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An article by Nipun Agarwal, from Victoria University in Melbourne: *Negotiation Decision Support Systems: Analysing Negotiations under the Conditions of Risk*, notes that Negotiation Theory is a research area with emphasis from game theory, psychology and negotiation analysis and that, recently, negotiation theory research has moved towards a combination of game theory and psychology negotiation theory models that could be called Integrated Negotiation Theory. Negotiations are often impacted by external factors and in this paper Prospect theory and Negotiation theory are combined to incorporate the risk associated within negotiations. This paper describes how Integrated Negotiation Theory and Prospect Theory can be incorporated to improve negotiation decision making.

The third article, *Aspects of Professionalism, Ethics and Lifelong Learning for Australian ICT Professionals*, by Bill Davey from RMIT University and Arthur Tatnall from Victoria University, Australia, tackles the issue of ICT Professionalism and Ethics. The article argues that the majority of Information and Communications Technology (ICT) professionals in Australia now have some form of initial tertiary qualification in their field, and also understand the need for keeping up-to-date with new technologies, processes and concepts. Not all, however, fully realise the need to keep up with the issues of ethics and professionalism. The article looks at what is meant by ICT professionalism and its importance. It examines how the issue of professionalism is handled in Australia in both undergraduate education and lifelong learning of ICT professionals, and looks at examples of why and how ICT professionals undertake further education and lifelong learning

The final article by Ahmed Hassin from the Australian Red Cross Blood Service is titled: *The Link between Operations Strategy and Human Resource Management for NGOs Working in Unstable Environments*. The article discusses the link between operations strategy and strategic human resources management for non-government organisations. It discusses how HRM should be proactive and responsive to any changes in the operational environment and how Strategic HRM can create multi-skilled staff, who can easily be tuned to implement various activities. An example is given from Iraq concerning NGO staff operating in an unstable context and this shows how HRM should be proactive and responsive to meet operations targets.

Arthur Tatnall
Editor

Corporate Ethics, Personal Ethics: One and the Same? Identifying Ethical Captains of Industry

Helen Madden-Hallett
Victoria University, Australia

Abstract

This paper explores the relationship between the corporation and its ethical standing and that of its employees within a framework of eight dynamics. The 'highest' level of ethical behaviour possible for a corporation is only as 'high' as that of its personnel, especially those in positions of power. Companies that behave ethically are more profitable, while companies that behave unethically are stripping resources from society without fair exchange and leaving a legacy of anti-trust and non-cooperation between individuals and organisations as well as a dollar cost of approximately two and a half trillion dollars per year. In the long run they damage themselves and all dynamics in which they intersect. The problem then is how to find ethical personnel to staff organisations for the benefit of all related dynamics. This paper explores the idea of business as part of a greater whole and the scope of personal ethics especially in business. The paper then explores potential indicators of ethically minded individuals with a view to use this information when hiring new employees but particularly those who, when employed, will wield the greatest power: those at middle management and top management.

Keywords

Corporate ethics, religious affiliation, virtue ethics, business

Dynamics of Existence

As expressed so eloquently by Donne (1624) no person exists unto themselves but as a part of a family, a member in a group or several groups, a citizen in society and part of Mankind. Waddock (2005) suggests that a lack of connection between these various dynamics makes business people unaware of the repercussions of their poor business decisions and the financial cost which is estimated to be two and a half trillion dollars per year (Estes 1996). Waddock (2005) lists the dynamics as involving "stakeholders, societies, and the natural environment" and adds 'other people, organizations, communities' and further adds a still broader sweep by also including 'the world'. McMurtry (2002) also includes the world whilst adding 'life' in their discussion of the Free Trade Area of the Americas being 'life-blind' and not recognising the rights of living entities. McMurtry's inclusion of 'the world' is taken to mean both the physical and social environment. Quinn (1997) suggests that environmental issues and impact on the physical environment are affected when business ethics are not practiced and they give examples of the Bhopal and Exxon Valdez incidents, amongst others.

[1] *From John Donne's Meditation XVII, "Devotions Upon Emergent Occasions" as contained in Alford (1839)*

A more orderly description of these various areas which may be impacted upon and resound back upon each other is provided by Hubbard (2007) as being eight dynamics in total: one's self, family, groups of individuals, Mankind, all living things, physical universe as made up of matter, energy, space and time, the spiritual realm and the Supreme Being. This model is hereafter used when referring to stakeholders as each to a greater or lesser degree is involved with each other, and although each holds a greater or lesser degree of importance for individuals they nevertheless influence each other. These dynamics are incorporated into a definition of ethics as behaviour which seeks the best level of survival, or 'the greatest benefits to the greatest number of dynamics' and conversely unethical behaviour is that which offers 'the poorest solution' and brings 'the greatest harm to the most number of dynamics' (Hubbard 2007). This is not to be taken as the 19th century utilitarian view of the greatest good for the greatest number per se, but the greatest number of dynamics or divisions as set out previously.

Applying this model of dynamics to the business world shows the individual describing the first dynamic 'self', as being represented by an individual's personal interests such as career advancement, remuneration, bonuses and work conditions. This impinges upon and is impinged upon in turn by the next category, 'family'. Here corporations have sometimes, often through coercion from unions (Moody, 2007), introduced family friendly policies and conditions such as paid and unpaid parental leave, family leave and carer's leave as well as making provision for part-time work hours. On the less supportive side and edging toward unethical behaviour one has the manager who demands such high levels of productivity (with or without correct resource provision) that staff, wishing to remain employed, regularly work excessive hours. Long work hours can translate into neglect of one's family.

The third dynamic can be described as the corporation itself. Turner (2009) explains that the Corporations Act 2001 'recognises that every company has the legal capacity and powers of an individual, as well as a range of special corporate powers'. It operates essentially as a group of individuals which, as shown in the seminal case of Salomon v. Salomon and Co. Ltd., is deemed to have existence independently of those it comprises. This is perhaps the most commonly seen manifestation of an over emphasis on one dynamic. The corporation grown so large and powerful, especially in a nurturing environment of free capital markets, that there are no self-regulating mechanism and few external checks and measures to keep a balance with all other dynamics. This nurturing environment is exemplified in the Bush and Reagan administrations with the deregulation and lessening of control of the American banking system.

The expression of 'Mankind' as a dimension is typically represented in the corporate sector as the recipient of generous philanthropic acts. In the context of business corporations this often positively, takes the form of substantial donations to charities or the arts.

The next dynamic of all living things (including plants and animals), comes under scrutiny because Mankind's posture of 'conquer nature', at its peak in the Elizabethan age of exploration and trade, eventually evolved into economic rationalism whereby nature is seen as worthwhile preserving if there is financial gain. More recently sections of society are more attuned to a guardianship or stewardship role of preserving life for its own sake.

In the corporate sector an example of a positive application, is shown by companies taking a stand on environmentalism and conservations of resources, which, interestingly enough often coincides with economic benefits such as the reinvigoration of the Ford Rouge Centre, Dearborn Truck Plant, Michigan. The plant now boasts a living roof covering 10.4 acres which substantially reduces operational costs while simultaneously contributes to cleaner air, habitat for birds, small native rodents and insects, and reducing run off (Ford Motor Company 2009).

The converse is also apparent with corporations neglecting or actively participating in dubious enterprises which offer short term lucrative rewards at the expense of living things, including plants and animals.

The next dynamic is that of matter, energy, space and time which is manifested negatively in the corporate sector by their rapacious need for resources, such as primary materials for manufacturing and consumption and often their dependence upon non-renewable energy sources such as coal and oil.

Here too progressive companies have adopted sustainable and renewable energy sources such as tidal, wind and solar power.

The final dynamic of the spiritual realm is perhaps not so obviously apparent in the corporate sector. On closer inspection though corporations rely on managers and employees exhibiting an alignment to the Protestant work ethic which is instrumental in driving modern capitalist systems. The belief that one can attain spiritual growth through the acquisition of wealth is consistent with many religious denominations including The Religious Society of Friends whose early parishioners were active in medicine and business. A notable example is their influence in developing thriving confectionary businesses founded by the families Cadbury, Fry and Rowntree (The Religious Society of Friends 2009). Their business acumen was motivated strongly by their religious views and was used in this instance to offer the public an alternative to alcoholic beverages in the form of drinking chocolate.

The Ethical Dilemma

Ethical dilemmas as those in which one dynamic is pitched against another without clear guidelines as to how to resolve the situation. It appears that those who operate more fully on the group (or work) dynamic are more likely to adhere to corporate rulings rather than their personal values (Arnold, Bernardi, Neidermeyer and Schmee 2005). This is in alignment with stewardship theory (Clarke 2007) in which employees act in the best interests of the corporations for whom they work, rather than looking more widely at the situation to reach the optimum number of positive outcomes across the majority of dynamics. The approach recommended here has leanings toward stakeholder theory (Donaldson and Preston 1995; Clarke 2007; Furneaux 2008) but includes wider dimensions than that proposed by stakeholder theory. Regardless of the model, the corporation can hold overwhelming influence over others and it in some instances it may only be an individual or small group that seeks to mitigate against that influence through a particular ethical stance not held by the corporation but desirable for society.

It is important to note that when individual behaviour is more closely aligned with Machiavellian principles, or in a way that significantly benefits the personal dynamic but is non-optimum across the majority of other dynamics, systems of monitoring and checking have to be developed to protect those same dynamics. This manner of opportunistic behaviour results in a lack of trust between individuals and organisations and substantial amounts of money are spent on ‘checking and monitoring’ (Noreen 1988).

Hypocrisy at the Top

Corporations exist as part of society. Their marketing decisions, product decisions, resource consumption, employment policies and all spheres of their endeavours have an immense impact upon society. The corporate boardrooms take the view that although it may be the case that the corporations they lead impact upon society, in some cases this appears to be of little concern. Their over-riding concern is in ensuring shareholders receive the highest possible return on their money whilst remaining inside the constraints of law, and by adherence to this view these same corporate leaders earn substantial salaries and substantial bonuses (Moody 2007). Some argue that this is all that is required of corporate leaders whilst others such as Child and Rodrigues (2003) express concern about the degree of power shown by corporations and the issues of honest disclosure practices. Brenner (1992) and Paine (1994) point out that some corporations actively seek ethical improvements through the creation of compliance or ethics programs because they understand the impact their organisations have on society.

While unethical behaviour creates significant costs, the reflection of this is also true with modern thinking corporate leaders realizing that their organisations are regulated by the power of society and that relates to their well being or indeed their continued existence. Kochan (2003) suggests that corporate leaders who have reflected on the current situation in the aftermath of numerous corporate scandals are endeavouring to reinvent the modern corporation so that it broadens its focus beyond financial targets and satisfactions of shareholders only. Kochan (2003) discusses the view that corporate leaders are seen as offering ‘poor, greedy and/or unethical leadership’ and that effort should

be placed on transforming these individuals into decent people mainly through accurate disclosure (Braendle and Noll 2005), enforcement and criminal penalties.

It is important to note that managerial level staff have significant influence over those they supervise through their ethical philosophy and behaviour. Indeed, Stead et al. (1990) comment that ethical philosophies come to naught if managers do not exhibit ethical behaviour in the workplace. Waddock (2005) supports the importance of ethical behaviour by emphasising the significance of integrity when undertaking auditing procedures.

Rose (2007) argues that managers in business are reined in and are unable to make decisions by over viewing a situation with broad ethical considerations but are restricted to operating within the confines of legal compliance. To this end Rose (2007) goes on to state that captains of industry have a highly developed personal integrity. One could argue that being constrained by what is implied to be inadequate laws is a poor excuse for passivity. Passivity in the face of unethical thinking and behaviour is yet another form of an unacceptable lack of ethics. It is a harmful act by omission. In society and in business both the individual and the corporation are expected to act within their sphere of influence. For some individuals this sphere is narrow, for example, the ordinary man in the street who does not have easy access to politicians and the judiciary (for the purpose of creating and changing law). The common man, having recognised their limited reach joins a community group of like minded individuals which collectively advances their cause. Or they at least march in a rally (McMurtry 2002) or write their politician stating their concerns. The common man lobbies and transforms society but some corporate leaders do nothing all the while declaring that it is the law itself that restricts their powers to engender change for better outcomes.

It is speculated that corporate leaders have a wide sphere of influence within and without the boardroom and could behave pro-actively far more easily and more powerfully given their extensive 'reach', that is, by using their business contacts, corporate connections and family networks. Waddock (2005) suggests that top executives that act with integrity may also create mission statements that encourage and support 'accurate reporting' and Schwartz (2001) advances the idea that in some instances corporate codes could be considered "an important first step" in generating ethical corporate behaviour. Within the boardroom it is suggested that if the 'hard' questions were asked and answered with candour, many dubious circumstances would be curtailed early in the decision making process. Corporate leaders claim concern about the decline of ethical standards (Rose 2007) yet do nothing.

It is argued that there may be a conflict between personal values and those espoused by the corporation (Arnold, Bernardi et al. 2005) and this places employees in situations in which they are forced to choose between their professional duty and their personal mores. De George (2006) suggests that such codes do little to encourage employees to apply personal codes of ethics or be prepared to accept the consequences of their actions. "Rarely, if ever, does the code suggest employees use their moral reasoning skills or moral imagination and take moral responsibility for their actions" (De George 2006) If one were to look at ethics as an active process and not just an outcome, such apparent conflicts could be more readily resolved. Employees would not only look for 'the answer' but could be part of the process by proactively participating in the evolution of optimum solutions which feed back into the body of corporate guidelines.

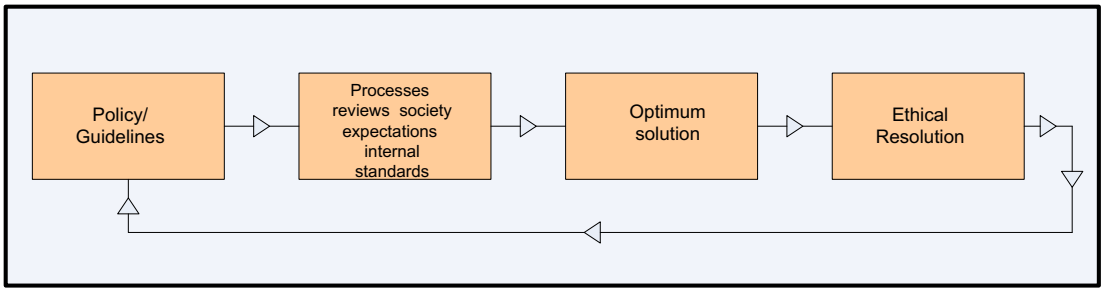

Figure 1. Ethical Feedback Loop

It is the radical thinkers and doers that proactively take responsibility, sometimes by lobbying public and private entities, governments and changing the law itself. One such example is the 'Garbage

Warrior', Mr. Michael Reynolds, an architect, who coined the term 'biotecture'. His philosophy clearly shows his pro-active approach: "I can't change the world, but I can make change anywhere that I am."(Reynolds 2009). From a limited power base he is seeking to change existing legislation so that environmentally friendly housing (in the fullest sense) known as 'Earth Ships' can legally be built in New Mexico, U.S.A. As the 21st Century quickens its pace and new holistic paradigms are becoming reality, consumers are no longer satisfied or pacified, as suggested by McMurtry, (2002) with corporations believing they have fulfilled their fiduciary duty by doing no harm. Consumers' expectations are that corporations should pro-actively seek to do good and contribute to society (Svensson and Wood 2007). This attitude is also apparent in the rise in popularity of socially responsible investment whereby investors show concern about the natural environment and society (Waring and Edwards 2008).

Virtue Ethics

The field of business ethics predominately focuses on the negative: corporate collapse, corruption and fraudulent practice but by doing so one can overlook the very real benefits which can accrue from adherence to ethical business practices. The positive side to business ethics (De George 1987) includes such areas as the correlation between adherence to ethical principals and increased profits, the enhancement of long range thinking and the benefits of trust between dynamics.

The growth in popularity of socially responsible investment indicates that investors themselves are expressing interest and support for an ethically positive approach to business (Waring and Edwards 2008). Another aspect to a positive application of ethics is expressed by Badaracco (2003) in their discussion of corporate leaders who seek to operate positively on all dynamics by recognising that rules are important but so too are the greater moral guidelines behind those rules. It is adherence to the spirit of the agreed upon rules that develops trust (Ritchie 1996), which in turn brings customers and job seekers wanting to be associated with the ideals as expressed and practiced by the ethical organisation. To create this atmosphere the corporations themselves must establish appropriate incentives.

Corporations Reinventing Themselves

What is needed is to reward ethical behaviour so that ethical individuals are encouraged to continue behaving well, acting as role models and remaining with their organisations. In this way the organisation can benefit because higher profits are to be had if the organisation operates as a good corporate citizen (Rogers and Gago 2004). To achieve this, the organisation needs ethical staff operating in a supportive environment. Ethical staff also need to be retained so the organisation will continue to helix upward becoming more ethical with each turn. The corporation is influenced by the individual, and conversely the individual is influenced by the corporation. The problem then is to create a critical mass of ethical people who will self-generate ethical colleagues by their modelling of behaviour, guidance through ethics policies (mission statements, compliance programs, codes of ethics and corporate credos, etc.), (Schwartz 2001) and understanding of the corporation's place as one dynamic among many.

To generate an influx of ethically minded and ethically acting people recruitment processes must review the criteria of characteristics and qualities they seek and the degree of importance placed on each attribute. In particular recruitment staff are advised to select those who have sufficient appropriate exposure to key characteristics as identified in the academic literature: a high level of education, a participant in a religious order, personal behaviour that conforms to or exceeds society's mores of right conduct and previous membership in corporations that exhibited good corporate citizenship, that is, people who rate highly on identified ethical indicators.

Ethical Indicators

The purpose of creating ethical indicators is so they may be tentatively used as a predictive tool allowing potential employers to hire staff who are more likely to exhibit behaviour consistent with the positive and ethical end of the spectrum. Concern that there is a lack of predictive tools is also

expressed by Jennings (2006) when formulating corporate indicators of ethical collapse. Individual and situational factors come into play such as a person's personality and the organisation's systems of enforcement (Stead, Worrell et al. 1990). It is posited that the following factors would serve well: education, religious affiliation, personal ideologies, reputation and behaviour and corporate citizenship. A detailed questionnaire that pits one dynamic against another would provide an insight to potential employees' ability to juggle the eight dynamics successfully. This is especially important when there are limited guidelines for employees to follow.

Education

The better educated a society the more able is that society to observe, comment upon and take action against questionable conduct (Svensson and Wood 2007). The level of education in the corporate boardrooms and corporate middle management may be one indicator of the likelihood of accurate observation and critical debate. This does not pre-suppose that education alone generates ethical behaviour; rather it provides the requisite skills for analysis. Although not a guarantee of survival, choices across a majority of dynamics (in business parlance: optimum outcomes for the majority of stakeholder groups) it is more likely that educated staff would have skills necessary for critical review and communication.

Religious Affiliation

Religious affiliation it is argued influences one's proclivity toward ethical behaviour (Hunt and Vitell 1993; Quinn 1997; Longenecker, McKinney and Moore 2004). There is some debate however, as to whether one is a religious participant because one already exhibits and professes spiritual beliefs and deontological concerns or whether participation in established religion leads to such beliefs. Regardless of its genesis religious people are more likely to have 'more clearly defined'(Hunt and Vitell 1993) moral aspirations and this would strongly influence 'ethical judgments' (Hunt and Vitell, 1993). Religious participation may then be considered as a contributing component in judging the degree of importance placed on ethics by an individual and Brammer, Williams and Zinkin (2007) stipulate that the majority of religious groups do exhibit a higher level of expectation about companies' commitment to a variety of social issues. This is supported by Fernando et al. (2007) in their study of 80 Australian managers in which the question of recruitment is raised. The authors do not make recommendations about possible adjustments to recruitment processes so that religious affiliation could be revealed and it is suggested that this issue in itself is contentious.

Support is found for the inclusion of religion in the debate about business ethics from Fort (1997) who holds that an exclusionist approach, that is, excluding religious affiliation, is unnecessarily limiting. Nevertheless it is of importance to further investigate the relationship between religious affiliation and ethical behaviour especially if one adheres to Schwartz's (2006) view that there is a marked rise of spirituality in the workplace. A further argument for additional investigation into the relationship (or not) between religious affiliation and business ethics is that to date there are mixed results across various studies (Singhapakdi, Marta, Rallapalli and Rao 2000; Parboteeah, Hoegl and Cullen 2008). Nevertheless it is of importance to further investigate the relationship between religious affiliation and ethical behaviour because people who have formal adherence to religion may still behave badly.

Personal ideologies, reputation and behaviour

Employees often see themselves as able to act only as ethically as the organisation permits. The organisation has been shaped by past employees and is continually reshaped by current employees to reach its current ethical form. This is supported by Illes (2007) in their study on leadership in which it was revealed that ethical problems are solved in a way that is consistent with a person's personal values. An earlier study by Paine (1994) revealed the converse relationship which showed that one's personal values become aligned with that of the organisation and 'ethics has everything to do with management' such that the ethical tone is set by management. This reveals the value of ethical leaders, that is, those that model the personalism theme of desiring to create value for the group and not for themselves first (Whetstone 2002). Nevertheless creating value for the group is a sub-optimum solution if the leader is not also able to create value for themselves.

Applying the theory of personalism and specifically the servant leadership model as used by Whetstone (2002) is problematic only if one takes this paradigm to its fullest extent. However it can be applied well in conjunction with the 'dynamics' model proposed earlier. Against this backdrop with creative insight, a corporate leader faced with an ethical dilemma may be able to resolve problems with outcomes that adhere to ethical standards, benefit the group, and benefit the decision maker. This is possible by understanding that the decision maker is a functioning part of their dynamics so that even at a secondary level the decision maker is benefited. For example, a decision made to increase foreman's pay but not manager's pay still benefits the manager if not in the most immediate sense but at least in the future by securing higher productivity and therefore greater security in the continuance of the firm.

This lends itself in part to Forsyth's (1980) discussion of relativism, in which 'the individual rejects universal moral rules' and idealism, in which it is believed that 'desirable' outcomes can 'always be obtained' by following right action. Forsyth established a taxonomy describing four types of ethical ideologies which, while offering valid insight, cannot be used as a predictive tool to gauge the degree of ethical behaviour. In the corporate environment one may use the taxonomy retrospectively by establishing the number of employees in each ideology and then developing relevant deterrents and incentives in the form of procedures, leadership models, rules, codes of ethics and corporate ideologies to which employees may adhere and be moderated appropriately by their self-selected classification.

Although this may provide as close to an ideal setting as could be developed, nevertheless it does not measure employees' application of their espoused ethical standards. The saying is not the doing and until the deed is done it is more a matter of conscience than ethics. A judgement of ethical standards can be made more accurately by inspecting actual past behaviour. As in business forecasting one may partly rely on historical behaviour to predict future behaviour under similar circumstances. So it is proposed that a predictive model be investigated by researching the relationship (or not) between a business person's education, religious affiliation, personal ideologies, reputation and behaviour, and finally corporate citizenship.

Good Corporate Citizenship

Affiliation with corporations that have achieved the reputation of good corporate citizenship may also be an indicator or a person's ethical leanings. Such a corporation earns its reputation by having known and used codes of conduct and an understanding and appreciation of its place in society.

It may be difficult to discern whether the codes are mere tokenism or an intended and genuine application of ethical standards to business (Weaver, Trevino and Cochran 1999). Although it is recognised that a corporate ethics program does not ensure good corporate behaviour it is at the very least the genesis of change. An individual employed in an atmosphere of good conduct is inevitably influenced by the 'explicit and implicit components' (Brenner 1992). As such it may also be used as one indicator of a person's likely behaviour with those having many years exposure in such an environment, rated more highly than those with fewer years employed in such an environment.

Conclusion

The challenge in the corporate sector is to proactively rethink the old paradigm of profits above all else and envisage an environment whereby the eight dynamics of existence can operate symbiotically. The corporate sector would benefit through encouraging ethical behaviour and thereby increased profits, a more visionary approach and greater trust and co-operation between dynamics. A predictive model to detect ethical behaviour has been tentatively suggested in this paper which if applied could greatly enhance a corporation's prospects of attracting and retaining ethical staff. The predictive model of personal and corporate ethical behaviour is based on level of education, religious affiliation (if any), personal ideologies, reputation and behaviour and lastly affiliation with corporations that are seen to have achieved good corporate citizenship.

The development of such a predictive tool would greatly enhance the operating environment of the corporate sector and all areas of society in which the corporate sector extends its reach. Suggested areas of further investigation may involve exploratory research drawing upon secondary data, taking

the form of an information review from public sources identifying a limited number of corporate leaders whose organisations have *not* been involved in scandals and whose organisations have a high Corporate Ethical Values score could be undertaken. Personal interviews could be conducted with the identified corporate leaders to establish their degree of adherence or disengagement with the items in the proposed predictive model as suggested earlier.

The outcome of such a study could provide a valuable insight to the range of ethical considerations faced by corporate leaders and establish the framework for a practical predictive ethical testing agent.

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Negotiation Decision Support Systems: Analysing Negotiations Under the Conditions of Risk

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Abstract

Negotiation Theory is a research area with emphasis from three different research streams being game theory, psychology and negotiation analysis. Recently, negotiation theory research has moved towards the combination of game theory and psychology negotiation theory models that could be called Integrated Negotiation Theory (INT). As, negotiations are often impacted by external factors, there is risk associated with achieving the expected outcomes. Prospect theory and Negotiation theory are combined in this paper to incorporate the risk associated within negotiations. Negotiation Decision Support Systems (NDSS) is an information technology tool using negotiation theory and artificial intelligence to assist disputants in a negotiation to obtain better negotiated outcomes than they can obtain otherwise. Due primarily to the limitations of bounded rationality and differing mental or physical state of the disputant. In the past, NDSS have primarily used game theory within their negotiation and decision making framework to assist disputants resolve negotiations, as game theory is easier to incorporate. This paper shows how INT and Risk Factors (Prospect Theory) can be incorporated into an NDSS to improve negotiation decision making.

Keywords

Negotiation, Negotiation Theory, Integrated Negotiation Theory, Negotiation Decision Support Systems, Prospect Theory

Introduction

Negotiation is used in every interaction we have with another human being in any instance, for example, where we purchase goods or services from someone, help a friend move a table from one room to another, help a stranger on the street or discuss a topic of mutual interest. However, due to numerous reasons negotiations don't go as well as we often plan and the negotiated outcomes don't meet our expectations. Resultantly, substantial research is being undertaken in the negotiation theory area that reviews negotiation from three different viewpoints: using game theory (from an economic viewpoint), psychology (from a cognitive, social or behavioural psychology viewpoint) and negotiation analysis (from a game theoretic and decision analysis viewpoint).

Negotiations are a series of two way concessions between individuals resulting in a compromise that will be acceptable to a majority of individuals comprising the negotiation. However, many negotiations are not closed to the outside world and external factors can have a minimal or significant impact on the negotiated outcomes. Therefore, this research will empirically review how negotiations under the conditions of risk work. Subsequently, as negotiation is such a critical part of human activity, information systems researchers decided to develop systems that would use the power of computing to provide a tool to assist people in resolving negotiations more successfully. Resultantly, it can optimise and try to provide superior negotiated outcomes for each disputant in the negotiation. These specialised information systems used to support negotiations are called Negotiation Decision Support Systems (NDSS) or Negotiation Support Systems (NSS).

This paper is structured according to the following sections:

1. Undertake a literature review to understand the research undertaken in the negotiation theory and prospect theory areas related to:
    a. Negotiation Decision Support Systems (NDSS)
    b. Game theory,
    c. Negotiation analysis (game theory and decision analysis),
    d. Psychological negotiation theory (cognitive, behavioural and social psychology),
    e. Integrated negotiation theory (INT) that has come about with the convergence of including game theory and psychological negotiation theory within a single framework and
    f. Prospect theory
2. Review how risk factors can be applied to negotiation theory and negotiation decision support systems.
3. Conclusion: a brief summary of the literature review and outcomes from this research.

Following the structure of this research provided above, the next sections will provide a Literature Review of Negotiation Theory.

Negotiation Decision Support Systems & Negotiation Theory

Negotiation Decision Support Systems utilize Negotiation Theory within its underlying negotiation and decision framework. Resultantly, as per Raiffa (2005) the following three decision making frameworks are essential to negotiation theory and a list of NDSS applications that are based on these negotiation theories are:

1. *Normative decision making* that describe 'how a decision should be made in an ideal environment' (Raiffa et al. 2003), where game theoretic or optimization techniques are used to find solutions and examples of normative NDSS are SmartSettle (Thiessen et al. 2000) and INSPIRE (Kersten 1997),
2. *Descriptive decision making* states 'how decision makers act' and behavioral theories are utilized in this framework (Raiffa et al. 2002), here an example of a descriptive NDSS is WinSquared (2001), and
3. *Prescriptive decision making* is 'where decision makers see how a decision can be improved', while using normative and descriptive theories to form these suppositions, examples of a prescriptive NDSS is Family_Winner (Bellucci & Zeleznikow 2004).

Moreover, Bellucci & Zeleznikow (1996) and Bellucci (2004) state that Normative and Descriptive NDSS/Negotiation Theory models are backward looking and they don't provide disputants substantial insight into the decisions they need to make in the future. While, Prescriptive models are forward looking as they consider the ways that the negotiated outcomes can be improved rather than how a decision should have been made. Resultantly, Negotiation Theory researchers and practitioners have started reviewing concepts to develop more prescriptive models to improve the prescriptive power of negotiation models to provide superior solutions in order to assist in delivering more successful negotiations. Therefore, we will discuss Normative decision making theories in the realm of Game Theoretic Negotiation Theory and Negotiation Analysis in the following section. Thereafter, we will review Descriptive decision making theories in the Psychological Negotiation Theory area, which will lead us to the more Prescriptive decision making research that reviews recent work in the area of integrated Game Theoretic Psychological Negotiation Theory models. Integrated Game Theoretic Psychological Negotiation Theory models are more prescriptive because while researchers find Game Theoretic models Normative by themselves and Psychological Negotiation Theory models are seen as Descriptive. Nonetheless, these models provide significant information and analysis (i.e. game theoretic models provide information and model the interactive decision making patterns between

disputants within a negotiation and psychological models provide information and insight into the individual cognitive, social and behavioural psychology aspects of disputants), thus when these two different type of negotiation theory models are integrated they provide two different facets of information which can collectively provide prescriptive solutions.

Additionally, while we review Negotiation Theory models we also need to understand and review the successful use of a NDSS that is an application of this integrated Negotiation Theory. Therefore, we understand that a negotiation is a complex process and numerous decisions are made by each disputant while analysing the decisions that would likely be made by their opponents in a negotiation. Often through the negotiation process it is hard to judge which decisions are correct or incorrect, further even harder sometimes to clearly confirm how successful a negotiation has been. So, it is difficult to figure out if an NDSS application has assisted in completing a negotiation successfully. In order to provide some understanding of how we could possibly calculate 'how successful a negotiation is', it could be possible to understand how happy the disputant is with their actual negotiated outcome, which could further be analysed to understand how much assistance the NDSS provided to improve those negotiated outcomes.

Game Theoretic Negotiation Theory

Game theory provides an insight into strategic human interaction in economic and social environments. Here, we initially review game theory concepts and its application in the negotiation theory research area.

Contemporary game theory has three forms: Zero-sum game theory (Von Neumann and Morgenstern 1944), co-operative game theory (Shapley 1953; Shapley 1977; Shapley and Shubik 1954; Luce and Raiffa 1957; Aumann and Drèze 1974; Myerson 1977) and non co-operative game theory (Nash 1951) that provide the initial basis for all research in the area of game theoretic negotiation theory (including bargaining and auction theory). Where, non co-operative game theory dominates the zero sum theory (as it is a system dynamic form of the latter). Also, von Neumann and Morgenstern (1944) and Nash (1950; 1951; 1953) had suggested two game theory approaches to resolve bargaining problems: axiomatic or strategic. An axiomatic approach (sometimes called co-operative theory) provides a set of beneficial axioms implying a unique solution, while the strategic approach focuses on the outcomes of players in a non co-operative game modelling the bargaining process overtime. The axiomatic approach was dominant until 1980, but Rubenstein's (1982) solution of alternating players with discounting utility overtime provided the impetus for the strategic approach to gain momentum. Further, game theoretic aspect of negotiation theory that can be called strategic game theoretic negotiation theory has developed efficient and equilibrium proponents of fundamental welfare theorem by Arrow and Debreu (1954), Debreu (1959), Chaterjee and Samuelson (1983), Cramton (1992), Holmstrom and Myerson (1983), Satterwaite and Williams (1989) and Gresik (1995).

Where, Crawford (1982, p. 607) has stated that improving efficiency in bargaining outcomes does have substantial welfare gains. Some researchers, including Myerson (1979; 1984; 1985) have tried (and are still trying) to combine both the axiomatic and strategic approaches. Though, these game theoretic forms require complete information, but usually most bargaining situation only have incomplete information. Partially coinciding with this approach, Harsyani (1966, 1967, 1968a and 1968b) has provided a strategic game theoretic solution with incomplete information and Chaterjee and Samuelson (1983) have used Harsyani's theory to develop a static bargaining model with incomplete information with unknown reservation prices for the buyer and seller, while Rubenstein (1985) used this model using the opponent's discount utility factor to replace the unknown information. Additionally, Selten (1975) developed the sub-game perfect equilibrium theory, where Kreps and Wilson (1982) provided a sequential equilibrium with incomplete information utilizing statistical inference (Bayesian updating).

Morever, Raiffa, Richardson and Metcalfe (2002) have stated that game theory provides normative solutions (associated with interactive decision making) that aren't accurate enough (due to constraints), while cognitive and social psychology (behavioral) theories provide descriptive solutions (associated with analysis and implications of individual decision making). Nevertheless, it is

highlighted by Luce and Raiffa (1967) that psychological theories though can't provide the interactive decision making relationship that can be provided by game theory, which is essential in a negotiation theory. Game theory lacks prescriptive power due to some specific reasons that are:

1. the possibility of existence of multiple plausible equilibrium solutions and no a priori method to choose between them to obtain one single optimal solution for any problem;
2. the constraint of players being completely rational can't work as totally rational negotiators (players) that doesn't exist in reality and some negotiators will probably make irrational decisions that can't be explained by game theory, thus Bazerman and Chugh (2004) define this problem as bounded awareness and bounded rationality of negotiators in a game (negotiation);
3. the elements, structures, priorities and rules aren't all common knowledge in a negotiation, further, the lack of such common knowledge can limit the prescriptive power of equilibrium oriented game analysis;
4. moreover, here Luce and Raiffa (1957) have also raised concerns of the limits to analyzing actual interactive conflict situations with game theory, as decisions can't incorporate infinite interrelationships between a player's (negotiator's) own actions and those of their opponents, thus some finite bounds need to be set for analyzing such games.

Negotiation Analysis

Raiffa (1982) introduced a new branch of negotiation theory called Negotiation Analysis that was based on the concepts of game theoretic negotiation theory and decision analysis (Multi Criteria Decision Analysis) and this research area has attained substantial momentum for other researchers to utilize it as a branch of Negotiation Theory. Raiffa (1982), Raiffa, Metcalfe and Richardson (2005), Bazerman, Neale, Valley, Zajac et al (1992); Thompson and Fox (2000) believe that Negotiation Analysis provides a more prescriptive approach to negotiation and its assists the negotiator in understanding their own behaviour, preferences and actions in comparison to those of their opponents (Bazerman 2005; Neale and Bazerman 1991), as well as the systematic ways in which decision makers deviate from rationality or optimality (Hastie and Dawes 2001; Kahneman and Tversky 1979; Tversky and Kahneman 1974; Trepel, Fox and Poldrack 2005). Even when negotiators are presumed to have bounded rationality (Simon 1957), they are still expected to make intelligent and rational decisions. Though, contrarily Bazerman (2005) states that often negotiators make inconsistent, inefficient and decisions based on normatively irrelevant information, due to the cognitive heuristics they apply to simplify core arguments. Nonetheless, while these heuristics are useful shortcuts to simplify decisions, they lead to predictable mistakes (Tversky and Kahneman 1974).

Further, Sebenius (1992) adds to the discussion on the background of Negotiation Analysis and states that while the primary roots of Negotiation Analysis are in decision analysis and game theory, this research area has had a really pragmatic prescriptive rather than normative view on resolving negotiation theory problems. Nonetheless, he also specifically identifies that game theory has been searching for the ultimate solution to predict outcomes of interaction between human beings, which would include bargaining, auctions, negotiations, market microstructure design and others. Thus, as game theory is still normative, though some progress has been made to provide prescriptive solutions (for example, Harsyani (1967; 1968) and Shelling (1960)), even if no clear solution has been provided to this complex real world problem. However, he believes that game theory is especially useful in understanding repeated negotiations in well structured scenarios and for designing negotiation and bidding mechanisms supported through competitive dynamics within games. Thus, specialist applications of game theory, for example Weber (1985), Myerson (1991) and Siebe (1991) and Young (1991) are leading to more effective game theory application to the area of negotiation.

Nevertheless, the works by Shelling (1960, 1966) and McKersie (1965) were the first to be published incorporating aspects of Negotiation Analysis, adding game theoretic decision analysis understanding to explain negotiating or bargaining scenarios with informal game theoretic arguments. Negotiation Analysis was first formally introduced by Raiffa (1982) in the book, *The Art and Science of*

Negotiation that formally defined the boundaries of the research area of Negotiation Analysis, which was followed by Sebenius' (1984) book, *Negotiating the Law of the Sea: Lessons in the Art and Science of Reaching Agreement* that build on the same basis of Negotiation Analysis provided by Raiffa (1982). Later, publications include Lax et al (1985), Lax and Sebenius (1986) and the latest book written by Raiffa, Metcalfe and Richardson (2005).

Cognitive, Social and Behavioural Psychological Negotiation Theory

Moreover, reviewing the psychological negotiation theory area we understand that it implicitly has three main research streams: cognitive, social and behavioural psychology that impact behaviour of disputants in a negotiation.

Bercovitch and Houston (2000) start by saying that there are three contextual dimensions that influence mediator behaviour, which are pre-existing factors (context of the conflict and identity of the parties), concurrent factors (identity of the mediator and actual mediation event) and background factors (the effect of mediation from previous mediation efforts). Further, they use a data set of 295 conflicts and using multivariate analysis they find that the conditions of the mediation environment and the identity of the conflicting parties are the most significant influences on the mediator's choice of strategy.

Kramer, Pommerenke and Newton (1993) suggest that negotiators are usually going to pursue equality division heuristics, especially when a common or social identity is salient to them and when they feel more accountable to the other parties in the negotiation. Where, social identity theory explains interpersonal behaviour in an individual's social group membership context (Hogg and Abrams 1988; Tajfel and Turner 1987; Turner 1987). Some support for the social identity theory in n-person conflicts has been provided by Dawes and Thaler (1988) and Kramer and Brewer (1984). Further, accountability is another aspect that activates self-presentation concerns because people seek approval from audience that observe their behaviour (Baumeister and Hutton 1987; Tetlock 1985), about appearing competent (Bond 1982; Ginzel, Kramer and Sutton 1992) and about appearing co-operative and fair (Greenberg 1990; Reis and Gruzen 1976), though in some situations they also demonstrate toughness and competitiveness (Carnevale, Pruitt and Button 1979; Sutton and Kramer 1990).

Negotiators also use decision heuristics that represent allocation rules that interdependent decision makers use to decide how resources should be divided between themselves (Allison and Messick 1990). These rules have been used to maximize relative gain, maximize individual gain, maximize joint gain or minimize difference between the negotiators (Kramer, Pommerenke and Newton 1993). Thus, Keenan and Wilson (1990) state that conceptual progress in bargaining theory requires an understanding of nonpecuniary motives that affect decisions during negotiations, which can be explained by social contextual analysis. Korobkin and Guthrie (2004) provide the heuristics that negotiators use to make *judgments* and *choices* that affect their outcomes, while negotiators can also use these factors to influence or change the choices of their competitors through anchoring (a negotiator can ask a higher price as an anchor in the first offer), availability (a negotiator can make available offers or supporting evidence that makes the opponents more likely to choose from the negotiator's offer), framing (a plaintiff could challenge the defendant to review the offer in light of the worst-case scenario rather than status quo to get the plaintiff to accept their lower offer) and contrast effects (causing an opponent to prefer an offering $30,000 lump-sum, by providing an inferior offer of $10,000 per year over three years or $30,000 to a registered charity on behalf of the opponent).

Integrated Game Theoretic Psychological Negotiation Theory

We have gone through the substantial amount of research that has been undertaken by game theoretic and psychology researchers (Bazerman, Magoliozzi and Neale 1985; Kim, Bazerman, and Neale 1990; Weingart, Thompson, Bazerman, and Carroll 1990; Sondak and Bazerman 1991; Bazerman 2005), which discusses important negotiation issues some of which are advantages of integrative and distributive negotiations, BATNA, game theoretical models from Shelling (1960), Nash (1951), Harsyani (1967, 1968), bargaining theory, psychological factors that affect negotiations like 3D view

of negotiations (Sebenius and Lax 2002), fair division of outcomes (Brams 1990; Brams and Taylor 1996), behavioral decision theory and negotiation analysis (Raiffa, Richardson and Metcalfe 2002), dynamic valuations in negotiations (Bendersky and Curhan 2003), type of negotiation (Berger, Kern and Thompson 2003), negotiating preferences (Bendersky and Curhan 2003), perceptual gaps (Cronin, Weingart, Cagan and Vogel 2002) and subjective reasoning in dynamic games (Feinberg 2002). These two groups of theories (game theoretic and psychological) provide a basis for the development of an integrated game theoretic psychological negotiation theory (integrated negotiation theory or INT) that is expected to provide prescriptive recommendations to improve negotiated outcomes.

As, negotiation theory researchers have been moving towards integrating game theoretic negotiation theory with psychological negotiation theory, we have seen two significant integrated negotiation theory models been developed by Neale and Northcroft (1991) and subsequently improved by Hausken (1997). Neale and Northcroft (1991) provide a conjoint behavioral and game theoretic negotiation theory model with Structural Influences (game theory factors – power, French and Raven 1959; Pfeffer 1981), deadline (time pressure reducing demands, aspirations and bluffing) and integrative potential (differential value assessment; non constant sum games: Thomas 1976) and Other People (agency theory factors – constituencies and third parties (Tirole 1988; Holstrom and Milgrom 1987; Holstrom and Myerson 1983)) as static factors and Cognition (planning, information processing, affect and individual differences) for each different player and Interaction Processes (influence tactics (reward, coercion, expertise, legitimacy and charisma: French and Raven 1959; information and communication power: Hausken 1997; persuasive tactics – assertion, rational argument and manipulation: Kipnis and Schmidt 1983) and communication tactics) as dynamic factors of their negotiation framework.

Hausken (1997) criticizes Neale and Northcroft's (1991) framework commenting that: first, observed choice behaviour is related to research perspective rather than game theory directly, as game theory is a symmetrically perspective rather than symmetrically descriptive research (Raiffa 1982, p. 20); second, that game theory has been described being unfit for descriptive research due to its extreme assumptions, instead recent development in game theory are slowly bringing prescriptive and descriptive research closer by relaxing these assumptions, for example, Harsyani (1967; 1968) provides for incomplete information to be included, Taylor (1987) and Hausken (1996a; 1996b) incorporating social-moral utility involving maximized weighted functions for players, Shelling (1960) providing a strategic application to real world problems of disarmament, and others (like Rubenstein 1985; Selten 1975; Satterwaite and Williams 1989a; Fundenberg and Tirole 1983) who have provided solutions to simplify the restrictive game theoretic constraints further, where some of these latter research hasn't been identified by Neale and Northcroft (1991). Third, Neale and Northcroft (1991) identify Rapoport's (1959) article and remark how mathematising social interaction ignored the dynamics of negotiation interaction. Though, Rubenstein (1982), Binmore (1985), Camerer (1987) and others have provided further input into social and behavioral game theoretic solutions that haven't been considered by them. Fourth, Neale and Northcroft (1991) represent game theory as a static theory and cognitive/social psychological theories as dynamic in nature, however, Hausken (1997) states that this assumption is unfounded as game theory is dynamic as well. Further, Neale and Northcroft's (1991) *framework for behavioural negotiation theory* is:

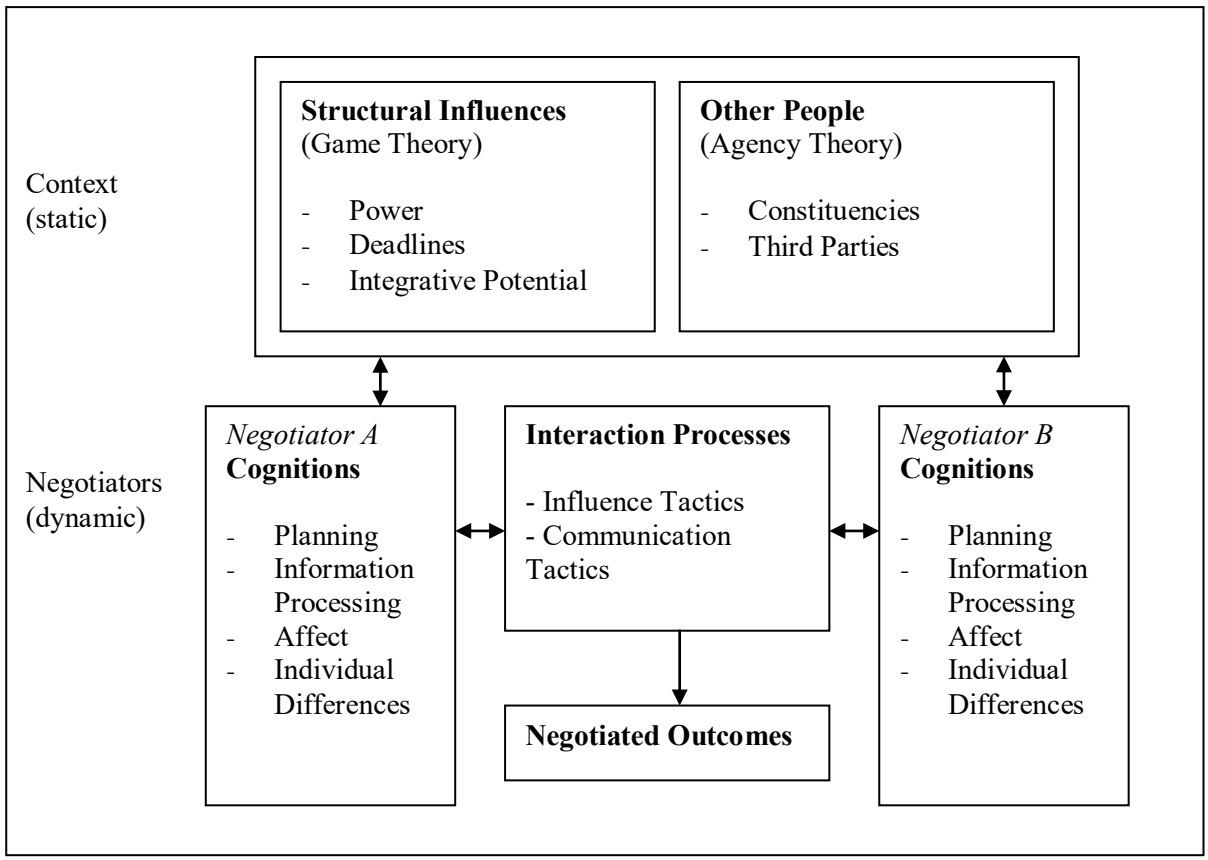

Figure 1. Framework for Behavioural Negotiation Theory (Neale and Northcroft 1991)

Hausken (1997) updates this Neale and Northcroft (1991) Framework for Behavioral Negotiation Theory model to provide an Integrated Game Theoretic and Behavioral Negotiation Theory from a game theoretic and a behavioural point of view, as follows:

Static Structures:
Game Theoretic: Payoff Structure & Information Structure
Structural Influences (Social Psychological): Power, Deadlines, Integrative Potential and other people (constituencies and third parties)
Dynamic Structures:
Game Theoretic: Beliefs (subjective probability distribution over opponent's reservation price) and Preferences (own reservation price)
Cognitive: Planning, Information Processing, Affect and Individual Differences
Dynamic Structure (Game Theory): Extensive Form, Equilibrium Concepts, Time Discount Factors and Attitude towards Risk; (Social Psychological): Interaction Processes (Influence Tactics and Communication Tactics)

Provided Diagrammatically below:

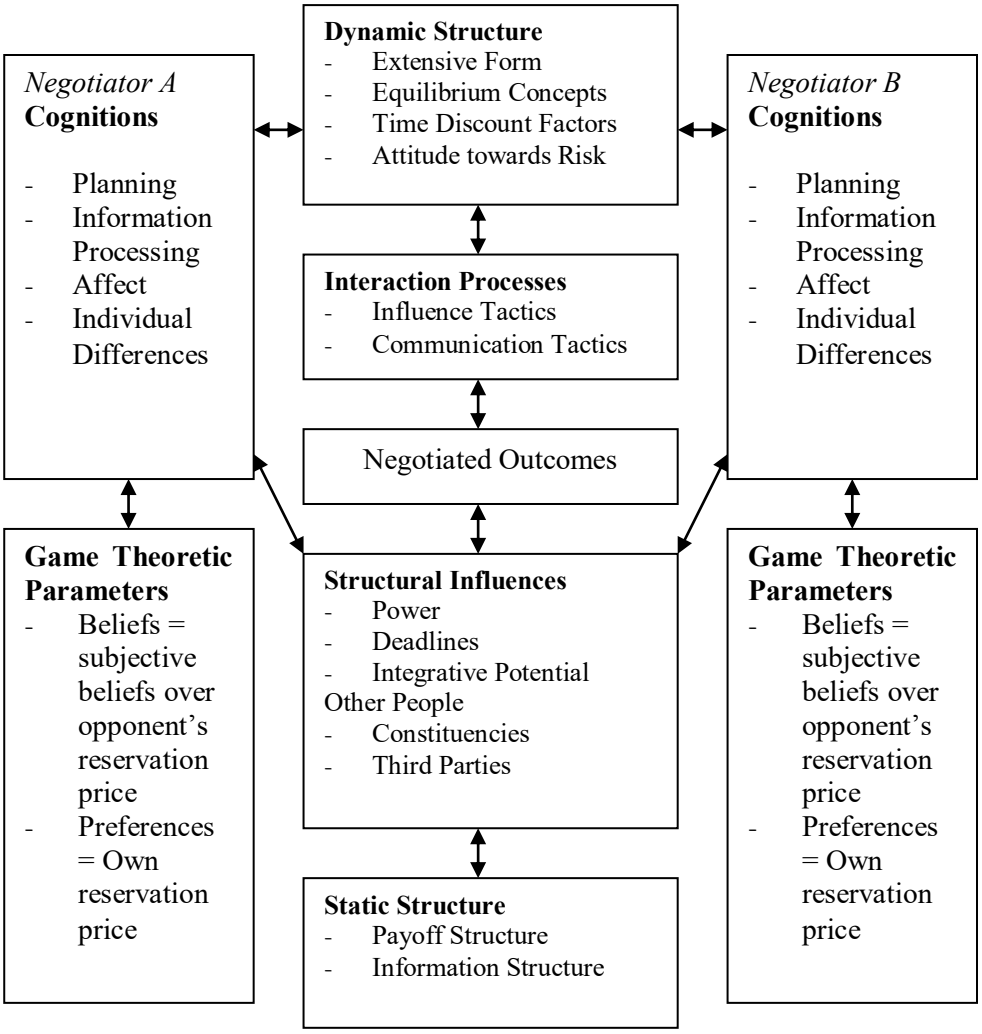

Figure 2. Integrated Behavioral and Strategic framework for Negotiation Theory from a *Behavioral* viewpoint (Hausken 1997)

While, Neal and Northcroft (1991) and Hausken (1997) have started a stream of research in integrated game theoretic psychological negotiation models, this research has a long way to go before significant breakthrough can be recognised through the development of more prescriptive and integrated models that link both game theory and psychological more intricately. However, both integrated negotiation theory models provided above by Neale and Northcroft (1991) and Hausken (1997) seems to have strong emphasis on either psychological theory as in Neale and Northcroft (1991) or game theoretic negotiation theory as in Hausken (1997). Therefore, a further rebalancing of the emphasis on both game theory and psychology is equally required to provide a well balanced prescriptive model.

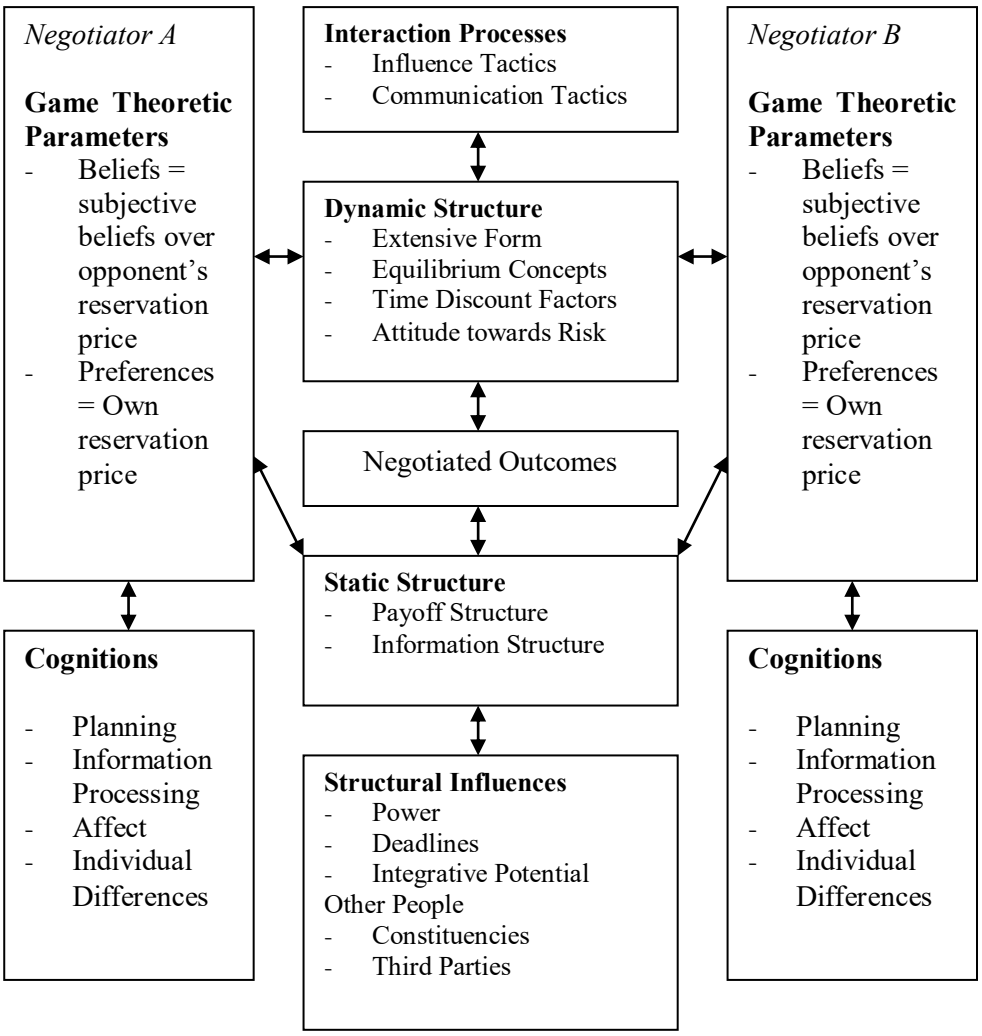

Figure 3. Integrated Behavioral and Strategic framework for Negotiation Theory from a *Game Theoretic* viewpoint (Hausken 1997)

Prospect Theory: Risk in Negotiation

Von Neumann and Morgenstern's Expected Utility Theory (1944) provided the basis to analyze utility under the conditions of risk. Kahneman and Tversky (1979) provided the Prospect Theory that further improved on the Expected Utility Theory. There are four important principles provides by Prospect theory (Kahneman and Tversky 1979, 1992) over the Expected Utility Theory (Von Neumann and Morgenstern 1944):

1. *Certainty Effect:* people underweight probable outcomes against certain outcomes – contributes to risk aversion to maintain sure gains, while risk seeking to reduce sure losses.
2. *Isolation Effect:* people discard options that are common – resulting in inconsistent preferences when the same option has been restructured in a different manner.
3. *Value Function:* is concave for gains and convex for losses, being steeper for losses than for gains – explains that people are more risk averse than risk taking.
4. *Non-linear transformation:* of the probability scale that over weights small probabilities and under weights moderate and high probabilities.

Quiggin (1982), Schmeidler (1989), Yaari (1987) and Weymark (1981) have provided a rank-dependent or cumulative functional form of the prospect theory. Kahneman and Tversky (1992)

incorporate these changes in their new form called the Cumulative Prospect Theory. They also state the five factors that should be included when viewing a rational theory of choice:

1. *Framing effects:* equivalent formulations of a choice problem should give rise to the same preference order (Arrow 1982). Contrarily, Kahneman and Tversky (1986) provide evidence that there is variance in preferences when options are framed differently.
2. *Nonlinear Preferences:* According to the Expectation principle in the Expected Utility theory the utility of a risky prospect is linear in outcome probabilities. However, Allias (1953) has observed nonlinear preferences exist in choices.
3. *Source Dependence:* Ellsberg (1961) observed that people will prefer to pick a ball from an urn that contains equal number of red & green balls compared to an urn with unknown proportions of red & green balls. People often prefer a bet on an event in their area of competence rather than just depend on chance (Heath and Tversky 1991).
4. *Risk Seeking:* people prefer a small probability of winning a large prize over the expected value of that prospect, while choosing a sure loss and a substantial probability of a larger loss.
5. *Loss Aversion:* A basic phenomena of choice under risk is that losses seem larger than gains (Kahneman and Tversky 1984; Tversky and Kahneman 1991).

An axiomisation of expected utility theory and cumulative prospect theory is provided by Wakker and Tversky (1993). This identifies for both models the situation that permits consistent inferences about the ordering of value preferences. It also reviews the major properties of the cumulative prospect theory's value function are diminishing sensitivity and loss aversion against the diminishing marginal utility in the expected utility theory. Prospect theory has specifically been useful in analyzing asset prices (Barberis, Huang and Santos 2001; Levy and Levy 2002), as prospect theory tries to understand the psychological behavior of people under the conditions of risk. Prospect theory has also been used in International Relations (Levy 1997; McDermott 1998). While, Fiegenbaum's experimental study (Fiegenbaum 1990) across 85 industries shows that organizations that did better than the average took three times lower risk than organizations which were below average.

Prospect Theory can also be used in analyzing risk associated in the decisions made by negotiators in a negotiation. Each negotiator makes their decision based on the actions taken by their opponents and each decision that a negotiator takes, will have costs/benefits and risk associated to it. The Hausken (1997) Game theoretic Viewpoint model (risk factors can be similarly included in the Hausken (1997) Behavioral Viewpoint model) can be modified to include risk in negotiator decision making (see Figure 4 below).

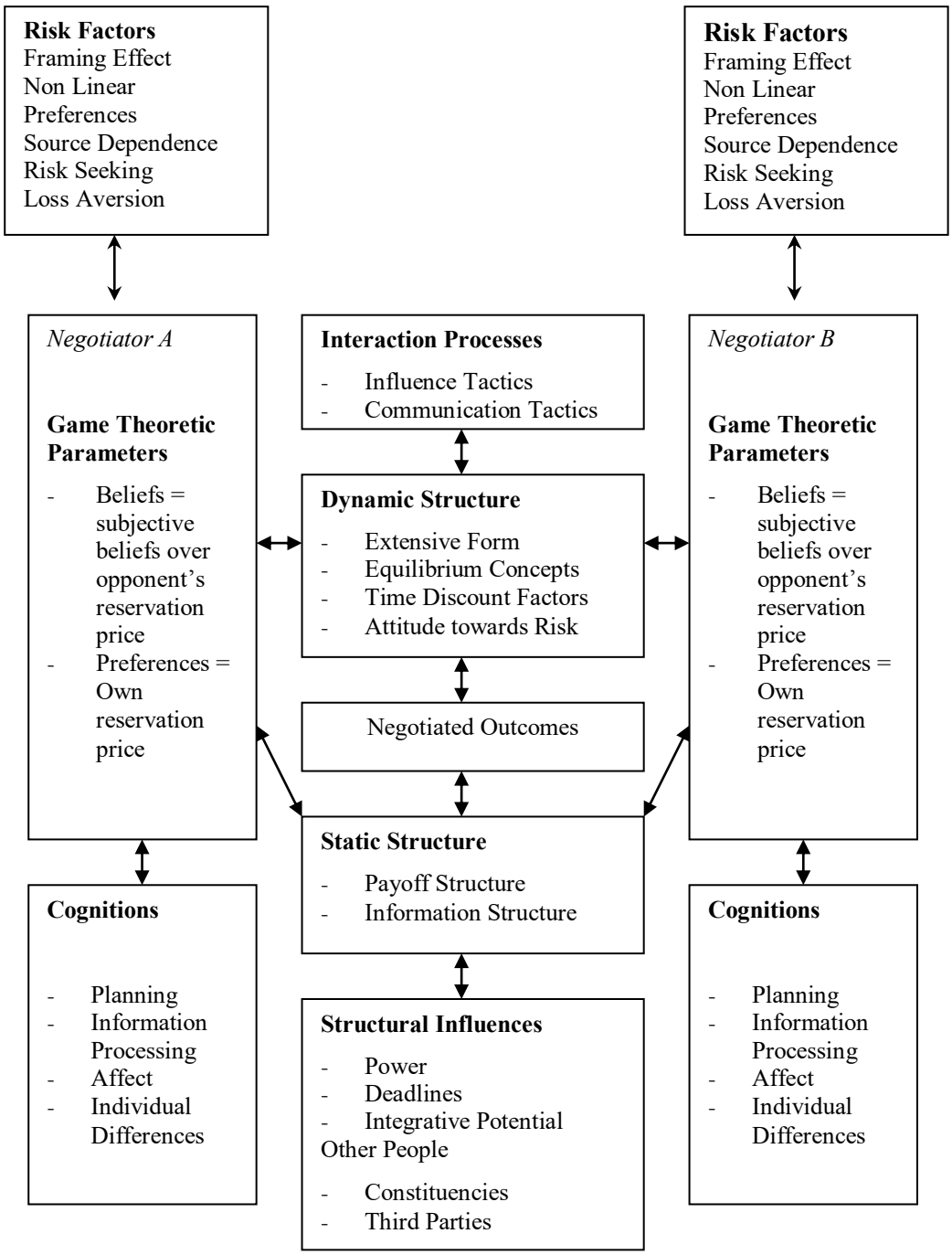

Figure 4. Integrated Behavioral and Strategic framework for Negotiation Theory from a *Game Theoretic* viewpoint (Hausken 1997) including Risk Factors

Implementing Risk in an NDSS Negotiation Framework

The Hausken (1997) Game Theoretic Viewpoint model has been modified to include Risk Factors (Framing Effect, Non Linear Preferences, Source Dependence, Risk Seeking and Loss Aversion). These Risk Factors will help assess the risk associated within the decisions made by each negotiator in a negotiation. These Risk Factors will have the following impact on a negotiator's decision pattern:

1. Framing Effects – Depending on how the question is framed (negatively or positively), the negotiator will either see it as a loss (negatively framed question) or as a gain (positively framed question).

2. Non Linear Preferences – People have non linear preferences, where they prefer gains over losses. Therefore, they try to avoid losses and make gains.
3. Source Dependence – People put emphasis on the source of the information. If they can or cannot rely on the source of the information.
4. Risk Seeking – In general, people are risk seeking for losses – they will take risk to avoid losses and are risk averse for gains – they will avoid risk to conserve their gains.
5. Loss Aversion – Normally, people would not like to make losses, therefore they are loss averse. If they have losses then they will take risk to avoid those losses.

While, these Risk Factors can explain decision patterns of negotiators. We intend to include them in the negotiation framework of a Negotiation Decision Support System (NDSS). At present, NDSS negotiation frameworks mainly incorporate game theoretic models. The intent of this paper was to show that negotiation theory practitioners and theorists have started moving towards conjoining game theoretic and psychological models. This paper identified two models by Neale and Northcroft (1991) and Hausken (1997). Further, it also showed how Risk Factors could be included in the Hausken (1997) framework. Providing a cojoined game theoretic psychological negotiation theory model under the conditions of risk, this paper calls it an Integrated Negotiation Theory (INT) model under the conditions of risk (also, called an INTR model). This paper recommends that such an INTR model be used to better assess negotiator decisions, allowing the NDSS to assist in providing better negotiated outcomes for these negotiators.

Conclusions

In conclusion, this paper reviews Negotiation Decision Support Systems (NDSS), negotiation theory and prospect theory to understand how a better conjoined negotiation theory under risk can be developed and applied to an NDSS. In this process, the current and past research related to NDSS, game theoretic negotiation theory, negotiation analysis, psychological negotiation theory and prospect theory are reviewed. Further, realising that negotiation theory research is moving towards conjoined game theoretic psychological negotiation theory models, called Integrated Negotiation Theory (INT) in this paper. Two main INT models provided by Neale and Northcroft (1991) and Hausken (1997) are reviewed. After that, it is shown how Risk Factors (from Prospect Theory) can be applied to the Hausken (1997) model, called an Integrated Negotiation Theory (INT) model under the conditions of Risk (or INTR model). It is then recommended that this INTR model be used in the negotiation framework of an NDSS to improve the negotiated outcomes in a negotiation as an INTR model will provide insights from game theory, psychology and prospect theory that will be more powerful than just using one of these three theories by themselves.

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Aspects of Professionalism, Ethics and Lifelong Learning for Australian ICT Professionals

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Abstract

In a change from 20 years ago, the majority of Information and Communications Technology (ICT) professionals in Australia now have some form of initial tertiary qualification and also understand the need for keeping up-to-date with new technologies, processes and concepts. They thus typically engage in some form of on-going professional development or Lifelong Learning. Not all, however, fully realise the need to keep up with other issues such as ethics and professionalism. In this article we look at what is meant by ICT professionalism, particularly from an Australian perspective, and consider its importance. Professionalism in ICT should be seen as a way of maximising quality and reducing risks. The ICT industry itself is changing and the Australian Computer Society is in the process of developing a new ICT Body of Knowledge, based on specific Technical and also Professional Knowledge. This article examines how the issue of professionalism is handled in Australia in both undergraduate education and lifelong learning of ICT professionals. It gives examples of how ICT professionalism in undergraduate courses is handled, and looks at examples of why and how ICT professionals undertake further education and lifelong learning.

Keywords

Information and communication technology, ICT professionals, professionalism, initial education, lifelong learning

The Australian ICT Industry and the Future

A recent report to the Australian Commonwealth Government (Department of Communication; Information Technology and the Arts 2006) noted how a highly skilled ICT workforce able to make innovative use of ICT as the key to business productivity improvement had considerable value to Australia (Davey and Tatnall 2008). The report stated that: "The combined impacts of the ageing workforce, changing generational patterns of work and the apparent failure of many employers to upgrade workplace skills could mean that Australia risks being unable to sustain key ICT-based economic capabilities, operations and services in the future" (Department of Communication; Information Technology and the Arts 2006). It identified what it considered as an outmoded and negative perception of ICT occupations and careers as a major concern, pointing to a poor understanding of the diversity of ICT occupations and opportunities and suggesting an urgent need: "... for action to address negative perceptions of ICT careers in the community which lead many young people and those who influence their career

choices (such as parents, teachers, career advisers) to underestimate the opportunities available in ICT and thus to turn away from considering a career in ICT" (Department of Communication; Information Technology and the Arts 2006).

While the future for ICT professionals appears bright, it is surprising to note this decline in University enrolments across the entire ICT field by comparison with the growing shortage of ICT professionals in the industry (Australian Computer Society 2007b). Much of this decline appears to relate to inaccurate ideas by many people about the nature of ICT careers. Many school students seem to think that an ICT career corresponds solely to technical issues and to computer programming, and that these tasks will soon all be outsourced to India. Those of us in the industry know this to be incorrect, as evidenced by the response by a senior technical executive from IBM at a meeting of Information Technology Professors in the UK to a question about the future of software engineering. He agreed that most of the basic programming jobs would continue to be outsourced to countries like India, but went on to stress that business-related ICT jobs, involving areas such as business analysis and customising solutions for local businesses would and must remain in the country (Thompson 2006; Davey and Tatnall 2008).

A report (Gartner 2005) from a few years ago predicted that by 2010, 60% of people working in ICT would be undertaking business roles based around information, process and relationships. The report lists four main areas of relevant knowledge:

- *Technical knowledge. How does this technology work? What are its effects? How does it interact with other technologies? What are its dependencies?*
- *Business-specific knowledge. What makes this company tick? Business-specific knowledge breaks down further into knowledge of enterprise objectives, operational activities, social and knowledge networks, and cultural behaviours.*
- *Core process knowledge. What processes fuel this company's competitive edge? In other words, which processes make this company unique?*
- *Industry knowledge. What forces, markets and models characterize this industry? Which parties or industries are traditional or emerging buyers and sellers? How does regulation affect this industry? Which industries does this industry resemble?* (Gartner 2005)

The question then is: how can professional education in ICT relate to these issues?

ICT Professionalism

Most professionals in the field of Information and Communications Technology (ICT) are well used to change and accept the need for keeping up-to-date with new technologies, new products, new processes and new concepts (Tatnall 2007). Not all, however, have realised a need to keep up to date with issues of professionalism, and the Australian Computer Society (ACS) sees this as a sign of an immature profession (Parakala 2008). The ACS National President argues that professionalism should be seen as a way of maximising quality and reducing risks. "With technology underpinning so much of our lives today the need to raise the bar for professionalism has never been greater." (Parakala 2008 :5) He goes on to note that:

> *"This is why the ACS believes that Australia's future prosperity is closely tied to ICT professionalism, which is all about delivering products and services that are trustworthy, as distinct from trusted."* (Parakala 2008 :5)

The ACS website (Australian Computer Society 2008) defines professionalism as practised by the ACS to mean that:

- An individual's qualifications have been objectively assessed and verified;
- They are required to continually update their knowledge and are provided with appropriate opportunities to do so;

- They have access to other experts in their specialist field and can both share and acquire knowledge and access to skills through networking;
- Ethical, social and legal implications of technology are actively considered when designing and applying technology systems and processes;
- Members recognise the value of contributing to their profession and developing young professionals through mentoring; and
- They are subject to strict disciplinary measures if they perform unethically or otherwise unprofessionally.

One of the ways that computing professional societies around the world typically promote the development of professional responsibility in their members is to have a **Code of Ethics** to which their members must subscribe (IEEE 2006; ACM 2007; ACS 2008)[2]. The purpose of these codes is to promote quality, integrity, honesty and lifelong learning. Another way that these societies promote professionalism is in offering and supporting lifelong learning in both ICT knowledge areas and professional issues.

The ICT Profession and the ACS Body of Knowledge

The Professional Standards Board of the Australian Computer Society recently released a working paper on 'The ICT Profession and the ICT Body of Knowledge' (Gregor, von Konsky, Hart and Wilson 2008). The idea is that universities, in designing their ICT courses, make use of this Body of Knowledge. The document advocates an approach focusing on "the development of professionals, rather than taking a strict bottom-up 'curriculum-driven' approach" (Gregor, von Konsky et al. 2008 : 7). As well as generic ICT graduate skill sets and complementary knowledge of the study domain, the document proposes that the core body of knowledge be split into two areas (Gregor, von Konsky et al. 2008):

1. An **ICT Knowledge Area** comprising:
    a. Problem solving using modelling and abstraction
    b. Hardware and software fundamentals
    c. Data and information management
    d. Networking
    e. Programming fundamentals
    f. Human-computer interaction
    g. System development and acquisition
    h. ICT project management
2. A **Professional Knowledge Area** that examined:
    a. Ethics
    b. Professionalism
    c. Governance and organisational issues
    d. Teamwork concepts and issues
    e. Communication
    f. Societal issues

The document argues that content in the professionalism area should cover basic concepts of professionalism such as expertise, certification, competence, autonomy, excellence, reflection, responsibility and accountability. Professional undergraduate education in ICT could thus be considered to have two aspects:

- Technical education in how to use ICT in their future job, and
- Education in how to act as an ICT professional.

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2 See Appendix A, B and C.

Professional Practice in the ACM Computing Curriculum

In a chapter on Professional Practice, the final draft of the new curriculum document: IT-2008 – the Information Technology Volume of the ACM Computing Curriculum (ACM 2008) begins by noting that:

> *"As the field of computing continues to change, an unprecedented opportunity exists to make professional practice a seamless part of the curriculum in Information Technology and other computing disciplines."* (ACM 2008)

This document then identifies four ways in which this professionalism can be incorporated in undergraduate IT programs:

- Senior capstone courses
- Professionalism, ethics and law courses
- Practicum/internship/co-op programs
- Team-based implementation courses.

Professionalism and Undergraduate University Education

This is an interesting wish list, but is it practical? We looked at a typical Australian University to see if these programs were implemented and, if so, what form they might take. At RMIT University an undergraduate program is offered in 'Business Information Systems'.

> *"This program is designed to meet the growing needs of industry for a new type of Information Technology professional; in particular, graduates who possess a sound business background combined with the ability to develop and manage business information systems in a wide range of business, government and non-government setting."*(RMIT University 2008a)

On studying this document it seems that the courses 'Professional Practice for Information Systems', 'BIS Work Integrated Learning' and 'Business Information Systems Capstone Project' are the vehicles for delivering the professionalism component of the degree. The first of these, conducted before the student undertake work experience, notes that:

> *"... particular attention will be given to skills development in the areas of project management, contract administration and tender evaluation, organisational, cultural and ethical issues, and human resource management"* (RMIT University 2008c)

Students then complete a year of paid employment, whilst simultaneously undertaking the course 'BIS Work Integrated Learning' consisting of evening seminars designed to *"integrate students work experiences with previous and current learning."* (RMIT University 2008d) The last compulsory final year course is then Business Information Systems Capstone Project:

> *"This capstone course will not introduce any new technical curricula but seeks to lead students, working in groups, to analyse, design, and build a business information systems component under normal business conditions."* (RMIT University 2008b)

The program containing these courses is one that has not decreased in popularity amongst high School leavers despite a general downturn in computing-related course in Australia. One can conclude that it is both possible to include professionalism in undergraduate degrees, but that this does not diminish the attractiveness of the degree.

Information Systems students at Victoria University (VU) also have the option of undertaking a year of work experience, but unlike RMIT, at VU this is optional. All business undergraduate courses at VU (including those in Information Systems) now contain three new Professional Development subjects that are designed to cover the three broad areas of: business knowledge, personal attributes and professional skills. Amongst other things:

> *"The emerging political, social, economic, technological and ethical issues impacting on business will be identified and investigated."* (Victoria University - Faculty of Business and Law 2008)

ICT Professionals and Lifelong Learning

Most world governments had now recognised the importance of support for lifelong learning (Davey and Tatnall 2007), and the European Commission suggests that lifelong learning should encompass the whole spectrum of formal, non-formal and informal learning from pre-school to post-retirement (European Commission 2001). It define lifelong learning as "Any learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective." (European Commission 2001) In 1970 UNESCO adopted Lifelong Learning as a master concept (Tight 1998) and in 1998 the British Education Secretary, David Blunkett (1998), noted that: "In the 21st century learning at different stages in life will be essential as human capital becomes to the information revolution what fixed capital was to the industrial revolution." At a recent IFIP conference on 'ICT and Real-Life Learning', Mike Kendall (2005) took the position that real-life learning and lifelong learning are, in effect, the same activity with different names. He went on to argue that lifelong learning will continue to gain in prominence, and explored the relationship between lifelong learning and informal learning styles as well as how this relates to vocational and professional education.

The Australian Computer Society (ACS) states that: "Professionals have an obligation to themselves and the ICT community to maintain their skills and knowledge through ongoing professional development" (Australian Computer Society 2007a), and has developed a Practicing Computer Professional (PCP) program that: "enables ACS members to differentiate themselves from other members of the ICT community by showing that they have undertaken this continuing professional development" (Australian Computer Society 2007a). To achieve PCP status an ACS member must undertake a minimum of thirty hours of structured professional development every year which could include: "lectures, seminars, formal education, discussion groups and special interest groups, writing and delivering papers and conducting research" (Australian Computer Society 2007a). Learning for ICT professionals can thus be classified as including training in a specific product, process or concept (perhaps on-line); professional reading; attendance at a seminar or conference; undertake some form of research; or undertaking a higher degree or diploma.

There are a number of ways in which current ICT professionals can continue their education and engage in some form of lifelong learning. These include training courses in some new product, attending industry conferences, attending relevant seminars and presentations, professional reading, and undertaking some form of postgraduate study.

While most ICT professionals engage in some form of Lifelong Learning, they still need to decide what learning to do (Tatnall 2007). In some cases they have no choice in this: they must undertake the training courses their employer requires, but in other cases they have to decide which product, technology, process or concept to learn about next.

Industry Training Courses

There is a real need for most ICT professionals, from time to time, to attend various product, concept and technology training courses. Some courses of this type are often offered by the industry itself in the form of product training by the companies that manufacture or market new products. There are a number of training companies that specialise in offering training leading to certificates such as: Microsoft Certified Systems Engineer, Microsoft Certified Application Developer, Cisco Certified Network Associate, Oracle9i Certified Associate, Professional and Master and so on (About.com 2008). Other courses are offered by the professional societies while some are also offered by institutions of further education – in Australia these are called Institutes of Technical and Further Education (TAFE). Most of these courses, however, concentrate on the technical side of training and do not go far, if at all, into professional matters such as ethics, honesty and integrity.

ICT Professionals and Postgraduate Studies

One way to engage in lifelong learning is to enrol in another university course at some time after completing an initial qualification. One group of people who undertake postgraduate studies is middle aged ICT workers who typically began working in ICT when there was little need for a formal qualification. As most new entrants to the professional now have degrees in information systems or computer science, they have felt the need to acquire some form of formal qualification in order to justify their current position or to gain promotion. Current ICT professionals with some form of initial formal qualification in ICT sufficient to qualify them for ACS membership often want to undertake a higher degree to enhance their promotion prospects or to gain extra knowledge in another area of ICT.

There is a wide range of available postgraduate ICT courses that cover topics from IT management, electronic commerce and business intelligence to enterprise resource planning. In most cases, current ICT professionals undertaking such courses do so either to gain a higher qualification to increase their future employment prospects, or simply to learn about a new area.

University ICT Academics

One group of ICT professionals who do, typically, engage in some form of lifelong learning is university ICT academics. An Australian study on lifelong learning by ICT academics (Davey and Tatnall 2007) involved interviews with thirty six academics from sixteen universities across eleven countries. Each of the academics interviewed was fully qualified (had completed a PhD or equivalent) and so did not need to do any further study for employment or tenure purposes. The study found that academics *do not value formal* learning as much as they do *informal* learning, and that the most valued informal learning methods were structured ways for academics to interact with other academics. The study showed that in particular, many IS academics value academic conferences most highly and think that their research and teaching benefit greatly by the currency of the ideas presented and the interactions that take place at these conferences (Davey and Tatnall 2007).

Conclusion

ICT professionals typically see a need to keep up-to-date with new developments in their profession, and to undertake on-going learning in technical matters. Not all, however, realise the need to keep up with other issues in professionalism and ethics. In this article we have considered the meaning of ICT professionalism and its importance, particularly from an Australian perspective. We have also looked at ways in which both undergraduate education and lifelong learning can be used to improve ICT professionalism.

Most universities in Australia submit their ICT courses for accreditation to the Australian Computer Society. As the ACS requires such courses to contain a component dealing with professionalism to be included, most Australian ICT courses now contain such a component, or are in the process of adding one. This means that future ICT professionals in this country will have a better grounding than their predecessors in what is means to be a professional.

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Appendix A: Australian Computer Society (ACS) Code of Ethics

A Requirement

An essential characteristic of a profession is the need for its members to abide by a Code of Ethics. The Society requires its members to subscribe to a set of values and ideals which uphold and advance the honour, dignity and effectiveness of the profession of information technology. The code is part of the Society's Regulations and the numbering sequence has been maintained.

4. Code of Ethics

4.1 To uphold and advance the honour, dignity and effectiveness of the profession of information technology and in keeping with high standards of competence and ethical conduct, a member must:

(a) be honest, forthright and impartial, and
(b) loyally serve the community, and
(c) strive to increase the competence and prestige of the profession, and
(d) use special knowledge and skill for the advancement of human welfare.

4.2 The personal commitments set out in NR4.3 and NR4.4 bind each member with regard to that member's professional conduct.

4.3 Values and Ideals

I must act with professional responsibility and integrity in my dealings with the community and clients, employers, employees and students. I acknowledge:

4.3.1 Priorities
I must place the interests of the community above those of personal or sectional interests.

4.3.2 Competence
I must work competently and diligently for my clients and employers.

4.3.3 Honesty
I must be honest in my representation of skills, knowledge, services and products.

4.3.4 Social Implications
I must strive to enhance the quality of life of those affected by my work.

4.3.5 Professional Development
I must enhance my own professional development, and that of my colleagues, employees and students.

4.3.6 Information Technology Profession
I must enhance the integrity of the information technology profession and the respect of its members for each other.

4.4 Standards of Conduct

The standards of conduct set out in these National Regulations explain how the Code of Ethics applies to a member's professional work. The list of standards is not necessarily exhaustive and should not be read as definitively demarking the acceptable from the unacceptable in professional conduct in all practical situations faced by a member. The intention of the standards of conduct is to illustrate, and to explain in more detail, the meaning of the Code of Ethics in terms of specific behaviour. The fact that a member engages in, or does not engage in, these standards does not of itself guarantee that a member is acting ethically, or unethically, as applicable. A member is expected to take into account the spirit of the Code of Ethics in order to resolve ambiguous or contentious issues concerning ethical conduct.

4.5 Priorities

In accordance with NR4.3.1:

4.5.1 I must endeavour to preserve continuity of information technology services and information flow in my care.
4.5.2 I must endeavour to preserve the integrity and security of the information of others.
4.5.3 I must respect the proprietary nature of the information of others.
4.5.4 I must endeavour to preserve the confidentiality of the information of others.
4.5.5 I must advise my client or employer of any potential conflicts of interest between my assignment and legal or other accepted community requirements.
4.5.6 I must advise my clients and employers as soon as possible of any conflicts of interest or conscientious objections which face me in connection with my work.

4.6 Competence

In accordance with NR4.3.2:

4.6.1 I must endeavour to provide products and services which match the operational and financial needs of my clients and employers.
4.6.2 I must give value for money in the services and products I supply.
4.6.3 I must make myself aware of relevant standards, and act accordingly.
4.6.4 I must respect and protect my clients' and employers' proprietary interests.
4.6.5 I must accept responsibility for my work.
4.6.6 I must advise my clients and employers when I believe a proposed project is not in their best interest.
4.6.7 I must go beyond my brief, if necessary, in order to act professionally.

4.7 Honesty

In accordance with NR4.3.3:

4.7.1 I must not knowingly mislead a client or potential client as to the suitability of a product or service.
4.7.2 I must not misrepresent my skills or knowledge.
4.7.3 I must give opinions which are as far as possible unbiased and objective.
4.7.4 I must give realistic estimates for projects under my control.
4.7.5 I must qualify professional opinions which I know are based on limited knowledge or experience.

4.7.6 I must give credit for work done by others where credit is due.

4.8 Social Implications

In accordance with NR4.3.4:

4.8.1 I must protect and promote the health and safety of those affected by my work.
4.8.2 I must consider and respect people's privacy which might be affected by my work.
4.8.3 I must respect my employees and refrain from treating them unfairly.
4.8.4 I must endeavour to understand, and give due regard to, the perceptions of those affected by my work.
4.8.5 I must attempt to increase the feelings of personal satisfaction, competence, and control of those affected by my work.
4.8.6 I must not require, or attempt to influence, any person to take any action which would involve a breach of the Code of Ethics.

4.9 Professional Development

In accordance with NR4.3.5:

4.9.1 I must continue to upgrade my knowledge and skills.
4.9.2 I must increase my awareness of issues affecting the information technology profession and its relationship with the community.
4.9.3 I must encourage my colleagues, employees and students to continue their own professional development.

4.10 Information Technology Profession

In accordance with NR4.3.6:

4.10.1 I must respect, and seek when necessary, the professional opinions of colleagues in their areas of competence.
4.10.2 I must not knowingly engage in, or be associated with, dishonest or fraudulent practices.
4.10.3 I must not attempt to enhance my own reputation at the expense of another's reputation.
4.10.4 I must co-operate in advancing information processing by communication with other professionals, students and the public, and by contributing to the efforts of professional and scientific societies and schools.
4.10.5 I must distance myself professionally from someone whose membership of the Society has been terminated because of unethical behaviour or unsatisfactory conduct.
4.10.6 I must take appropriate action if I discover a member, or a person who could potentially be a member, of the Society engaging in unethical behaviour.
4.10.7 I must seek advice from the Society when faced with an ethical dilemma I am unable to resolve by myself.
4.10.8 I must do what I can to ensure that the corporate actions of the Society are in accordance with this Code of Ethics.
4.10.9 I acknowledge my debt to the computing profession and in return must protect and promote professionalism in information technology

http://www.acs.org.au/index.cfm?action=show&conID=2005090223222219027

Appendix B: Software Engineering Code of Ethics and Professional Practice of the Institution for Electrical and Electronic Engineers (IEEE)

Software Engineering Code of Ethics and Professional Practice – short version

"The time is right to get serious about this. As software becomes increasingly dominant in the IT industry, and, indeed, in everything else, there is an obvious need for a professional-level recognition. Far too much is placed on particular credentials for specific products or applications without regard to the bigger picture. The result is poorly engineered software projects."

(Version 5.2) as recommended by the IEEE-CS/ACM Joint Task Force on Software Engineering Ethics and Professional Practices and Jointly approved by the ACM and the IEEE-CS as the standard for teaching and practicing software engineering.

Preamble

The short version of the code summarizes aspirations at a high level of the abstraction; the clauses that are included in the full version give examples and details of how these aspirations change the way we act as software engineering professionals. Without the aspirations, the details can become legalistic and tedious; without the details, the aspirations can become high sounding but empty; together, the aspirations and the details form a cohesive code.

Software engineers shall commit themselves to making the analysis, specification, design, development, testing and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety and welfare of the public, software engineers shall adhere to the following Eight Principles:

1. **PUBLIC** – Software engineers shall act consistently with the public interest.
2. **CLIENT AND EMPLOYER** – Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest.
3. **PRODUCT** – Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.
4. **JUDGMENT** – Software engineers shall maintain integrity and independence in their professional judgment.
5. **MANAGEMENT** – Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.
6. **PROFESSION** – Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.
7. **COLLEAGUES** – Software engineers shall be fair to and supportive of their colleagues.
8. **SELF** – Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

This Code was developed by the IEEE-CS/ACM joint task force on Software Engineering Ethics and Professional Practices (SEEPP): Executive Committee: Donald Gotterbarn (Chair), Keith Miller and Simon Rogerson; Members: Steve Barber, Peter Barnes, Ilene Burnstein, Michael Davis, Amr El-Kadi, N. Ben Fairweather, Milton Fulghum, N. Jayaram, Tom Jewett, Mark Kanko, Ernie Kallman, Duncan Langford, Joyce Currie Little, Ed Mechler, Manuel J. Norman, Douglas Phillips, Peter Ron Prinzivalli, Patrick Sullivan, John Weckert, Vivian Weil, S. Weisband and Laurie Honour Werth.

http://www.computer.org/portal/site/ieeecs/menuitem.c5efb9b8ade9096b8a9ca0108bcd45f3/index.jsp?&pName=ieeecs_level1&path=ieeecs/content&file=ethics xml&xsl=generic xsl&

Appendix C: Code of Ethics of the Association for Computing Machinery (ACM)

1. General Moral Imperatives

As an ACM member I will ...

1.1 Contribute to society and human well-being

This principle concerning the quality of life of all people affirms an obligation to protect fundamental human rights and to respect the diversity of all cultures. An essential aim of computing professionals is to minimize negative consequences of computing systems, including threats to health and safety. When designing or implementing systems, computing professionals must attempt to ensure that the products of their efforts will be used in socially responsible ways, will meet social needs, and will avoid harmful effects to health and welfare.

In addition to a safe social environment, human well-being includes a safe natural environment. Therefore, computing professionals who design and develop systems must be alert to, and make others aware of, any potential damage to the local or global environment.

1.2 Avoid harm to others

"Harm" means injury or negative consequences, such as undesirable loss of information, loss of property, property damage, or unwanted environmental impacts. This principle prohibits use of computing technology in ways that result in harm to any of the following: users, the general public, employees, employers. Harmful actions include intentional destruction or modification of files and programs leading to serious loss of resources or unnecessary expenditure of human resources such as the time and effort required to purge systems of "computer viruses."

Well-intended actions, including those that accomplish assigned duties, may lead to harm unexpectedly. In such an event the responsible person or persons are obligated to undo or mitigate the negative consequences as much as possible. One way to avoid unintentional harm is to carefully consider potential impacts on all those affected by decisions made during design and implementation.

To minimize the possibility of indirectly harming others, computing professionals must minimize malfunctions by following generally accepted standards for system design and testing. Furthermore, it is often necessary to assess the social consequences of systems to project the likelihood of any serious harm to others. If system features are misrepresented to users, coworkers, or supervisors, the individual computing professional is responsible for any resulting injury.

In the work environment the computing professional has the additional obligation to report any signs of system dangers that might result in serious personal or social damage. If one's superiors do not act to curtail or mitigate such dangers, it may be necessary to "blow the whistle" to help correct the problem or reduce the risk. However, capricious or misguided reporting of violations can, itself, be harmful. Before reporting violations, all relevant aspects of the incident must be thoroughly assessed. In particular, the assessment of risk and responsibility must be credible. It is suggested that advice be sought from other computing professionals. See principle 2.5 regarding thorough evaluations.

1.3 Be honest and trustworthy

Honesty is an essential component of trust. Without trust an organization cannot function effectively. The honest computing professional will not make deliberately false or deceptive claims about a system or system design, but will instead provide full disclosure of all pertinent system limitations and problems.

A computer professional has a duty to be honest about his or her own qualifications, and about any circumstances that might lead to conflicts of interest.

Membership in volunteer organizations such as ACM may at times place individuals in situations where their statements or actions could be interpreted as carrying the "weight" of a larger group of professionals. An ACM member will exercise care to not misrepresent ACM or positions and policies of ACM or any ACM units.

1.4 Be fair and take action not to discriminate

The values of equality, tolerance, respect for others, and the principles of equal justice govern this imperative. Discrimination on the basis of race, sex, religion, age, disability, national origin, or other such factors is an explicit violation of ACM policy and will not be tolerated.

Inequities between different groups of people may result from the use or misuse of information and technology. In a fair society,all individuals would have equal opportunity to participate in, or benefit from, the use of computer resources regardless of race, sex, religion, age, disability, national origin or other such similar factors. However, these ideals do not justify unauthorized use of computer resources nor do they provide an adequate basis for violation of any other ethical imperatives of this code.

1.5 Honor property rights including copyrights and patent

Violation of copyrights, patents, trade secrets and the terms of license agreements is prohibited by law in most circumstances. Even when software is not so protected, such violations are contrary to professional behavior. Copies of software should be made only with proper authorization. Unauthorized duplication of materials must not be condoned.

1.6 Give proper credit for intellectual property

Computing professionals are obligated to protect the integrity of intellectual property. Specifically, one must not take credit for other's ideas or work, even in cases where the work has not been explicitly protected by copyright, patent, etc.

1.7 Respect the privacy of others

Computing and communication technology enables the collection and exchange of personal information on a scale unprecedented in the history of civilization. Thus there is increased potential for violating the privacy of individuals and groups. It is the responsibility of professionals to maintain the privacy and integrity of data describing individuals. This includes taking precautions to ensure the accuracy of data, as well as protecting it from unauthorized access or accidental disclosure to inappropriate individuals. Furthermore, procedures must be established to allow individuals to review their records and correct inaccuracies.

This imperative implies that only the necessary amount of personal information be collected in a system, that retention and disposal periods for that information be clearly defined and enforced, and that personal information gathered for a specific purpose not be used for other purposes without consent of the individual(s). These principles apply to electronic communications, including electronic mail, and prohibit procedures that capture or monitor electronic user data, including messages, without the permission of users or bona fide authorization related to system operation and maintenance. User data observed during the normal duties of system operation and maintenance must be treated with strictest confidentiality, except in cases where it is evidence for the violation of law, organizational regulations, or this Code. In these cases, the nature or contents of that information must be disclosed only to proper authorities.

1.8 Honor confidentiality

The principle of honesty extends to issues of confidentiality of information whenever one has made an explicit promise to honor confidentiality or, implicitly, when private information not directly related to the performance of one's duties becomes available. The ethical concern is to respect all obligations of confidentiality to employers, clients, and users unless discharged from such obligations by requirements of the law or other principles of this Code.

2. More Specific Professional Responsibilities

As an ACM computing professional I will ...

2.1 Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work

Excellence is perhaps the most important obligation of a professional. The computing professional must strive to achieve quality and to be cognizant of the serious negative consequences that may result from poor quality in a system.

2.2 Acquire and maintain professional competence

Excellence depends on individuals who take responsibility for acquiring and maintaining professional competence. A professional must participate in setting standards for appropriate levels of competence, and strive to achieve those standards. Upgrading technical knowledge and competence can be achieved in several ways: doing independent study; attending seminars, conferences, or courses; and being involved in professional organizations.

2.3 Know and respect existing laws pertaining to professional work

ACM members must obey existing local, state, province, national, and international laws unless there is a compelling ethical basis not to do so. Policies and procedures of the organizations in which one participates must also be obeyed. But compliance must be balanced with the recognition that sometimes existing laws and rules may be immoral or inappropriate and, therefore, must be challenged. Violation of a law or regulation may be ethical when that law or rule has inadequate moral basis or when it conflicts with another law judged to be more important. If one decides to violate a law or rule because it is viewed as unethical, or for any other reason, one must fully accept responsibility for one's actions and for the consequences.

2.4 Accept and provide appropriate professional review

Quality professional work, especially in the computing profession, depends on professional reviewing and critiquing. Whenever appropriate, individual members should seek and utilize peer review as well as provide critical review of the work of others.

2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks

Computer professionals must strive to be perceptive, thorough, and objective when evaluating, recommending, and presenting system descriptions and alternatives. Computer professionals are in a position of special trust, and therefore have a special responsibility to provide objective, credible evaluations to employers, clients, users, and the public. When providing evaluations the professional must also identify any relevant conflicts of interest, as stated in imperative 1.3.

As noted in the discussion of principle 1.2 on avoiding harm, any signs of danger from systems must be reported to those who have opportunity and/or responsibility to resolve them. See the guidelines for imperative 1.2 for more details concerning harm, including the reporting of professional violations.

2.6 Honor contracts, agreements, and assigned responsibilities

Honoring one's commitments is a matter of integrity and honesty. For the computer professional this includes ensuring that system elements perform as intended. Also, when one contracts for work with another party, one has an obligation to keep that party properly informed about progress toward completing that work.

A computing professional has a responsibility to request a change in any assignment that he or she feels cannot be completed as defined. Only after serious consideration and with full disclosure of risks and concerns to the employer or client, should one accept the assignment. The major underlying principle here is the obligation to accept personal accountability for professional work. On some occasions other ethical principles may take greater priority.

A judgment that a specific assignment should not be performed may not be accepted. Having clearly identified one's concerns and reasons for that judgment, but failing to procure a change in that assignment, one may yet be obligated, by contract or by law, to proceed as directed. The computing professional's ethical judgment should be the final guide in deciding whether or not to proceed. Regardless of the decision, one must accept the responsibility for the consequences.

However, performing assignments "against one's own judgment" does not relieve the professional of responsibility for any negative consequences.

2.7 Improve public understanding of computing and its consequences

Computing professionals have a responsibility to share technical knowledge with the public by encouraging understanding of computing, including the impacts of computer systems and their limitations. This imperative implies an obligation to counter any false views related to computing.

2.8 Access computing and communication resources only when authorized to do so

Theft or destruction of tangible and electronic property is prohibited by imperative 1.2 - "Avoid harm to others." Trespassing and unauthorized use of a computer or communication system is addressed by this imperative. Trespassing includes accessing communication networks and computer systems, or accounts and/or files associated with those systems, without explicit authorization to do so. Individuals and organizations have the right to restrict access to their systems so long as they do not violate the discrimination principle (see 1.4). No one should enter or use another's computer system, software, or data files without permission. One must always have appropriate approval before using system resources, including communication ports, file space, other system peripherals, and computer time.

3. Organizational Leadership Imperatives

As an ACM member and an organizational leader, I will ...

BACKGROUND NOTE: This section draws extensively from the draft IFIP Code of Ethics, especially its sections on organizational ethics and international concerns. The ethical obligations of organizations tend to be neglected in most codes of professional conduct, perhaps because these codes are written from the perspective of the individual member. This dilemma is addressed by stating these imperatives from the perspective of the organizational leader. In this context "leader" is viewed as any organizational member who has leadership or educational responsibilities. These imperatives generally may apply to organizations as well as their leaders. In this context "organizations" are corporations, government agencies, and other "employers," as well as volunteer professional organizations.

3.1 Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities

Because organizations of all kinds have impacts on the public, they must accept responsibilities to society. Organizational procedures and attitudes oriented toward quality and the welfare of society will reduce harm to members of the public, thereby serving public interest and fulfilling social responsibility. Therefore,organizational leaders must encourage full participation in meeting social responsibilities as well as quality performance.

3.2 Manage personnel and resources to design and build information systems that enhance the quality of working life

Organizational leaders are responsible for ensuring that computer systems enhance, not degrade, the quality of working life. When implementing a computer system, organizations must consider the personal and professional development, physical safety, and human dignity of all workers. Appropriate human-computer ergonomic standards should be considered in system design and in the workplace.

3.3 Acknowledge and support proper and authorized uses of an organization's computing and communication resources

Because computer systems can become tools to harm as well as to benefit an organization, the leadership has the responsibility to clearly define appropriate and inappropriate uses of organizational computing resources. While the number and scope of such rules should be minimal, they should be fully enforced when established.

3.4 Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements

Current system users, potential users and other persons whose lives may be affected by a system must have their needs assessed and incorporated in the statement of requirements. System validation should ensure compliance with those requirements.

3.5 Articulate and support policies that protect the dignity of users and others affected by a computing system

Designing or implementing systems that deliberately or inadvertently demean individuals or groups is ethically unacceptable. Computer professionals who are in decision making positions should verify that systems are designed and implemented to protect personal privacy and enhance personal dignity.

3.6 Create opportunities for members of the organization to learn the principles and limitations of computer systems

This complements the imperative on public understanding (2.7). Educational opportunities are essential to facilitate optimal participation of all organizational members. Opportunities must be available to all members to help them improve their knowledge and skills in computing, including courses that familiarize them with the consequences and limitations of particular types of systems.In particular, professionals must be made aware of the dangers of building systems around oversimplified models, the improbability of anticipating and designing for every possible operating condition, and other issues related to the complexity of this profession.

4. COMPLIANCE WITH THE CODE

As an ACM member I will ...

4.1 Uphold and promote the principles of this Code

The future of the computing profession depends on both technical and ethical excellence. Not only is it important for ACM computing professionals to adhere to the principles expressed in this Code, each member should encourage and support adherence by other members.

4.2 Treat violations of this code as inconsistent with membership in the ACM

Adherence of professionals to a code of ethics is largely a voluntary matter. However, if a member does not follow this code by engaging in gross misconduct, membership in ACM may be terminated.

This Code and the supplemental Guidelines were developed by the Task Force for the Revision of the ACM Code of Ethics and Professional Conduct: Ronald E. Anderson, Chair, Gerald Engel, Donald Gotterbarn, Grace C. Hertlein, Alex Hoffman, Bruce Jawer, Deborah G. Johnson, Doris K. Lidtke, Joyce Currie Little, Dianne Martin, Donn B. Parker, Judith A. Perrolle, and Richard S. Rosenberg. The Task Force was organized by ACM/SIGCAS and funding was provided by the ACM SIG Discretionary Fund. This Code and the supplemental Guidelines were adopted by the ACM Council on October 16, 1992.

http://www.acm.org/about/code-of-ethics?searchterm=code+of+ethics

The Link Between Operations Strategy and Human Resource Management for NGOs Working in Unstable Environments

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Abstract

This article discusses the link between operations strategy and strategic human resources management for non-government organisations. Human resources are a great asset for NGO to plan and implement their operations strategies. The article shows how HRM should be proactive and responsive to any changes in the operational environment. Strategic human resource management could lead to organisation's competitive advantage. It also enables more effective stakeholder interaction and leads to better efficiencies in implementation of operations strategy. Strategic HRM can create multi-skilled staff, who can easily be tuned to implement various activities. IT and HR are intrinsically linked in execution of operations strategy. The example given from Iraq about NGO staff operating in unstable context shows how HRM should be proactive and responsive to meet operations targets.

Keywords

Operations strategy, NGO, human resources

Introduction

The growing pressure to become efficient, effective and competitive players has led many non-government organisations (NGO) to implement a variety of techniques, operate according to a variety of philosophies and utilise a variety of approaches. As a very valuable and most effective part of service organisations (like NGOs), human resources play a key role in the success or failure of delivery of services. Effective human resource management (HRM) helps the organisation's operations strategy to be implemented effectively and help the organisation to gain competitive advantage.

Being under service organisation category, non-profit organisations are a clear example of how people management in the operations strategy can lead to gain competitive advantage. As one of the operations resource, IT is considered an important partner to HRM in implementing the operations strategy. Hill's influential methodology for market order-winners and qualifiers is very important to consider before moving on to a discussion of operational processes and infrastructure (Hill, 2000). People management can be considered as an important order winner/qualifier for non-profit organisations as many services are more labour intensive than manufacturing. In many cases, "high-touch" cannot be replaced by "high-tech" as in manufacturing, which makes managing people more prominent in the service sector than in manufacturing (Prajogo, 2006). Koys (2000) argues that there is a lot of evidence and studies which "indicate that there are numerous people management activities that can be used to support business strategies". In this study, I have discussed non-profit organisation operating in unstable operations environment. Iraq is an example, where the operational context for

humanitarian organisation is very difficult. I have tried to examine the impact of people management on implementing operations strategy and how human resources are customised to meet operation strategy to gain competitive advantage and sustainability.

Theoretical Background and Literature Review

Operations Management is management of a systemic transformation process to convert a set of inputs (labour, equipment, raw material, information and other capital resources) into outputs (Bayraktar et al, 2007). If operations are to play a serious role in helping organisations to stay "ahead of the game" it is important that strategic operations concepts are aligned with those, like competence, that are central to mainstream strategic management (Lewis, 2003). Strategies are created to raise funds for non-government organisations (NGO), improve operations and service for beneficiaries, etc. But no matter the strategy and its objective more often than not it fails to deliver the results (Speculand, 2007). An organisation's ability to seek and maintain a competitive advantage rests on its ability to acquire and deploy resources that are coherent with the organisation's competitive needs (Kathuria et al, 2007). The operations management abilities provide vital foundations, and operations strategy can play a role in developing these capabilities (Brown et al, 2003). One of the key resources is people. The link between operations strategy and people management is important as senior-level management personnel will be involved in determining the skill requirements of the operations (Brown et al, 2003).

Employees are often described as the organisation's "greatest asset" and are characterised as just another factor in production, to be managed efficiently. In order to do this, organisations need to adopt a more strategic orientation and have the resources to enable employees to have a greater involvement with broader organisational strategies (Tansley et al, 2001). HRM has important role and basic functions that managers do: Planning, Organising, Staffing, Leading and controlling. HRM should be able to link HR to the rest of the organisation through HR policies for each HR activity designed to support achieving organisational objectives (Dessler& Lloyd-Walker, 2007). "The HR system represents the approach to improve and exploit the intellectual capital in the firm" (Juhl et al, 2000). Christie (2007) argues that "HR function needs to have tactical expertise in six areas: forecasting and staffing, staff development, performance management, rewards and recognition, employee relations and Communication". It is proposed that effective HRM practice enables the utilisation of the workforce as a source of competitive advantage. Organisations following a focus strategy will require an accumulation HRM philosophy. HR also enables the executive team to analyse organisational preparedness, efficiency and adaptability to change. It, explicitly, links and aligns all HR structures, programs, priorities and objectives to the organisation overall strategy (Christie, 2007). Onyango et al (2009) argue that "functionally flexible human resource systems in conjunction with differentiation strategies are associated with high organizational performance, whereas numerically flexible human resource systems and cost reduction strategies are linked with low organizational performance". Othman (1996) finds that this is because organisations pursuing this strategy need adaptable employees to enable them to serve very specific needs of their customers. These organisations emphasise innovation to differentiate themselves from competitors. Employees need to be able to work collaboratively for healthy operational environment. An examination of strategic integration could only be carried out by examining HRM involvement in strategic planning and HRM practice for each strategy (Othman, 1996).

Human Resource executives say that people management has to be more coordinated with business strategy; and, as Koys (2000) found that "anecdotal evidence shows that big international organisations formally design their human resource strategies to help implement business strategy". NGOs should adopt a good workforce planning model to guarantee its healthy operational HRM. Strategic resource combinations had to be considered with other, often non-strategic, resources, and particularly noticeable with strategic human resources (Lewis, 2003). People is the resource that underlies many of the other elements of business strategy statements. HR managers can use the people- related elements of business strategy statements as goals when developing their own strategy statements (Koys, 2000). Adoption of Brockbank's (1999) HR competitive advantage index provides a useful logic for assessing the extent to which HR creates true competitive advantage. Borckbank's model is composed of four quadrants: Operationally Reactive HR, which focuses on implementing the

basics (daily demands). The second quadrant is Operationally Proactive HR which improves the design and delivery of the HR basics. Third one is Strategically Reactive HR which focuses on implementing the business strategy, and the fourth quadrant is Strategically Proactive HR which focuses on creating future strategic alternatives (Bronckbank, 1999).

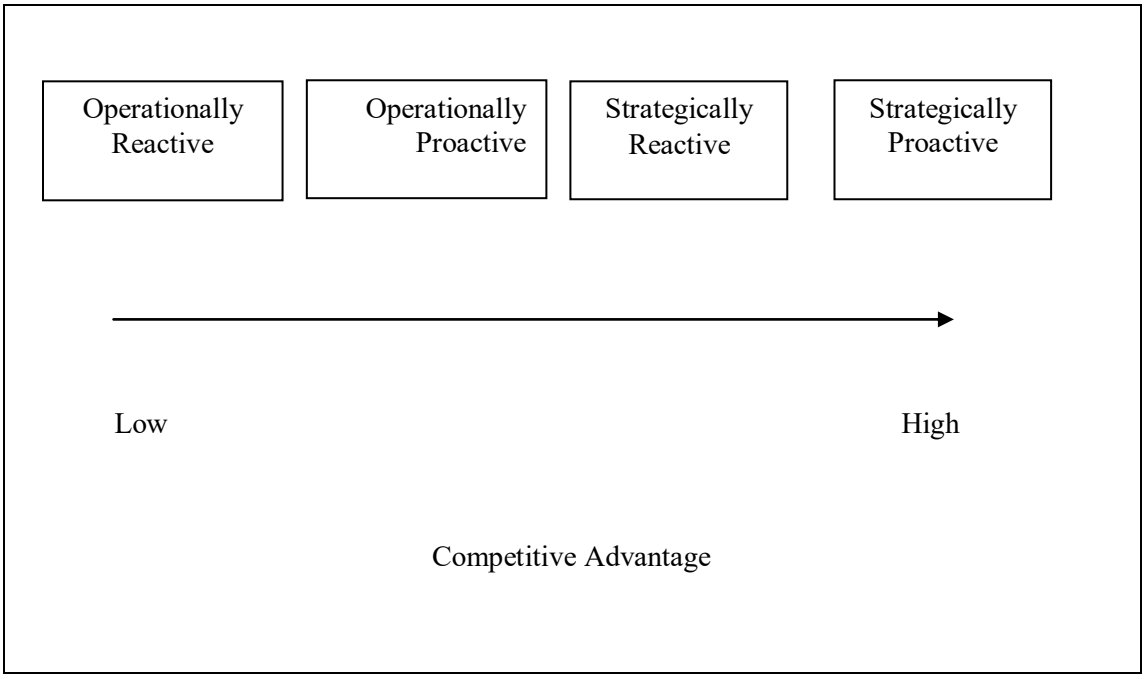

Figure 1: Brockbank's (1999) HR competitive advantage index

There are many reasons why NGOs should pay more attention to the importance to human resource management to achieve the strategy goals. It is important that their staff members are treated fairly, keep them motivated, and they should seek to improve the performance of fieldworkers (Ahmad, 2002). Evidence from examining one of the biggest NGOs in South Africa has shown that the organisation has focused predominantly on meeting the demands of its donors, and subsequently has had limited capacity to meet its growing needs in regard to human resources and organisational development (Arend, 2008).

These external pressures have included the need to reduce costs, increase flexibility, raise quality, lessen variability and shorten lead times. Many organisations have reacted to these drivers by implementing tools and techniques that allow them to introduce "leanness and leaner methods of working" (Radnor et al, 2004). "Leanness" is the term that can be used to describe "doing more with less" i.e. improved utilisation of the organisation's resources. The contextual factors surrounding leanness are to be considered, and argue that it can be shown to be an evolutionary process requiring adaptation within a particular context, rather than a state than can be universally defined (Radnor et al, 2004). In order to respond to environmental changes and better fulfil stakeholder expectations, organisations need to enhance their internal integration by restructuring to cross-functional teams, blurring the task definition of classical functional departments. Adoption of a cross-functional structure along with the emergence of process-oriented organisations (like NGOs) attempts to reduce the gaps among the functions of an organisation (Bayraktar et al, 2007). For NGO to be strategically proactive, literature suggests that developing a flexible and multi-skilled workforce, creating a culture that allows initiative, will enhance creativity and supportiveness to thrive throughout the organisation (Brown& Bessant, 2003). This idea could be used to suggest that the effective organisation should be able to modify its resources as the circumstances change (Radnor et al, 2004). This can lead to flexible operation processes, achieve objectives and attract donor funds.

The multi-skilled teams should be equipped with IT solutions to achieve the operation strategy objectives. IT is a stimulus to effecting transformational change (Tansley et al, 2001). The attainment of competitive advantage requires the interaction of IS with the structure, HR management,

technology and transportation systems (Prasad et al, 2003). It is important to see an integrated framework for aligning information technology applications across various functional areas with operations strategy (Kathuria et al, 2007). For the efficient use and utility of the operation management system it is important to take into account how the users relate to the real life use of the information system. Customer (beneficiary and donor) satisfaction with the system may directly reflect organisational efficiency (Lemmetty & Häyrinen, 2005). The level of organisation performance is conditional upon the joint effect of the quality of the human resource system and the operational system (Juhl et al, 2000).

Operations strategy requires HR staff to have excellent conceptual and systemic thinking skills and good understanding of the social, political and financial context in which the organisation operates (Christie, 2007). It is suggested that what is also required is an increased involvement of line managers in HR administration, operations and strategy (Tansley et al, 2001). Middle managers are concerned with the operational aspects of implementing strategy, which is often decided without their input, but they grasp the reasoning that affects strategic decision making. This responsibility brings with it a considerable interpretative role which is influenced by the self-perceived role of middle managers – to make actionable strategies and plans made at higher levels (Holden et al, 2004). "Giving those strategies to line managers and other executives will help those other managers see the valuable contribution made by the HR function" (Koys, 2000). Under HRM, line managers are centrally responsible for devising and driving an integrated business management and people management strategy. Thus, the middle manager is seen to be an interpreter and an implementer of strategy (Stewart et al., 1994).

NGO Operations in Unstable Developing Countries

NGOs working in unstable developing countries are doing their best for sustainability of their financial, technical, and human resources to be responsive to humanitarian needs. In unstable operational environment, it is necessary to retain critical staff. Ramlall (2004) finds turnover of key employees is a serious threat of the existence and sustainability of the operations in such contexts. There is a significant economic impact on organisations losing one of its critical staff, especially given the knowledge that is lost with his/her departure (Ramlall, 2004). One of the solutions to retain critical staff, NGO can follow the Quinn and Shepard 12-item satisfaction scale to measure job satisfaction. This scale consists of five measures: satisfaction with pay, promotion, supervision, work and co-workers (Clugston, 2000). Ahmad (2002) points out that experience from Bangladesh has shown that poor treatment of local NGO field workers could lead to difficulties in retaining skilled people, and, consequently, affecting the operations. It is true, he argues, that donors want their money to be used efficiently and to reach the target beneficiaries; however, it is more difficult to recruit, develop and retain good staff in any low status. It should be noted that the goal of empowering beneficiaries can not be achieved "if the change agents are themselves powerless" (Ahmad, 2002). Operating within such a restrictive donor structure, NGOs that try to contribute to sustainable development are unable to sustain themselves (O'Grady, 2004).

After the 2003 bombing of the UN and ICRC headquarters in Baghdad, majority of international agencies left Iraq. Those organisations had been forced to manage their staff from alternative bases in Iraq's neighbouring countries (NCCI, 2006). According to observations of International Crisis Group (2007), between 2005 and 2007, Iraq was on the edge of slipping into a civil war.

From the context mentioned above, the problem of operations and delivery is a real concerns for all Iraqi and international organisations managing staff from across the borders. In a study released by the NGO Coordination Committee in Iraq (NCCI) in August 2006 the following challenges were identified: Communication, Assessment, monitoring, evaluation, donors' perception, Personnel Management, and Finance, administration and logistics (NCCI, 2006). The main reason behind gaps is the instability of the Iraqi daily life and lack of security which is an obstacle in managing and developing HR. Consequences like: remote management, turn over, skill and competency quality, communication problems, shortage of HR expertise and HR systems (NCCI, 2006) had hindered organisations' performances. Remote management of staff has, sometimes, negative effects on the staff and, consequently, the project activities and objectives.

Tele-working was one of the methods adopted by many organisations to overcome operational problems. Tele-working is a way of flexible working that enables workers to get access to their activities from different locations by the use of Information and Communication Technologies. An organisation may adopt one or several types of tele-working: home-based tele-working, tele-centres, and mobile tele-working. Tele-working has been proposed as a cure for a variety of organisational and social ills (Pérez et al, 2004). Flexibility proposed by tele-working implemented by organisations helped their personnel to have the work-life balance, adapt their working conditions, give some autonomy in to implement the operations strategy and save time and resources. This idea could be used to suggest that the effective organisation should be able to modify its resources as the circumstances change (Radnor et al, 2004) and this can lead to flexible operations processes, achieve objectives and attract donor's funds.

However, setting up operations in some developing countries has a burden of low level of industrialisation and the lack of basic services, including Information and Communication Technology (ICT) (Prasad et al, 2003). Since the invasion of the US-led forces in 2003, the infrastructure in Iraq has been damaged badly. Despite the billions of dollars spent by the US and Iraqi governments on rehabilitation since 2003 (The Globalist, 2005), Iraq is still struggling to achieve adequate reconstruction of basic services, and securing and applying the investment required (IFRC, 2009: 3).For reliable information systems, it is important that telecommunication infrastructure be robust (Prasad et al, 2003).

Inter-organisational relations, within a humanitarian aid relief and recovery context, may be characterised by the exchange of information, staff, goods, cash and other items. "The success of humanitarian aid operations ultimately depends on the ability of organisations to work together" and how their staff are flexible enough to adapt to any changes (Moore et al, 2003). It is vital that employees have the necessary technical and problem-solving skills for a quality strategy when the focus is on continuous improvement of operations to increase customer and donor satisfaction (Juhl et al, 2000). Therefore, the operational focus will need comprehensive quality training at tool and technique level in support of an overall framework such as business excellence model (Leonard et al, 2002). The degree of capability, adaptability and flexibility can be generated by developing and sustaining employee learning and skill growth (Smith 2004). People development can be considered as an important donor-attraction factor for non-profit organisations as they are more labour intensive. "Organisations of whatever persuasion- for-profit, not-for-profit and public service- must pursue the twin and related goals of improved efficiency and productivity" (Sheedy, 2008).

Remote management of operations staff has, sometimes, negative impacts on the staff and, consequently, the project activities and objectives. Weak team spirit and poor communications among the staff and their management are some of them. Levy (2001) has highlighted that it should be noted that senior management in organisations should not isolate itself from teams working on the ground. He argues that there could be various reasons why management may, sometimes, not pay attention for operational staff: efficiency of teams and good achievements, distance between operations field and management base (remote management) or even a great extent of autonomy given by the organisation. Such complacency in management approach will have negative impact on operations. By time, this may very likely create a "Nut Island Effect" on teams. The Nut Island effect is a "destructive organizational dynamic that pits a homogenous, deeply committed team against its disengaged senior managers" (Levy, 2001).

In order to get operations strategies implemented effectively in Iraq, NCCI (2006) suggested some solutions for remote management of staff, which vary depending on the context. The following techniques can be used to fill in gaps:

- ICT means: emails, chat, video chatting, and satellite phones. ICT equipment will enable better communications among staff themselves and between staff and the HR manager. IT can help in lowering administrative costs, increase productivity, speed response times, improve decision making, and enhance internal and external stakeholders and beneficiaries (Shrivastava and Shaw, 2003).

- Utilising the suggested "NCCI Human Resource (HR) database" and "Local Network". Both alternatives use standardised formats including informal networks (NCCI, 2006). Line manager should consider more time for induction and try to provide more support and coaching during that period. Training is to be planned according to staff skills and needs.
- Delegation of authorities and responsibilities to staff existing inside Iraq against clear policies.
- Qualified leader inside Iraq that can influence and motivate employees who should be a powerful focal point and communicator between senior management outside Iraq and rest of management and staff inside Iraq.
- Clear and constant communications between management outside and inside Iraq.

Conclusion

Personnel are looked at as one of the important strategic resources for originations, especially non-profits. Human resources set and implement operation strategies. Multi-skilled human resources can be an order winner/qualifier for organisations. The continuous development of staff with quality training, equipping them with ICT solutions and direct involvement will help organisations in implementing operations strategies effectively. HRM strategies and operations strategies should be interlinked to each other to gain competitive advantage. IT is an important component of operations process which enables human resources implementing strategies efficiently.

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