Ethical Governance for a Knowledge-Based Economy: *Reconnecting accounting and auditing with knowledge*

On the backdrop of calls to reform auditing, accounting and the regulation thereof, this article presents a review of the history of accounting and ethics in the political economy. Ethical lapses, major and minor, are traced to *bounded rationality* of professional decision-makers—an idea that earned two Nobel prizes twenty-four years apart. The article makes the case that understanding the psychology and purpose of management, and the role of knowledge in channeling human nature towards creative endeavors, are critical for curbing ethical lapses in the contemporary political economy which is very different from the one for which Kautilya wrote his treatise twenty-four hundred years ago. A knowledge-based framework is proposed for planning and auditing capital investments ex-ante and ex-post, intended to facilitate learning and continuous improvement through conduct that business and political leaders can feel proud about passing on to future generations. This paper seeks to make the case that questions of ethics are fundamentally about every individual's place in the organisation and the socio-economic system at large, and can only be resolved properly through a concerted focus by everyone on knowledge-building.

Introduction

The beginning of twenty-first century was marked by an emphasis on ethics in business and education, if only in response to scandals and crises that shook the public's trust in institutions public and private. The collapse of Satyam Computers is a case in point, as is the 2G Spectrum controversy that continues to embroil business and government leaders alike. With numerous articles, books and codes of ethics written to address the *lessons* learned, one would imagine a world poised to once and for all remove any doubt that the discourse, the decision-making, and the actions in our institutions will henceforth be ethical. Alas, such is not likely to be the case because the prevailing *code of ethics* approach requires individuals to take into account a multitude of moral, economic, social, ecological and political factors that may be relevant when making decisions. The assumption is that anyone obliged to abide by the codes is not only informed about all such factors but also has the cognitive capacity to process that knowledge and make the right decision in the institutional context. That assumption is often violated because decision-making is predicated upon the exercise of incomplete knowledge and responsible judgment (Patil, 2011). With minor differences, nearly all organisations follow the "code of ethics" approach without explicitly recognising how it is the exercise of irresponsible judgment informed by incomplete knowledge—sometimes by design, that is often at

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the root of ethical lapses. Therefore, this paper seeks to present a new perspective on ethics in decision-making—individual as well as collective, and proposes a knowledge-based approach to ethical governance.

Ethics is often defined, simplistically, as a choice between right and wrong. The problem is that if one is not informed about all relevant moral, economic, social, political, and ecological factors, then right versus wrong ends up being a choice that relies more on judgment and less on knowledge. In their Nobel Prize lectures delivered twenty-four years apart Herbert Simon and Daniel Kahneman argued that choice (and therefore, each individual's notion of right and wrong) is predicated upon "bounded" rationality, i.e. rationality that is a function of the individual's knowledge, contextual reasoning, and cognitive capacity (Simon, 2001; Kahneman, 2002). Knowledge implies a coherent theory and empirical evidence in the context in which the theory and empiricism apply, all of which must be explicitly formulated to facilitate reasoning and cognition. When these are in short supply, irresponsible or flawed judgment is more likely. Therefore, this paper argues that the prevailing approaches that seek to address lapses of judgment through codes and rules of conduct that treat decision-making as *black-box* predicated upon individual morality cannot be effective in curbing the recurring lapses of ethics in business and government. Organisations need to make ethical decision-making an integral part of the culture at all levels, starting with top leaders who earn their wages primarily for their ability to exercise responsible judgment in the face of uncertainty (Knight, 1921).

A Brief History of Ethics

It is not the intent of this paper to get into the debate over whether ethical thinking or religion came first in the history of human intellectual development. However, it is worth noting that the first known theory of organising human society and economy along with the members' duty to society dates back to an ancient document in the UNESCO Memory of the World Register, described *as among the first literary documents in the history of humankind*. The Ṛgveda is one of the knowledge pillars on which the superstructure of Asian culture is built (Gopalakrishnan and Dhadphale, 2007), because it explains the interconnectedness of life forms and the elements of nature. It is this connectedness, especially when there is no explicit gain in it from one individual's point of view, which defines an ethical way of being (Keller, 2007). The Ṛgveda conceives human society as being comprised of four distinct but interconnected classes wherein members of each class serve the society at large: those predisposed to learning and the pursuit of knowledge, those predisposed to governing and defending the ones governed, those given to trade, farming and work in general, and those given to serving others. A careful reading of the Ṛgvedic verses makes it clear that *class* refers to intellectual predisposition that can be changed through the development of one's intellect, because class is *not* determined by the family in which one is born—an interpretation confirmed by a member of independent India's Constituent Assembly and one of the co-authors of the country's Constitution (Deo, 1988). Ṛgvedic theory of human society implies that only those dedicated to learning and the pursuit of knowledge can discern the contextual implications of ethics in an ever-changing political economy, explaining why emperors and kings and now presidents and prime ministers have to rely on wise counsel about the consequences of their actions—not just on the written word or the vote. For all those *not inclined to learn* the self-fulfilling nature of the man-made rules is clear: "subjects primed to defect or compete are more likely to do so and, therefore, will be more likely to induce a comparable response in their counterpart, validating their initial impressions of the competitive nature of the situation and the untrustworthiness of their counterpart. Conversely, subjects primed, through the naming of the game, to cooperate, will elicit more cooperative responses from their counterparts, again validating their initial beliefs about the nature of the situation and the person they are playing with....Theories become dominant when their language is widely and mindlessly used and their assumptions become accepted and normatively valued, regardless of their empirical validity" (Ferraro, et al., 2005). Therefore, reliance on theory to the exclusion of empirical evidence and responsible judgment fails to recognise the dynamic nature of the political economy and each individual's place in it, which itself can change with learning.

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As humans engaged in an increasingly diverse range of economic activity the Ṛgvedic constructs of social organisation morphed into many different socio-economic constructs known as castes, quite like the way species derive from class in the modern-day biological classification of living organisms. Contemporary professional and trade groups and even the silos of academic disciplines—where the members seek to advance the interests of the group, are no different from the socio-economic construct of caste in India, the crucial exception being that in an era void of

public education the "learning" happened in the family and therefore the caste system ossified around the notion that the family of birth determines an individual's occupation, place in society, and duty to the whole. The tension between one's duty as defined by the social constructs and the person's yearning for liberty of self-determination always existed, but the collective desire to value social stability over individual liberty suppressed it for millennia. Enlightened individuals, prophets and saints saw through the inherent injustices in rigid social orders and led to the creation, whether consciously or not, of new social groups that proclaimed equality of all *within the group* but created divisions in the society at large. The Declaration of Independence of a young nation was the first to enshrine in the founding document the "self-evident" truth of equality and individual liberty and the right to pursue happiness, as a basis for governance with the consent of the governed (Jefferson, 1776). The *Taittiriyopanishad,* another ancient Indian contribution to literature and philosophy, had long ago identified happiness as the ultimate goal of human existence, achievable after a preceding stage of human development wherein the mind concentrates on a purpose, the ultimate purpose of "development" being happiness itself (Deo, 1988; Mead, 2006). However, it was not until Peter Drucker recognised in the wake of the civil rights movement in the USA that another key development sowed the seed of what came to be known as the kowledge economy, soon to be elbowed out by the so-called "market" economy. According to Drucker, for the first time in human history one Mr. Taylor saw "work itself as deserving the attention of the educated. Before, work had always been taken for granted, especially by the educated. If they ever thought of it, they knew that work had been ordained – by God or nature" (Drucker, 1968). Frederick Taylor passionately put forth the theory that the purpose of management itself is to scientifically and systematically help an individual determine the most profitable occupation that fits the individual's abilities, by way of applying knowledge to work, because "the one who tries to do his best would be abused by his fellow-workers for so doing" (Taylor, 1911-12). A system of nurture had to be institutionalised to minimise the damage that people would do to one another in any endeavor where cooperation is a necessary condition.

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That was the genesis of the "system" that people refer to colloquially when discussing much of what ails our society and polity, a vision that not only recognised but devised a way to create and use knowledge to effectively deal with the inherent flaws of human nature. More recently Francis Fukuyama attributed western successes in the last couple of centuries to the scientific method and its institutionalisation in universities, to which "scientific" management made significant contributions (Fukuyama, 2011).

The scientific method sought to determine, better than any other means hitherto employed by humans, the position of the individual in the organisation and the socioeconomic system at large—a highly desirable means to an end but one predicated upon the submission of human nature to knowledge acquired by employing the scientific method. Taylor forcefully argued that "our opportunity lies in systematically cooperating to train and make this competent man…rather than in searching for some unusual or extraordinary man" (Taylor, 1911-12). Until then, it was largely up to the individual to pursue knowledge; Taylor made the case that it is "the duty of those on the side of the management to deliberately study the character, the nature and the performance" of every worker and to use that knowledge to "deliberately and systematically train and help and teach…" At long last humans had cracked the code of *how* to determine one's rightful place in the society and the economy and how that can change with knowledge, leading to a meteoric rise in the numbers of colleges and universities in the twentieth century. Unfortunately, Taylor's testimony opened the Pandora's box because it paved the way for humans to use measurement to maximise profitability of the organisation and the individual, by placing the individual in the most profitable position. His prescriptions hardened the divisions in society, this time between management as the agent of capital seeking to maximise profits, and the workers seeking to earn a decent wage, each viewing the other as the adversary on the pathway to power and money.

Arthashastra

The author of an ancient treatise on political economy—The *Arthashastra*, or "the science of import"—had long ago advocated the use of spies and other means to cause dissension and infighting among adversaries, after exhausting the options of amicable resolution, monetary means or bribery, and punishment. As an astute observer of human nature and mentor to perhaps the first great emperor in the history of India, what the author Kautilya advised to emperors and kings reverberated through folk wisdom like the *Panchatantra* (Olivelle, 1997), finding a home in the psyche of the

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masses over the centuries. Actions that employ bribery or cause infighting might not be considered ethical by some, but the extent to which individuals, businesses and governments engage in such activities is hard to tell. What is clear is that the prescriptions that a professor of political economy at Takshashila University devised for kings and emperors some twenty-four hundred years ago are still in force and have trickled down to how individuals conduct themselves. Lessons from The *Arthshastra* are even being cast in a new light and even justified in the eyes of the political, corporate, and military leader as him being "not so much as a wealth maximising warrior, but more as a tragic hero who had to do evil to reap good" and as "practical guidance for use by the modern corporations" (Coates, 2010). Interestingly, The *Arthashastra*'s emphasis on virtuous behavior by the leader and the advice to lead by example is the most relevant lesson today and resonates strongly with perhaps the best contemporary description of ethical governance, written after the implications of the Sarbanes-Oxley Act of the United States (which exempted certain banking operations) were becoming clear: "Good governance is a mixture of the enforceable and the intangible. Organisations with strong governance provide discipline and structure; instill ethical values in employees and train them in the proper procedures; and exhibit behavior at the board and executive levels that the rest of the organisation will want to emulate" (Wagner and Dittmar, 2006). If instead we see the *Arthashastra*'s prescriptions of harsh justice and brutal opportunism as administratively convenient tactics to further the goal of wealth maximisation by pitting capital against labor and private interests against reasonable government action, then we would have learned nothing in 2400 years.

Glocalisation, not Globalisation

As the divisions between capital and labor or owners and workers ossified around the pursuit of their respective self-interest and became entrenched in the political economy, the phenomenon of globalisation made the search for the competent worker easier than nurturing individuals in-house to improve performance. The key to lasting prosperity was lost within decades after western society figured out a transparent way to determine each individual's rightful place in the society and the economy by taming the animal spirits that tend to cause more harm than good. Even Paul Samuelson—a towering figure in economics and management education, from whose books the likes of Dr. Manmohan Singh and members of the Planning Commission studied economics, observed the following about the excessive financialisation in the name of globalisation: "Fiendish Frankenstein monsters of financial engineering had been created, a lot of them at MIT, some of them by people like me...there's no CEO who understands at all a derivative[1]. All they know is that somebody tells them in their organisation, 'We've got a wonderful profit center'…I'm not sure that all of the fiendish stuff could have been picked up by centrist regulators, but you don't have to be perfect in anything in economic life. If you spent 70 years in economics, you'll understand that" (Samuelson, 2008). The report of the Financial Crisis Inquiry Commission instituted by the US government provided many insights into the causes of the crisis (FCIC, 2011). Perhaps the most significant of the causes is the spread of a culture of risk management that undermined genuine innovation by devolving into risk transfer to those not as knowledgeable or not yet born—in the form of debt passed on to future generations. That the powers-that-be were clueless about sound risk management practice was evident in the statement of a former governor of the US central bank—the Federal Reserve, and director of the National Economic Council, quoted in the FCIC report: "Securitisation was diversifying the risk…But it wasn't reducing the risk….You as an individual can diversify your risk. The system as a whole, though, cannot reduce the risk. And that's where the confusion lies." The bounded rationality of brilliant minds advising the US president is evident in this "financial" view of economics, which sees risk management from a purely financial perspective and entirely misses the fact that the purpose of innovation through knowledge-building is in fact to reduce risks to an acceptable level (Patil, 2011). *That* is the essence of the knowledge economy.

DuPont's Jim Porter was among the first to recognise the risks of unfettered globalisation and coined the term "glocalisation" (Porter, 2006). Global corporations had recognised the need to balance global pursuits with local needs—down to the individual. Although Taylor's ideas were buried in the annals of history, exceptions

[1] Derivative financial products isolate economic activity from knowledge by creating additional degrees of separation, and have the insidious effect of drawing the society's best minds to esoteric "financial" innovation rather than meaningful knowledge-based innovation. The financial crisis has proved that these are products of "un-artha" shastra, which is also evident in these words of the most influential teacher of economics in the twentieth century.

like Tom Gilbert (who "bemoaned" how people misconstrued scientific management[2]) revived the idea of using performance data intelligently (Gilbert, 1996). Human "competence" became more a function of the work process than the individual (Prahlad & Hamel, 1990). The pendulum of management education swung quickly in the direction of "processes" as the measure of competence, DuPont recognising the importance of work processes and PepsiCo being the first to recognise in their slogan "Performance with Purpose" that global processes must serve local purpose. In spite of this renewed focus on the process and the purpose, away from the individual, the monetary incentives that Taylor had prescribed for illiterate workers who could not think on their own about bettering their prospects became a legitimate mechanism for compensating the most educated. The resulting pursuit of profits through the externalisation of intangible costs and risks to those not as knowledgeable probably led Nobel laureate Amartya Sen to observe in his essay *The Reach of Reason* that even Adam Smith did not subscribe to the notion of blind pursuit of self-interest, and noted that humans have the distinct capacity to let an enlightened self-interest, or even passion, prevail over a narrowly defined personal self-interest (Sen, 2000). Sen is not alone in acknowledging that neoclassical economics has freely used Adam Smith's prescriptions that call for the least regulation of business while studiously ignoring the parts that would restrict…the claim that the science of economics requires that all individuals be free to pursue their self-interest (Keller, 2007). The ability to see beyond a narrowly defined self-interest is evident in peoples of all religions and cultures, as is opportunism at the expense of others. However, dating back all the way to Aristotle in the West and the Buddha's *Kalama-Sutta* in the East, the role of reason had always been recognised. Therefore, reasoning is and always was part of human development; the challenge is how to use reason to balance the pursuit of profits and growth with ethical governance in the best interests of the individual, the community, the business, the state, and the planet. In fact, Taylor's ethical reasoning for encouraging profits and economic growth through cooperation was that the continuous application of knowledge to work would make some types of work redundant, requiring that those workers made redundant be trained as knowledge workers and employed in the application of knowledge to work—requiring "higher" education for ceaseless knowledge-building.

In spite of all this wisdom accumulated by humans over the centuries, why does unethical conduct so often shake our confidence in our institutions? It is the age-old tension between "boundedly rational" loyalty to an established order or system and one's place in it, especially when it is lucrative, and the very human instinct of compassion and caring for the interconnectedness of life. Institutional disincentives prevent individuals from questioning actions that might threaten their own place in the system, exploiting their bounded rationality that suppresses the exercise of responsible judgment. Academic education itself has been captured by the establishment's interest in "exclusive reliance on particular economic theories", viewing responsible judgment as unworthy of a place in management education and the way science informs policy (Khurana, 2007). As a result, students are trained to be boundedly rational, that is, rational within the bounds of the supposedly scientific method of the profession or occupation or the system from which the student would draw subsistence in later years of life. Each profession or interest group then seeks to influence regulatory policy to exclude the inherent incompleteness of human knowledge and uncertainty from the rule-making, serving powerful interests who stand to benefit from man-made rules that manufacture certainty on paper and foster "creative" accounting disconnected from reality.

Rise of Accounting as a Force behind Corporations

The rise of accounting as a distinct and vital profession serving the political economy was key to the rise and the reach of the organisation, public and private, in the twentieth century. As corporate organisations became influential and knowledge became a commodity, the accounting profession evolved to become a rigid, transaction-based legal construct rather than a resilient, knowledge-based economic construct as it was originally conceived by Frederick Taylor. Taylor's original emphasis on using knowledge and individual performance to facilitate cooperation was lost in "professional" and budgetary silos, as was the fact that his prescription of monetary incentives was meant for illiterate workers—conditioned to serve—who could not or did not think on their own about bettering their economic prospects. Though they never saw it, the scientific method that Taylor and his compatriots employed to make workers and supervisors think differently about work ultimately proved to be effective in moving individuals up the value-added production

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[2] Dale Brethower of the International Society for Performance Improvement, describing his "late night symposia" with Tom Gilbert in personal e-mail communication with the author, April 24, 2008.

ladder, as is evident today in IBM's practice of measuring and rewarding knowledge workers (Baker, 2009) and in John-Deere's Continuous Improvement Pay Plan (Sprinkle & Williamson, 2004). Unfortunately, in the society at large the "scientific method" predicated upon the use of knowledge to facilitate cooperation became subservient to rule-making and Regulatory Capture through lobbying by modern-day castes jostling for influence, exploiting the "relational" nature of the compact between those who govern and the governed. The academic separation between relational and transactional contracts meant that the Rigvedic notion of the society as a human body with interconnected specialised parts cooperating effortlessly—information and communications technology being the blood of the system—failed to take root yet again (Montes & Irving, 2008). Accounting facilitated "too big to fail" organisations and financial incentives originally intended to motivate illiterate workers to think differently became institutionalised in the form of the "bonus" culture coupled with transactions that rely less on knowledge and more on deal-making. Managers reveled in the "control" that accounting provided over workers, notwithstanding the fact that need for control had to give way to fostering creativity as the workers' level of education rose, a fact operationalised quite well by IBM. As such, the remedies for ethical lapses that rely on rigid, formula-based notions of budgeting and accounting and pretend to appeal to one's "moral" instincts are not likely to do any good in an age where nurturing creativity, individual and collective, must replace rigid accounting as the primary force that moves firms and markets. To that end, the society needs resilient, real-time, knowledge-based means of tracking money.

When and Why Questions of Ethics Arise

The new *glocalised* economy calls for a deeper understanding of when and why questions of ethics arise. Glocalisation implies a balancing act between processes designed for global application, and local purpose. To that end an organisation can be conceived in a broad sense as a collection of *competencies* or work processes brought together by multiple firms involved in the commercialisation process. Each firm, including the owner, brings to bear the competencies that the firm can perform or lead most effectively. Such competency-based organisation is not a new concept (Patil, 2006). At its core, the concept of competency-based organisation utilises the Ṛgvedic idea of the interconnectedness of firms and markets as parts of a human body, with different organs and systems of organs as competencies or work processes pursuing a meaningful purpose. Taylor was probably

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the first to think of systematically determining each individual's place within such an organisation by scientific measurement of performance and costs, and Ronald Coase was the first to look inside the firm to systematically think through the functions or work processes that the firm can perform well on its own and the functions that are best procured from the market—paying a transaction cost each time the firm has to reach outside into the market (Coase, 1937). Prahlad and Hamel revived the idea of core competence and focused the executives' attention on the products and services their firm can deliver more effectively relative to the competition. Separately, Tom Gilbert revived the idea of using data intelligently to evaluate individual and collective performance, with the goal of life-long learning of individuals seeking to move up the value-added production ladder. Tracing the idea back to the Ṛgveda, a kidney is really good at what it does; so is the liver, so are the limbs, and so is the head, except in human society anyone can be the part of choice and excel by virtue of temperament and concentration of the mind on purposeful learning. The philosophy also resonates with the idea of distributed leadership wherein anyone can temporarily step up to lead (Gronn, 2008), but if indeed distributed leadership is to have primacy over other forms of leadership then leaders at the top of organisational hierarchies cannot claim rewards that far exceed the median compensation in the firm.

On the larger economic landscape, we have numerous firms and multiple markets who each serve a purpose that contributes to the whole, and numerous individuals who perform different functions within a firm. The *relational* contract between the firms and individuals within the firm serve to reduce the *transaction* costs of the firm. Over time, the forces of creative destruction and legacy costs imply that firms or parts of firms that fail to sustain excellence will wither away and new ones will take their place. The need for relentless pursuit of excellence and effective risk management through knowledge-building in a market economy puts a strain on relationships within and outside the firm, creating reasons to transfer risks to others and raising issues of

ethics. Therefore, ethics in the modern economy is less about individual morality and more about how systems designed by humans seek to balance the pursuit of economic growth with knowledge-building aimed at reducing, not transferring, risks to accomplishing the stated purpose. Individuals at lower levels in the organisational hierarchy work with knowledge that has been explicitly formulated in theory and written down based on evidence gathered over time. Individuals in the upper echelons of the hierarchy are required to work with knowledge that cannot always be formulated and may not, therefore, be written down. The threshold is where accounting becomes disconnected from the actual work that accountants seek to measure. Once again the history can be traced back to Frederick Taylor, who devised measurement of work to improve productivity and sowed the seed of modern accounting. As accounting became established as a distinct discipline, its connection with physical work became progressively weaker and what used to be simple bookkeeping of activities and trades involving individuals and tangible assets became more and more disconnected from reality requiring more rule-making to address the disconnects and questions of ethics. The concept of how questions of ethics arise is illustrated in Fig. 1.

Reconnecting Accounting/Auditing with Knowledge

Central to the idea of the knowledge economy is the assumption that workers and managers alike submit to knowledge that seeks to balance individual aspirations and rewards with the need to sustain social, ecological and economic diversity and growth. Human knowledge is dynamic and incomplete by definition, so the changing nature of knowledge implies that rigid accounting constructs must give way to knowledge-based, resilient constructs focused on the stated purpose. Clarity of purpose helps people define the dependent variables, cost being one, and then work back to identify the independent and institutional or control variables. While all cost-related measures are the dependent variables, *the focus of accounting and auditing in particular needs to be on the independent variables* that make up the "knowledge" that drives costs and other dependent variables of interest. That was the core of the knowledge economy that Taylor conceived one hundred years ago. Blind embrace of the "market" economy led to accounting being disconnected from knowledge itself and connected with "market" forces, causing the neglect of organisational and social context of accounting and auditing and ultimately causing the failure of audits (Sikka, 2009). Individual nations as well

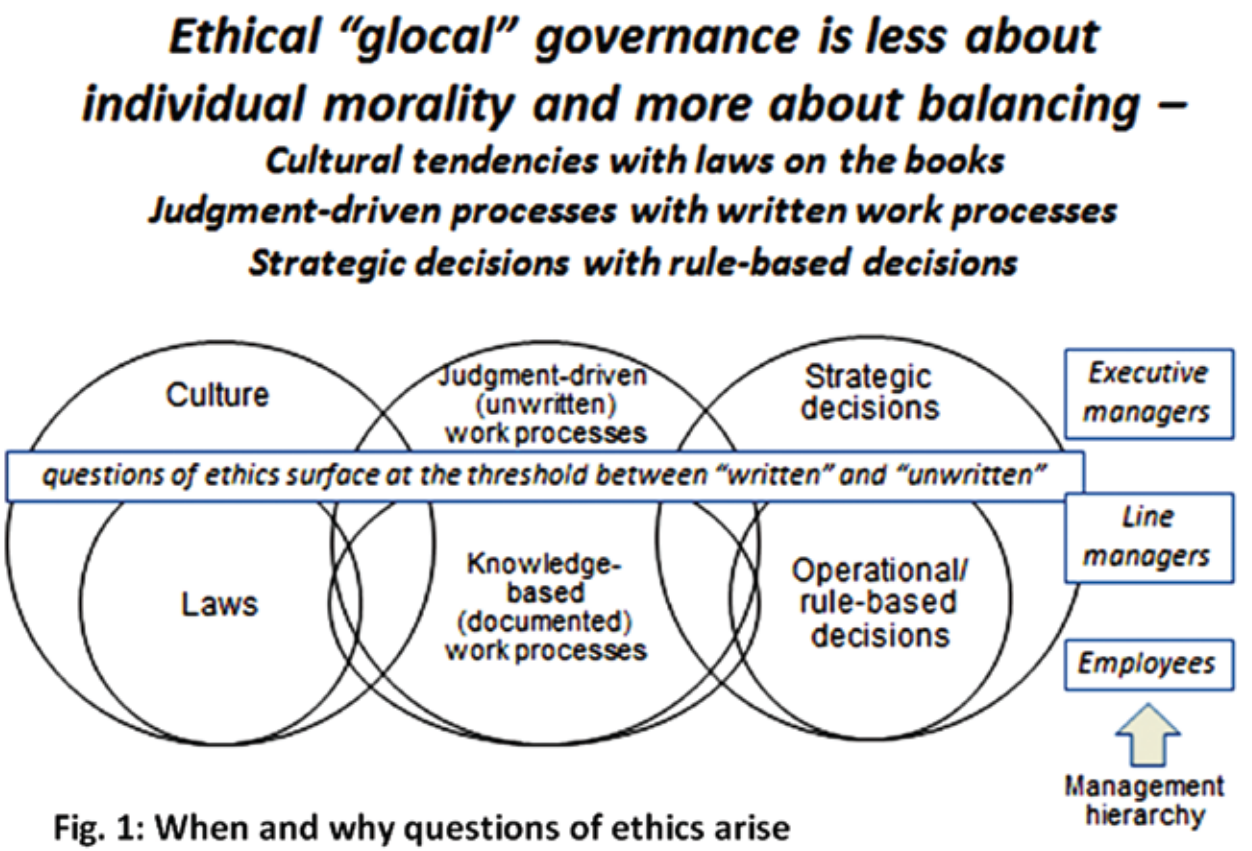

Fig. 1: When and why questions of ethics arise

as the global economy are paying the price for having strayed from the connection between contextual knowledge and the "counting of money." The resulting calls for reform must seek to once again establish that connection between knowledge and money, starting with more interconnected university education.

Excessive financialisation and bounded rationality of the agents of capital are at the root of how industrial/organisational psychology evolved and became institutionalised in accounting, budgeting, and how they are taught in our colleges and universities. A "budget" can realistically be set only after sufficient knowledge-building has occurred, which still leaves some uncertainty in the cost estimate. To account for uncertainty the Americans tend to think in terms of "contingency" but the Germans tend to think in terms of real-time accounting consistent with the purpose. In reality, an estimate at the micro- or individual project level remains an estimate while knowledge-building seeks to minimise the uncertainty consistent with institutional risk tolerance. At the macro- or programme-level, a budgetary number can be set based on a composite basket of all estimated project costs. The program or business manager must manage the program within the budget and adjust individual project scope and cost estimates as needed, to meet the budget at the program level (Patil, 2011). The process is far from perfect, requiring executive management support for factors that are well beyond the control of business or program managers. However, a strong link between knowledge-building, evolution of cost estimates, budgets, cost accounting and auditing can focus the team's energies on being creative with knowledge rather than with accounting and auditing (Christensen and Dysert, 2005). Fig. 2 illustrates a framework to connect budgeting for investments large and small, cost accounting, and auditing, with knowledge.

Ethics in the modern economy is less about individual morality and more about how systems designed by humans seek to balance the pursuit of economic growth with knowledge-building aimed at reducing, not transferring, risks to accomplishing the stated purpose.

A definition for each category on the Roman numeral scale is as follows:

- I Feasibility estimate: Minimal work is/was done to develop the estimate. (It's a guess!)
- II Estimate based on preliminary scope: Some work is/was done, but limited to rough outlines of the scope and preliminary conversations with the stakeholders.
- IV Estimate based on scope defined for the purpose of budget: The work is/was at an advanced stage. Cross functional/inter-disciplinary reviews are/were conducted and the results from the reviews as well as stakeholder input incorporated into budgetary estimate.
- V Estimate based on planning for Implementation: The team has/had performed a final review including an analysis of potential risks, discussed risk mitigation and change management plans, and incorporated measurable uncertainty into the plans and the cost estimate.

Instead of linking activities or tasks to accounts as is normally done, each "deliverable" based on purposeful knowledge-building is linked to a cost account, recognising the inherently probabilistic nature of knowledge itself. So, the team needs to list the deliverables and then work back to think through the knowledge-building required to produce each deliverable and the effectiveness of the estimate

	Limited ← Estimate Quality and Completeness of Planning → Advanced (circle one option that most closely indicates the status)			
Key Deliverables from the project/ investment	Feasibility Estimate	Estimate Based on Preliminary Scope	Estimate Based on Budgetary Scope	Estimate Based on Planning
1.	I	II	IV	V
2.	I	II	IV	V
3.	I	II	IV	V
4.	I	II	IV	V
5.	I	II	IV	V

Add more as needed…

Fig. 2: Reconnecting accounts and budgets with knowledge

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that corresponds to that deliverable. Individual cost accounts for the deliverables are ranges of costs and remain so throughout implementation but the overall cost at the program level is expressed as "a number." As knowledge-building proceeds from *limited to advanced* the team and the auditor can circle the appropriate Roman numeral, indicating the extent of knowledge-building that corresponds to the budgetary numbers. Implementation performance can then be correlated with the extent of knowledge building at the time of budgeting. A fully developed audit rubric requires that each Roman numeral is defined specifically for each deliverable, but that is beyond the scope of this paper.

Concluding Thoughts

This paper has sought to make the case that questions of ethics are fundamentally about every individual's place in the organisation and the socio-economic system at large, and can only be resolved properly through a concerted focus by everyone on knowledge-building. Fundamentally, that knowledge-building includes the determination of everyone's rightful place in the organisation and the socio-economic system at large. That is the central question that human society has grappled with over millennia, a key to which can be found in the Taittiriyopanishad in the form of training everyone to concentrate the mind on a purpose. The United States had successfully solved the puzzle in the twentieth century, before the boundedly rational "fiendish Frankenstein monsters" so eloquently described by Paul Samuelson arrived on the stage. No other economist has had Samuelson's 70-year long view of the political economy, and a Nobel Prize, so the arguments about the role of regulatory policy gloss over deeper socioeconomic issues and fail to address the fundamental question of the sense of purpose of the political economy, every organisation within the political economy, and every individual within every organisation. Information and communications technologies that were not available to extraordinary leaders throughout human history now make it possible to focus all stakeholders on knowledge-building, which can minimise if not eliminate ethical lapses. However, until a sense of purpose is restored and minds opened up to concentrate on knowledge-building rather than rule-making as the central focus of profit-making and economic growth, no amount of codes of ethics and rule-making can stem the failure of ethics in business and government.

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