competitors, privacy matters, gift giving and receiving, and political contributions" (Murphy 1995).

Murphy (1995) found that the most prevalent form in which ethical principles were stated in the US was a code of ethics, with over 90percent having one. More than 50percent of these also had a values statement. A corporate credo existed in about one-third of all large US-based firms.

In addition to the prevalence of code, the scope and content of these have also been subjected to scrutiny. Hite et al (1988) found only about 10 percent codes were very comprehensive and specific. Robin et al (1989) analysed the content of over 80 ethics codes and found 3 clusters: "be a dependable organizational citizen"; "don't do anything unlawful or improper that will harm the organization"; and "be good to our customers" (68).

In his critical reflection on the ethics of communication and the communication of ethics, Polet found that the most recurring principles of company charters enumerating "the permanent values constituting the substructure of its actions" were: clarity, transparency, honesty, truth or objectivity, credibility, coherence, loyalty, and respect for human beings (Polet, 1999). The global picture may be seen from a 1999 survey by Conference Board of 124 companies in 22 countries that found that more than three-quarters of all boards of directors were setting ethical standards in these companies, up from 21 percent in 1987, and

just 41percent in 1991 (Wall Street 1999). In a study of multinational firms, Kaptein (2004) found that 52.5percent of the two hundred largest corporations in the world had a business code. He distinguished three types of codes: the stakeholder statute (72 percent), the values statement (49 percent) and the code of conduct (46 percent) with a number of codes integrating two or even three approaches. The recurring principles in these were found to be company responsibilities regarding quality of products and services, adherence to local laws and regulations; protection of the natural environment; principles governing stakeholder relations such as transparency, honesty, fairness; corporate core values; appropriate conduct among employees; and treatment of company property by employees, including conflict of interests, corruption, and fraud.

Jiang et al (2009B) found that while 86.7 percent of the sites provided code of conduct and ethics, only 36.7percent provided codes of conduct/ethics for board/executives. The situation is likely to be quite different in the contemporary Indian context as the latter are a mandatory requirement while the former are voluntary.

Ethics statements of Indian companies

The Securities and Exchange Board of India (SEBI) has made it mandatory from 2005 for listed companies to frame a code of conduct for all board members and senior management of the company and to post it on their web sites. Other than this general requirement, there is no mention made of place of prominence on web site or ease of access or language choice or readability of the text. There is also no requirement for a code of conduct for employees and related policies on matters such as an ethics committee/officer, reporting mechanism for observed unethical activities; or for the declaration of organisational values. In the lack of any explicit specification of requirements in the Indian context, it may be useful to keep in mind the Guidance on Good Practices in Corporate Governance Disclosure of the United Nations Conference on Trade and Development (UNCTAD) (2006) that lays out, among other best practices, the disclosure of “code of ethics and any governance structure put in place to support that code of ethics” (16). Although the report acknowledges the lack of any established norms for practice in this area, it provides some suggestions for disclosures on this issue: “the existence of a senior ethics officer and that person’s responsibilities; the existence of an ethics committee and its relationship to the board; policies for breaches of the ethics code, including reporting mechanisms and ‘whistleblower’ protection mechanisms; and policies on the dissemination and promotion of the ethics code” (17). In the present study these specific voluntary details were noted.

In the Indian context, with SEBI’s requirements (Clause 49) of framing code of conduct and putting it on the official web site, it would be useful to explore the presentation of mandatory information, and inclusion of details over and above the required level. While it is expected that all listed companies would display the codes of conduct in compliance with the SEBI requirement, this study attempts to explore whether companies are leveraging the advantages of the web site for creating a positive impression by analysing how they present information about their ethical stance. This is done by looking at the contents (inclusions and exclusions), presentation, and readability. The assumption is that if companies were convinced about the value of such disclosures on the web sites and desired to reach out a variety of stakeholders to create a positive impression about their beliefs, actions, and policies regarding ethical conduct, they would go beyond the mere mandatory requirement and this would be reflected in care in ease of accessibility and readability of the material as well as the inclusion of many

voluntary details. Unless putting up the code on the web site is an end in itself, there should be care taken to increase the probability of various kinds of readers, both internal and external, being able to find it, and be able to read and understand it. Any desired outcome of framing and disseminating the codes is underpinned by readability and comprehension. The challenge for the framers of such material lies in the fact that the people of very diverse educational levels are potential readers.

The KPMG India Fraud Survey of 2006 found that post-Clause 49 of SEBI and the Sarbanes Oxley Act, the “lack of ethical values was cited as one of the principal reasons for the occurrence of fraud in organisations” and that there was an impetus to “proactively move towards the creation of a more ‘ethical workplace’” through “various measures which could help them safeguard against the perils of fraud and misconduct” (KPMG 2006). The formulation and dissemination of a company’s ethical stand would be one such measure. Although the issue of ethical statements has been the focus of a number of studies in the North American, European, and Australian contexts (Matthews 1987, Lefebvre and Singh 1992, and Wood 2000), it has not gained much attention in the Indian context.

The present study takes the Indian companies figuring in the Forbes Global 2000 list of 2011. The largest Indian companies from the world ranking are focused upon because as Jiang et al (2009) say, such companies are expected to use the most advanced information technologies available, if not lead the way with new technologies, and are also concerned with proper disclosure and transparency.

Methodology

For this study, the largest Indian companies from the Forbes Global 2000 list of 2011 were selected. Out of the 61 companies, Hero Honda Motors was excluded because it was no longer possible to study the web site of the company by that name as it changed to Hero MotoCorp in July 2011 following the exit of its erstwhile Japanese promoter, Honda. The web sites of the 60 companies were visited for the ethics statements between April 26 and May 5, 2012.

To answer the questions: *how* are the mandatorily required codes of conduct for board and senior management being posted on web sites and *what* and *how* are the voluntary statements reflecting the ethical stance of companies being provided on web sites, various parameters were identified from literature and from a preliminary study of a random sample of the web sites. In their study of the content and design of corporate governance web sites Jiang et al (2009) examined how far the reader had to look for the corporate governance information. They also found that several companies provided cross links to corporate governance information, thereby allowing multiple points of access. Pollach (2003) refers to the immense advantages of web site communication over traditional printed communication in terms of cost reach and attractiveness through the use of visual and audio appeal. However, the non-linear structure of the site communication requires much more effort and involves much more choice of the reader in selecting what to read and the sequence of the information accessed. Therefore, the design and navigational aids become very important in making the experience of a visitor to the site easy, productive, and satisfying. From preliminary study of the selected sites it was found that the ethics statements were located in a variety of places often making it quite challenging for the reader to find them. Therefore the existence of a search function as well as the prominence of the location of ethics statements becomes important. The location

of ethics statements/codes, may thus signify the organisational intent and by implication the appreciation of the role such communication may play in building the reputation of the organisation. The prominence of the location and the number of clicks needed to reach the ethics statements/codes was noted, with the latter scored as: 1 for single click, 2 for two clicks, and 3 for more than two.

With the large number of languages used in India and with high proficiency in the English language not being very high, it may be pertinent to look at the language options provided on Indian web sites. By providing information only in English the company may be showing its lack of interest in reaching out to a category of stakeholders who may not be proficient in the use of English and thus limiting the reach of its information and of the impact on its reputation for certain section of stakeholders. It may reflect that the potential of this information in strengthening the reputation of the company is not the guiding factor, but it is only done for the sake of compliance. It may, on the other hand, also reflect that the company feels that the kind of publics it wants to reach would necessarily be conversant with English.

Following from the questions: *how* are the mandatorily required codes of conduct for board and senior management being posted on web sites, and *what* and *how* are the voluntary statements reflecting the ethical stance of companies being provided on web sites, the following sub-questions were framed:

- Does the site have other language options?
- Does the site have a search facility?
- A. Is the Code of Conduct for Board and Senior Management Personnel posted on the site?
 - If yes,
 - Where is it displayed?
 - How many clicks are needed to reach it?
 - What is the format for the code: HTML? PDF? Word document?
 - How detailed is the information judged by number of words used?
 - Is there explicit reference to compliance with Clause 49 or other legal requirements?
 - Is information on the following provided: An ethics officer/committee; policies for enforcement/breaches of the code; whistleblower policy
- B. What voluntary ethics statements are provided?
 - Where are these displayed?
 - How many clicks are needed to reach these?
 - What is the format for these: HTML? PDF? Word document?
 - How detailed is the information judged by number of words used?
 - Is information on the following provided: An ethics officer/committee; policies for enforcement/breaches of the code; whistleblower policy
- What are the readability scores of the ethics codes/statements under A and B?

The statements were saved as Word documents or PDF format (those in secure PDF format had to be excluded from the analysis) and the readability scores from MS Word's language tools were found. The Flesch reading ease score provides a score is expressed as a score between 0 and 100, with a higher Flesch score indicating material that is more easily comprehensible and a lower score, material that is less easily comprehensible. For documents targeted at a wide range of readers, a score between 60 and 70 would be optimal. The Flesch-Kincaid Grade Level test rates text on a U.S. school grade level, with a score of 8.0 meaning

that an eighth grader can understand the document. For documents targeted at a wide range of readers, a score of approximately 7 or 8 should be aimed at.

For keeping track of the various parameters to be used for comparison of the codes, a template was prepared based on literature and after a preliminary study of the companies' web sites.

Findings and discussion:

- On the question, “are mandatory ethics codes (Code A) being posted on corporate websites?” and what voluntary information is provided, it was found that:
 - 90 percent companies had a Code A on their websites
 - 7.5 percent had Separate codes for directors/board and senior managers
 - 15 percent had a common code for all employees, including directors/board and senior managers
 - 61.5 percent included reference to clause 49 and enforcement/procedures for breaches, while 38.5 percent did not
 - 66.7 percent included mention of an ethics officer/committee, while 33.3 percent did not
 - 69.3 percent included a whistleblower policy, while 30.7 percent did not
- On the question, what other ethics statements (Code B) are posted and what voluntary information is included? It was found that:
 - 30 percent companies had other ethics statements/codes on their websites
 - 58.3 percent of these companies had a common code for all employees, including directors/board and senior managers
 - 66.6 percent included reference to enforcement/procedures for breaches, while 33.4 percent did not
 - 75 percent included mention of an ethics officer/committee, while 25 percent did not
 - 83.3 percent included a whistleblower policy, while 16.7 percent did not

Companies that put up these voluntary codes, thus displayed a greater willingness to include additional information as compared to Type A codes, as indicated by the high percentages of those including enforcement procedures for breaches, reference to an ethics officer/committee, and to whistleblower policies.

- When it came to basic functionality of the websites, whereas 75percent of companies had a search function providing an important resource for users, only 42.5percent provided language options, indicating that the primary audience targeted through the internet is the English-speaking elite.
- The findings on the Flesch reading ease and Flesch–Kincaid grade level scores for codes A and B are given below:

Code A

	Range	Average
Words	89-5216	1939.2
Flesch reading ease	10.3-46.2	31.5
Flesch Kincaid Score	8.3-19.1	12.3

Code B

	Range	Average
Words	328-16847	4982.1
Flesch reading ease	19.3-42.2	31
Flesch Kincaid Score	9-17.2	12.4

Both show a very wide range in words used, indicating that while the average length of Code B is almost 40 percent greater than Code A, some companies are merely putting up codes that are as low as 90 words long in the case of Code A, and 300 in the case of Code B. At the same time, others may be in danger of deluging their readers with the sheer volume of material they put up.

Flesch reading ease and Flesch–Kincaid grade level scores for codes A and B are almost the same. An average of around 31 for the Flesch reading ease indicates that on an average, the material requires at least university-level education to be understood. In case of Code A, the lower limit of 10.3 indicates that some codes are extremely low on ease of reading. An average Flesch Kincaid Score of around 12 indicates that the material may be understood by those with about 12 years of schooling. That seems reasonable. However, the higher ends are a little over 19 and 17 for Codes A and B respectively and these indicate that some companies are putting up material that is very dense and requires very high levels of education to be understood. Thus, the objective in having their information on the website may be utterly defeated. On the other hand, it may lead to the criticism that such statements are put up not with the objective of really reaching out to people in the public sphere through a medium such as the internet, but merely as a requirement or as a dumping of material without thought to features such as readability. Those with scores below 10 indicate a real understanding of how material should be made easily accessible to most readers.

- Another aspect of accessibility considered was the number of clicks needed to get to the code. In case of Code A it was found that 30.8 percent needed one click, 51.3 percent needed two, and 17.9 percent needed three or more clicks. In case of Code B, 16.7 percent needed one click, 50 percent needed two, and 33.3 percent needed three or more clicks.
- The location of the codes was also studied as it may indicate both the desire of the company to make these easily accessible and also how it is categorised. With 43 percent putting Code A under “Investors” and 34 percent, under “Governance,” it becomes apparent that most companies primarily regard investors as their intended readers. In case of Code B, only 25 percent placed it under “Investors” but a similar – 35 percent – placed it under “Governance”.
- In terms of format, across codes, companies appear to have a preference for posting their codes in PDF format rather than HTML, with 66.6 percent of Code As and 58.3 percent of Code Bs choosing the former. On both counts, 3 companies required their PDF file to be downloaded, involving more time and effort on the part of the user, adding an additional obstacle in terms of accessibility.

Jones’ (2003) study of Corporate Governance information on investor relations web sites similarly found them to be “mostly difficult to find and use. . . . Typically the information is buried in a variety of print documents that have been crudely repurposed and posted to sites.

. . . only eight percent of companies post their proxy circulars in the Commonwealth format of HTML to make access to information easier. Almost 70percent of companies posted their most recent proxy statements in a single PDF graphic file” (23).

Conclusion:

Ethical codes in the Indian context have not been subjected to much scrutiny. As this study shows, most Indian codes at present are heavily rule-based and complex in language use, thereby reducing ease of reading and comprehension. It is to be hoped that these will move from the level of compliance to that of distinctness, ownership of the ideas, and focus on communicating the values rather than on rules.

No doubt, the mere formulation of codes and their display on the web sites is no guarantee of actually impacting the ethical stand of a company. Nonetheless, these are important steps in themselves as are all first steps. Framing and displaying a company’s official position on important ethical matters on a public platform such as the official web site, is a good beginning that could be used for more than mere compliance with a mandatory requirement. How far an organization takes the ethical consideration may serve to distinguish it from competitors and contributes to its reputation and standing. The expectation that companies would be keen to project their distinct image as strongly ethical by posting a variety of voluntary information on their web sites in an easily accessible and widely comprehensible manner so as to maximise its reach and impact, was not borne out through this study. Ethical statements/codes that are clearly identical to those of other companies defeat the purpose of distinct identity or of impacting stakeholders perception in favour of the company and seem only to be done out of a sense of requirement. A number of statements/codes of the companies in this study fell into this category.

A number of scholars have criticised codes of ethics on various grounds. Murphy (1995) summarises the faults found with codes: being too oriented to the public relations value; being “too platitudinous or just ‘Mom and apple pie’ statements;” being general and discussing topics that are not pertinent to the particular industry; not covering sanctions or providing systems for dealing with violations; or tending to be too legalistic and a mere codification of rules rather than undertaking to provide moral guidance. However, it is also recognised that no code can account for every conceivable ethical violation and the suggested way out of this is to make codes specific, with examples of possible ethical violations provided, yet in a “directive rather than inclusive” manner (Murphy 1995).

The findings indicate that although a number of companies are probably realizing the importance of presenting themselves in ways that may be seen as ethically aware and having systems in place for ethical conduct of business, there is much scope for improvement in terms of the number of such companies. This is not to say that such presentation of themselves on the web site is in any way a reliable indicator of actual ethical stance or ground reality in terms of practice. As Stephen Covey writes in *The Speed of Trust* (2006), although a movement has risen out of “the ashes of crisis, corruption, and public distrust . . . to revitalise the ethics and spirit of free enterprise,” what is needed is more determination on the part of companies to work on clear identification and articulation of their value systems and training their people on “how these values translate into actual behaviour.” Rather than this, most companies are reacting with more of the compliance approach and a tightening of their rules. It may be hoped that with such a large proportion of Indian companies adopting codes, there will be refinements driven by the urge for distinctness as much as by the realisation of

its value not only in setting standards and norms of acceptable conduct, but importantly in clarifying the organization's stance on specific issues and underlying its ethical tone. The directions in which these refinements should go, based on the findings of this study, are in increasing the readability and reducing the complexity of language, adopting a moral rather than legalistic tone, and specificity. If companies kept in mind that the information on their web sites was potentially to be read by a wide range of people and in fact, saw value in the greater range of readers they could reach through their web site communication, they would take more care with making the material more readable. By making the codes of conduct complex, companies may be deterring many potential users and therefore losing out on the benefit in terms of projecting the desired image of themselves to wide range of publics. Perhaps some part of the problem in terms of the large variation in the kinds of details being included in ethical statements/codes could be addressed by the regulating body providing more specific directions. However, that may lead to a different problem – mere ticking off of every specific requirement rather than true ownership of the ethical stand is being projected the statements. The opportunity to set oneself off in distinction to others in the industry would also then be lost.

Future research:

The area of corporate self-presentation, especially of corporate governance matters including and beyond statutory requirements has much scope for further study in the Indian context. Across the world studies have been done with particular emphases that may yield useful insights if replicated for Indian companies. Jiang et al (2009A) studied a large number of design features such as presentation, covering location and number of clicks; interactivity, covering features such as blogs, downloads in multiple formats, email links on corporate governance page, online request form, RSS feeds; multimedia, covering podcasts and webcasts; and navigation, covering search box, index/site map/directory, search box. A detailed study covering all such features for Indian companies could be taken up. Further studies could go deeper into the ethical statements/codes by breaking down the common categories into very precise terms and analysing the frequency and length devoted to each. Another useful way of building on this study would be to focus on internal communications for the dissemination of codes to employees and their implementation. This would be useful in distinguishing between those that are driven by PR purposes or by mandatory requirements from those driven by the goal of creating ownership of the espoused values in employees, leading to ethical conduct. As Stevens (1994) notes, content analyses yield “rich information about the subject matter” of codes, but further studies are needed to answer questions about the effectiveness of the codes and the communication of the ideas to employees. The correlation between the nature of ethical statements/codes and the effectiveness of implementation also need to be studied as formulating these may only indicate the way in which the company would like the larger public to perceive it and not necessarily whether it implements the professed values internally in letter and in spirit. It would also be worthwhile to look at revisions of ethical statements/codes – frequency of these and the direction of the refinements with time. Future research may also take the form of longitudinal studies focusing on the evolutionary nature of corporate web sites as pointed by Pollach (2003) keeping in mind “the fast-paced nature of the internet and the fact that web sites are always in a state of flux and their content may change daily or even hourly”(299).

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