Singapore Management Journal

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Editorial Board

Editorial Comment

Management, leadership and related issues crop up universally in diverse situations and at various levels. Studies generating data around these issues will always be open to optional interpretations, and the knowledge arising will always be tentative, given the process-oriented nature of inquiry in social science. This, plus the temporality and the finitude of the human being as both subject and object in an academic study, must mean that there cannot be a final vocabulary, and understanding is a never-ending process.

In the real world, knowledge and understanding are created to provide guidelines for action. Organisational issues are invariably linked to issues of performance and implementation effectiveness, and are typically dealt with in practical and teleological ways.

The articles in this volume provide a sample of this spread. James Johnston's study of the changing role of independent directors in the corporate governance codes of Singapore and the United Kingdom; Shailender Singh's study of decentralisation efforts at grassroots level in a rural agricultural setting; Yap Teow Chong's take on the planning and implementation challenges of the risk management of emerging food borne diseases; Wong Siaw Ming's argument for a holistic, and by implication, a more effective perspective of business project management; and Madhurima Das' study of work-life balance of women in India, all seem to shout the same message: "It is results that ultimately count, stupid".

The writers are part of a growing army of practitioners who boldly delve into research studies from a pragmatic perspective, often creating new and different paths to knowledge and understanding with practical implications and outcomes. We invite readers to reflect on the contents of these articles, and engage with their writers through their email access.

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"Corporate governance is concerned with holding the balance between economic and social goals, and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations, and society."

– Sir Adrian Cadbury

Corporate Governance in the Wake of the Financial Crisis: Comments on the Changing Role of Independent Directors in the Corporate Governance Codes of Singapore and the United Kingdom

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Abstract

The financial crisis of 2008 has highlighted the importance of corporate governance to the economic fortunes of individual firms and entire economies or economic areas. This paper provides an account of why corporate governance has come to be viewed by businesses and policy makers as an increasingly important determinant of economic performance. Organisations, such as the Organisation for Economic Co-operation and Development (OECD) have made efforts to develop international minimum standards. Much of the reform agenda, both at the national and international levels, has been dominated by efforts to strengthen the role played by independent directors in corporate governance. The codes of Singapore and the United Kingdom are compared in an attempt to illustrate how each country has dealt with these issues. The analysis reveals that while the codes are very similar, there are small but interesting differences, particularly in relation to the treatment of director independence. The paper concludes that any attempt to impose a "one-size-fits-all" governance code is likely to fail as there is a need to allow for local variations in practice that take account of differences in ownership and business culture in different parts of the world.

Keywords: Corporate Governance, Singapore Code, United Kingdom Code, Independent Directors, Financial Crisis

Introduction

Fremond and Capaul (2002) state that "good corporate governance increases the efficiency of capital allocation within and across firms, reduces the cost of capital to issuers, helps broaden access to capital, reduces vulnerability to crises, fosters savings provisions, and renders corruption more difficult". The financial crisis of 2008 led to major challenges for economies and governments, mainly in the Western half of the globe. Clarke (2010) points out that by October 2009, world stock markets had lost US $33 trillion or almost half their value at the end of 2007. Fundamental questions have been asked about what business is for, and whether it can be better governed with a view to reduce the risk of this sort of damaging event happening again. With respect to the function of business in economies, it is important to understand that businesses can be viewed as a vehicle through which the well-being of individuals and stakeholder groups can be improved. Goods and services are either bought or made with the intention that they will be sold in product markets at prices that will cover the costs (monetary and non-monetary) of all those who become involved in a business. In the absence of coercion, those who participate in the activities of a business always have the option of walking away and using their skills and efforts in other activities, and so the need to be satisfied that their interests are best met by continued participation in business. Consequently, the rates of return on offer to debtors, workers, and shareholders must be at least equal to those on offer from similarly risky alternatives.

How to secure the best use of the time, skills, and capital of all those involved in a business has been the staple of much economic and financial scholarship over a long period of time. One of the elemental insights to emerge from this research programme is that there are benefits from specialisation according to comparative advantage, both within and between businesses. Those businesses and individuals that supply capital and who ultimately bear the risk of loss may not be those best placed to manage its use, so professional managers tend to be employed by owners in an effort to ensure that the most effective use is made of their scarce capital. This separation of ownership and control that results from the search for efficiency creates agency costs that stem from the divergence between the interests of owners and managers. The study of how effectively to align the interests of managers and owners has been subjected to intense scrutiny in recent years as governments and owners have sought to improve the governance of business, particularly in the wake of the financial crisis. Some may have thought that these problems had been solved after years of research, but the crisis has reminded them that this is wishful thinking. Much of the reform of governance codes in Singapore and the United Kingdom, and elsewhere in the world that has taken place in the last two decades has focused on the need to strengthen the role of independent directors on the boards of large publicly listed companies.

This paper identifies and assesses the similarities and differences between the approaches taken in Singapore and the United Kingdom, and offers some comments on the prospects for these reforms. Section 1 sets the scene by providing a short sketch of broad developments in corporate governance. In Section 2, the link between corporate

governance, the role played by independent directors and corporate performance is explored. Section 3 provides a comparison of the structure and ethos of the current corporate governance systems of Singapore and the United Kingdom and how these have changed. Section 4 provides a critical assessment of specific recommendations and guidelines found in both the United Kingdom Code (UKC) and the Singapore Code (SC), paying particular attention to how they compare with one another in the role played by independent directors. Finally, Section 5 briefly considers the future direction of corporate governance in Singapore and the UK.

Section 1: Laissez Faire or Regulation?

The laissez faire approach to markets would, as the name suggests, leave firms to put in place their own governance arrangements, as they see fit and based on their own assessment of the consequential costs and benefits. If corporate governance is beneficial, then firms, especially those operating in competitive markets, will put in place suitable governance arrangements if only to ensure their survival. They will not have to be told under threat of sanction to put arrangements in place but will do so voluntarily. Firms that adhere to high governance standards may, for example, enjoy lower funding costs than those that do not, and so any costs associated with the set-up or compliance with a corporate governance system can be viewed as an investment for the business. Therefore, each firm has an incentive to devise and implement its own specific corporate governance arrangements. When seen from this perspective, the argument put forward by Hart (1995) that externally imposed "one-size-fits-all" governance codes may do more harm than good acquires greater importance. However, if ownership is widely held, as it is in places like the UK, Grossman and Hart (1980) have explained that less than optimal shareholder monitoring may take place. Large numbers of small investors are unlikely to undertake monitoring of their investment, and so managers will tend to have greater scope for the use and abuse of their discretion. Moreover, the third-party costs and benefits associated with corporate governance provide another source of market failure and justification for state intervention in the affairs of private business. The financial crisis, which has largely impacted the West, has underscored the risk for those not directly involved with a failing business, with state (taxpayer) funds being used to support financial firms on the grounds that they are "too big to fail". To a large extent, the laissez faire ethos dominated the West until the late 1980s. It is important to bear in mind, however, that during this period, firms were not free to do entirely as they wished with only the market as their master, but they were also bound by the structures of corporate law. High-profile corporate scandals in the 80s and 90s, such as those at BCCI, Enron, and Worldcom, put corporate governance firmly at the top of the political agenda in the US and UK, and led governments to fundamentally reconsider how best to regulate the behaviour of firms. Since then, it has remained at the heart of the debate on business in the West, and has been given even greater importance due to the financial crisis. In the

US, concerns culminated in the Sarbanes Oxley Act, introduced in 2002 with, as George W. Bush put it, the intention to "deter and punish corporate and accounting fraud and corruption, ensure justice for wrongdoers, and protect the interests of workers and shareholders". In the UK, a parallel reform process started with the Cadbury report in 1992 and has continued to this day.

Just as in the West today, the East has had its own financial crisis in the past years. The 1997 East Asian currency crisis heightened interest in corporate governance in East Asia. It is generally accepted that Singapore did relatively well during the crisis (Groenewold and Tang, 2004), with any harm to the Singaporean economy being largely channelled through reduced trade with its neighbours. Others were less fortunate, with poor corporate governance being highlighted as a major explanatory factor. Monks and Minnow (2011) state that during the crisis, company insiders in Korea were discovered to have moved corporate assets out of large conglomerates and into companies in which they had private interests. Similarly, in Thailand, capital was withdrawn and transferred to foreign bank accounts. Monks and Minnow (2011) also claim that research has demonstrated that a country's corporate governance system better explained its stock market performance during the Asian crisis rather than traditional economic variables. Tan (1999) summarises the East Asian crisis as one of "cronyism, collusion, and corruption which supposedly led to excessive lending and excessive risk-taking, especially in unproductive, rent-seeking enterprises." Consequently, countries in East Asia have begun to take issues related to governance much more seriously.

Section 2: Governance Codes, independent directors, and corporate performance

It appears to have become accepted wisdom among policy makers and media commentators that high governance standards lead to higher levels of corporate and country-level economic performance. Yet the evidence on these issues is complex and needs to be considered with care. Dalton et al. (1998) and Hermalin and Weisbach (2003) fail to identify any clear link between the composition of corporate boards and the performance of businesses. Erkens et al. (2010), in a study of global financial firms, go one step further than this relatively benign criticism of the conventional wisdom, and conclude that "firms with higher institutional ownership [often seen as a prerequisite for good governance], and more independent boards had worse stock returns compared to other firms during the crisis." If this finding is one with general applicability, it is important and concerting as it suggests that attempts to impose a "one-size-fits all" approach to governance rather than improving corporate performance may actually make it worse. Others, such as Clark (2005), highlight concerns over the compliance burden borne by companies, suggesting it may be too high for companies and that the state should withdraw.

That the level of Gross Domestic Product (GDP) for a country or its growth

rate and the standard of corporate governance may not be closely related as some appear to believe has also been revealed by the financial crisis. A global study by GovernanceMetrics International, the corporate governance research and ratings agency, published in 2006 and reported in Monks and Minnow (2011), states that "South African companies [usually deemed an emerging market] had better governance practices on average than the average for German, Singaporean, Spanish, or Swedish firms". Though Singapore fared poorly in this study, even in comparison with emerging economies, such as South Africa, it is worth noting that it was still ranked higher than most of its East and South East Asian counterparts: Hong Kong, China, and South Korea. An obvious question to ask is that if governance is, as the corporate governance industry would have us believe, so important to general economic success, why do countries with lower governance rankings appear to have coped better with the financial crisis than their more highly rated counterparts? There are, of course, many ways of explaining this differential performance without necessarily rejecting the importance of corporate governance. However, the economic experience of Western economies, such as the UK, when compared to that of Eastern economies, such as Singapore since 2008, would suggest that the role of governance in economic performance is more nuanced and complex than has been suggested.

Independent Directors and Corporate Governance

Notwithstanding the caveats regarding the importance of corporate governance referred to above, pressure to improve corporate governance continues to be a key area of business change in most economies. As countries are forced to compete, it is argued, for increasingly scarce capital to finance economic expansion, this pressure will only intensify. Consequently, it is expected that those companies and countries with lower standards will raise their "governance game" to the levels of those regarded as having the highest standards. The country that had the highest-rated governance standards in the 2006 GovernanceMetrics study alluded to earlier was the United Kingdom (UK), a country which, along with the US, has pioneered advances in the area of corporate governance. La Porta et al. (1999) reveal that the rate of family ownership in publicly listed companies in Singapore is higher than in countries like the UK. This greater role for families is, of course, associated with a higher risk of expropriation of non-family members. For this reason, and others, it is expected that the SC will seek to emulate the best practices found in nations, such as the UK.

Much of the thrust of corporate governance reforms in the UK since the Cadbury report in 1992 has been to give a more prominent role to independent directors in the decision making of the boards of large companies. Figure 1 below illustrates the sort of reasoning behind the view. Codes designed to raise the input of independent directors into management decision makings will, it is argued, result in better management and corporate performance, and possibly less risk of the sorts of problems that have been revealed by the financial crisis.

Figure 1: Corporate Governance Reform and Corporate Performance

| Strengthening the Independence of Independent Directors | → | Raising the Quality of Corporate Governance | → | Improving Corporate and Economic Performance |

(Source: Created by Author)

The creators of these reforms maintain that they are a necessary response to the emergence of an increasingly powerful cadre of top executives, who have been known to use their discretion to their personal advantage at the expense of other shareholders. If the overconcentration of power is harmful to the long-term success of a business, then an increased role for strong and independent directors might be expected to result in higher shareholder value. Daily et al. (2003) also makes it clear that as well as their monitoring function, independent directors can be an important source of specialist advice. If the nominating committee hires the best independent directors, it is that this has the potential to boost performance. Nonetheless, the simplistic application of these sorts of guidelines could end up being detrimental to the company. Bebchuk and Fried (2005) remind us that the friendship, loyalty, and team spirit that may develop between independent and other directors will inevitably compromise the independence of non-executive directors, but that, far from being harmful, this esprit de corps may actually be beneficial to the company. Though it is not possible to tell which of these conflicting forces is likely to be dominant, pressure remains on countries to adopt the best practice in relation to governance issues. We now turn to a consideration of the SC and the UKC.

Section 3: The Structure and ethos of the Singapore and UK Codes, their main features and the role of the Independent Director

When examining corporate governance, it has to be remembered that governance codes operate within the shadow of the law and accepted accounting conventions, and that there are legally binding duties and obligations for company officers. Regarding the codes themselves, the similarities between the SC (Monetary Authority Singapore, 2012) and the UKC (Financial Reporting Council, 2010) are striking. Indeed, the wording of the code provisions of the UKC and the guidelines of the SC are identical, for example, main principle A.4 of the UKC and guideline 2.7 of the SC regarding the role of independent directors. More generally, and probably more

importantly, the underlying ethos of both codes is very similar as both codes adopt a "comply or explain" approach, rather than a rigid rules-based system. Compliance is not mandatory with either code but a Stock Exchange Listing requires any deviation from the code to be satisfactorily explained in annual reports. The approach taken in both codes deliberately eschews the use of legally binding requirements. The UKC, for example, makes it clear that "firms are free to explain rather than comply if they believe that their existing arrangements ensure proper accountability and underpin board effectiveness". Those responsible for the design of the UKC also understand its limitations, stating that it "cannot guarantee effective board behaviour". Ultimately, it is intended that the spirit and not the letter of the codes is what should be adhered to by firms.

While the UKC (2010) deals with Leadership, Effectiveness, Accountability, Remuneration, and Relations with Shareholders, the SC (2012) covers Board Matters, Remuneration Matters, Accountability and Audit, and Shareholder Rights and Responsibilities. Both codes are largely made up of normative statements regarding how those who have penned these codes believe companies ought to be run, usually including terms such as "should" rather than the stronger unconditional "will". In terms of chronology, the SC was published after its UK counterpart and therefore, any differences in the codes will provide an interesting insight into the differences between how Singapore and the UK views corporate governance. Figure 2 below shows the basic structure of the codes in Singapore and the United Kingdom.

Figure 2: The Structure of the Corporate Governance codes in the United Kingdom and Singapore
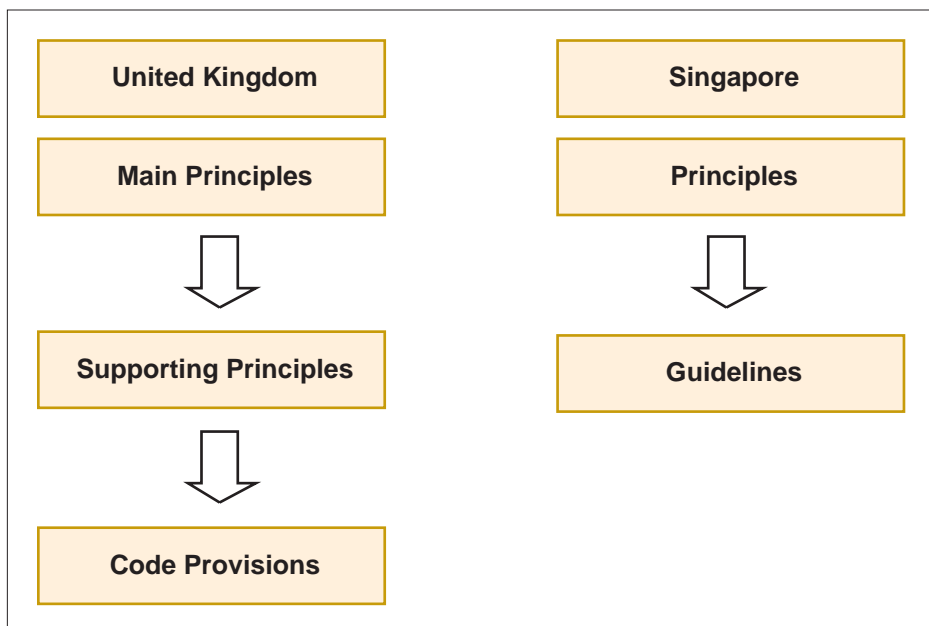
(Source: Created by Author)

Table 1 displays the main principles in the Singapore and UK codes in relation to the board. Key themes included in both codes emphasise the importance of the board to the "long-term success" of the company. UK management is often criticised for its myopia and the need to plan for the longer term has been underlined by the financial crisis. A similar emphasis on the long-term can be found in the SC. Both codes are shareholder focused and say little about broader notions such as those of stakeholder interests and corporate citizenship despite the rapid growth in these interests in recent years. Though what might constitute "success" for a company is not discussed in any detail in either code, in both the need to separate the roles of Chairman (the person who runs the board) and CEO (the person who runs the company) is emphasised. In a sense, this requirement is really just another part of the broader theme of diluting board power where it is judged to have become too concentrated. The obligation for the board to meet regularly enough, and for its members to have timely access to accurate information to do their job effectively is also stressed in both codes. The immediate impression that arises from perusing both codes is that they are very closely connected. Nevertheless, it is interesting to consider whether this general similarity stands up to closer inspection, particularly in relation to the important role of independent directors, and it is this question that we now examine.

Table 1: The key Principles relating to Corporate Boards of the Singapore and United Kingdom Codes on Corporate Governance

Singapore Code Board Matters Principle	UK Code Leadership (Main) Principle	UK Code Leadership (Main) Principle
The Board's Conduct of Affairs: Every company should be headed by an effective Board to lead and control the company. The Board is collectively responsible for the long-term success of the company. The Board works with Management to achieve this objective and Management remains accountable to the Board.	**The Role of the Board:** Every company should be headed by an effective Board which is collectively responsible for the long-term success of the company.	**The Composition of the Board:** The Board and its committees should have the appropriate balance of skills, experience, independence, and knowledge of the company to enable them to discharge their respective duties and responsibilities effectively.
Board Composition and Guidance: There should be a strong and independent element on the Board, which is able to exercise objective judgement on	**Division of responsibilities:** There should be a clear division of responsibilities at the head of the company between the running of the Board and the executive responsibility for	**Appointments to the Board:** There should be a formal, rigorous and transparent procedure for the appointment of new directors to the Board.

corporate affairs independently, in particular, from Management and 10% shareholders. No individual or small group of individuals should be allowed to dominate the Board's decision making.	the running of the company's business. No one individual should have unfettered powers of decision.	
Chairman and CEO: There should be a clear division of responsibilities between the leadership of the Board and the executives responsible for managing the company's business. No one individual should represent a considerable concentration of power.	**Chairman:** The chairman is responsible for leadership of the Board and ensuring its effectiveness on all aspects of its role.	**Commitment:** All directors should be able to allocate sufficient time to the company to discharge their responsibilities effectively.
Board Membership: There should be a formal and transparent process for the appointment and re-appointment of directors to the Board.	**Non-executive Directors:** As part of their role as members of a unitary board, non-executive directors should constructively challenge and help develop proposals on strategy.	**Development:** All directors should receive induction on joining the Board, and should regularly update and refresh their skills and knowledge.
Board Performance: There should be a formal annual assessment of the effectiveness of the Board as a whole and its Board committees, and the contribution by each director to the effectiveness of the Board.		**Information and Support:** The Board should be supplied in a timely manner with information in a form, and of a quality appropriate to enable it to discharge its duties.
Access to Information: In order to fulfil their responsibilities, directors should be provided with complete, adequate, and timely information prior to Board meetings, and on an on-going basis, so as to enable them to make informed decisions to discharge their duties and responsibilities.		**Evaluation:** The Board should undertake a formal and rigorous annual evaluation of its own performance and that of its committees and individual directors.
		Re-election: All directors should be submitted for re-election at regular intervals, subject to continued satisfactory performance.

(Source: Created by Author)

Section 4: Comparing the role of Independent Directors in the Singapore and the UK codes

In the UKC, the "main principles" are expanded upon and explained in much more detail than the "supporting principles" that are, in turn converted into code provisions. The code provisions attempt to explain how the code's guiding and supporting principles might be put into practice. In the SC, only principles and guidelines are provided. Though both codes are very similar in broad structure and ethos, it is interesting to consider whether there are differences in specific principles, guidelines, and codes, particularly as they relate to the increasingly important role of independent directors. Let us now consider some of the key principles, guidelines, and code provisions as they relate to independent directors.

Guideline 2.1 of the SC states that:

"There should be a strong and independent element on the Board, with independent directors making up at least one-third of the Board."

In the UKC provision B.1.2, it is stated that:

"Except for smaller companies, at least half the board, excluding the chairman, should comprise non-executive directors determined by the board to be independent."

Though the level at which these "knife-edge" criteria are set is, to some extent, arbitrary, it is, nonetheless, noteworthy that the default position of the SC is to prescribe that a lower proportion of the board should be independent directors. It is interesting to speculate on possible reasons for this difference in the minimum number of independent directors deemed appropriate. The difference may, for example, reflect a belief on the part of those who drew up the SC that the long-term success of a company does not necessitate as prominent a role for independent directors. It may, for example, be the case that the degree of independence expected of an independent director is higher in Singapore than in the UK, so that any given degree of executive oversight can be achieved with fewer but more able or committed independent directors. Alternatively, it may reflect a belief on the part of those framing the SC that less oversight from independent directors is required to ensure the "long-term success" of the company, and that the executive team should have more freedom to manage, without the requirement of having to justify decisions to outsiders who may have little reason to care about the performance of the company on whose board they sit.

However, guideline 2.2 of the SC requires the proportion of independent directors be raised to that of the UK's default level of one-half if there are concerns about independence of the company chairman. It states that:

"The independent directors should make up at least half of the Board where: (a) the Chairman of the Board (the "Chairman") and the chief executive officer (or equivalent) (the "CEO") is the same person; (b) the Chairman and the CEO are immediate family members; (c) the Chairman is part of the management team; or (d) the Chairman is not an independent director."

The over-concentration of powers in the hands of one or a small group of powerful individuals is a generic and persistent theme in the corporate governance

literature. Yet independence is clearly a psychological trait that is not easy to quantify.

The SC attempts to deal with the subjectivity inherent in the notion of independence by prescribing when and where someone will be considered independent.

Guideline 2.3 of the SC states that:

"So it is not enough for the director to be independent, he or she also has to appear to others to be independent. Ultimately, the SC gives the board the task of deciding on whether a director is 'independent in character and judgement and whether there are relationships or circumstances which are likely to affect, or could appear to affect, the director's judgement'."

The significance of family in corporate ownership in Singapore has clearly been uppermost in the minds of those concerned with questions over the criteria to be employed in deciding on director's independence. Factors relevant to determining whether a director is independent or not in the SC include:

- being employed by the company or its related companies in the last three years;
- a director with an immediate family member who is, or has been in any of the last three years, employed by the company or any of its related corporations and whose compensation is determined by the remuneration committee;
- receipt by the director or a family member of payment for services supplied to the company in the immediate past financial year;
- a director or immediate family member who in the current or past financial year, is or was connected with a 10% shareholding in the company who received significant payments (S$200,000), or material services in the immediate past financial year;
- a director who is a 10% shareholder;
- a director who has been directly associated with a 10% shareholder.

Immediate family members in the SC are deemed to include a spouse, child, step-child, brother, sister, and parent, and so is quite narrowly defined, leaving lots of scope for conflicts of interest involving extended family relationships. Similarly, the time period considered when applying the independence criteria is quite tight as it refers to the immediate past financial year. While the broad thrust of the independence criteria is similar in the UKC and the SC, the actual code provisions are a lot less prescriptive and appear to set a slightly tougher standard. Code provision B.1.1., for example, states quite simply that someone who "has been an employee of the company or group within the last five years" will be assumed not to be independent. Similarly, in the area of family relationships and independence, it is stated that someone "who has close family ties with any of the company's advisers, directors or senior employees" will not be considered independent. The relatively prescriptive approach taken by the SC in this important area appears to risk creating greater scope for abuse of the spirit of the code as people find ways round the rules.

Moreover, the desirability of strengthening the role played by independent directors in the governance of business is itself open to question. On one hand, the

existence of a material financial relationship between an independent director and a business clearly raises the risk of a conflict of interest. Such directors may be less likely to "constructively challenge and help develop proposals on strategy" (guideline 2.7 and main principle A.4 of the UKC). On the other hand, these directors, by virtue of their trading relationship with the business, are likely to have developed a better understanding of its needs and challenges and so be better placed than a director with no such association to offer helpful advice to management. Guideline 2.6 states that the board and its committees "should comprise directors who as a group provide an appropriate balance and diversity of skills, experience, gender, and knowledge of the company." The drive for greater board room diversity, especially in relation to gender, is one that appears to have acquired greater significance in the UK and other jurisdictions. Supporting principle B.2 of the UKC states that:

"The search for board candidates should be conducted, and appointments made on merit against objective criteria, and with due regard for the benefits of diversity on the board, including gender."

In a recent article on the SC, Yip (2012) points out that the SC is less prescriptive in this area. It is important to note that diversity can be measured on many different margins – social class, ethnicity, gender etc. – and that overly-prescriptive rules on boardroom diversity are likely to prove very difficult for companies to implement successfully. Moreover, there is little evidence that boards that are more diverse results in better managed firms. One of the more contentious parts of the SC is the 'nine years rule'. This requires that the re-appointment of a director who has served on a board for a continuous period of nine years should be subject to particular scrutiny. The choice of a nine year period would seem to lack any scientific basis. Indeed, it is difficult to see why tenure per se is an important determinant of director independence: there may be directors with long tenure who are independent and new appointments who have little independence, perhaps being selected for their malleability. Consequently, the decision by Singapore's Monetary Authority to allow boards discretion to continue to retain the services of such a director if it can be demonstrated that the director is still independent would seem to be a sensible compromise. After all, long tenure can bring with it a wealth of knowledge and experience valuable to the management of a business.

Guideline 2.4 of the SC echoes the UKC provision that "the independence of any director who has served on the Board beyond nine years from the date of appointment should be subject to particularly rigorous review". Once again, this threshold set in both codes seems arbitrary and without any scientific justification. Why would reaching nine years of tenure represent a particular threat to someone's independence? Most directors have tenures far below nine years, and it is not clear why a director's independence should alter at this point in the relationship.

The guidelines are framed in a way that offers companies food for thought when it comes to appointments but also provides enough flexibility over how they decide to meet their governance needs.

Section 5: Concluding Comments

Bad decisions will continue to happen and have more of an impact on corporate performance than the apparent relative strength of its corporate governance arrangements. Any relationship between corporate governance and the performance of firms and economies will inevitably be a complex one. It is likely that there is no one ideal system of corporate governance that will be suitable for all countries at all times, and that what best fosters success will be a function of a country's culture, history, legal structure, and a host of other factors that have an independent and interacting impact on its firms. Compliance with externally imposed rules and regulations may give the veneer of safety, but in reality do not guarantee investors that they will get back their capital, let alone that it will be used efficiently while under the control of those in charge of corporate entities. Comparing the codes of Singapore and the UK has revealed many similarities but also some interesting differences. In places, it would appear that UKC is a little more stringent with respect to what constitutes independence in a director but these differences are minor and greatly outweighed by the similarities. These findings also suggest that an all encompassing "one-size-fits-all" approach to corporate governance is likely to run up against the need to allow for differences that reflect the different ownership structures and cultures that are found in different parts of the world. Rules that are designed to be applicable at all times and places will need to be restricted to very basic minima upon which everyone can agree leaving open the opportunity to tailor other arrangements to local needs. The financial crisis has shown that when it comes to corporate governance maybe the West can learn from the East, just as much as the latter can learn from the former.

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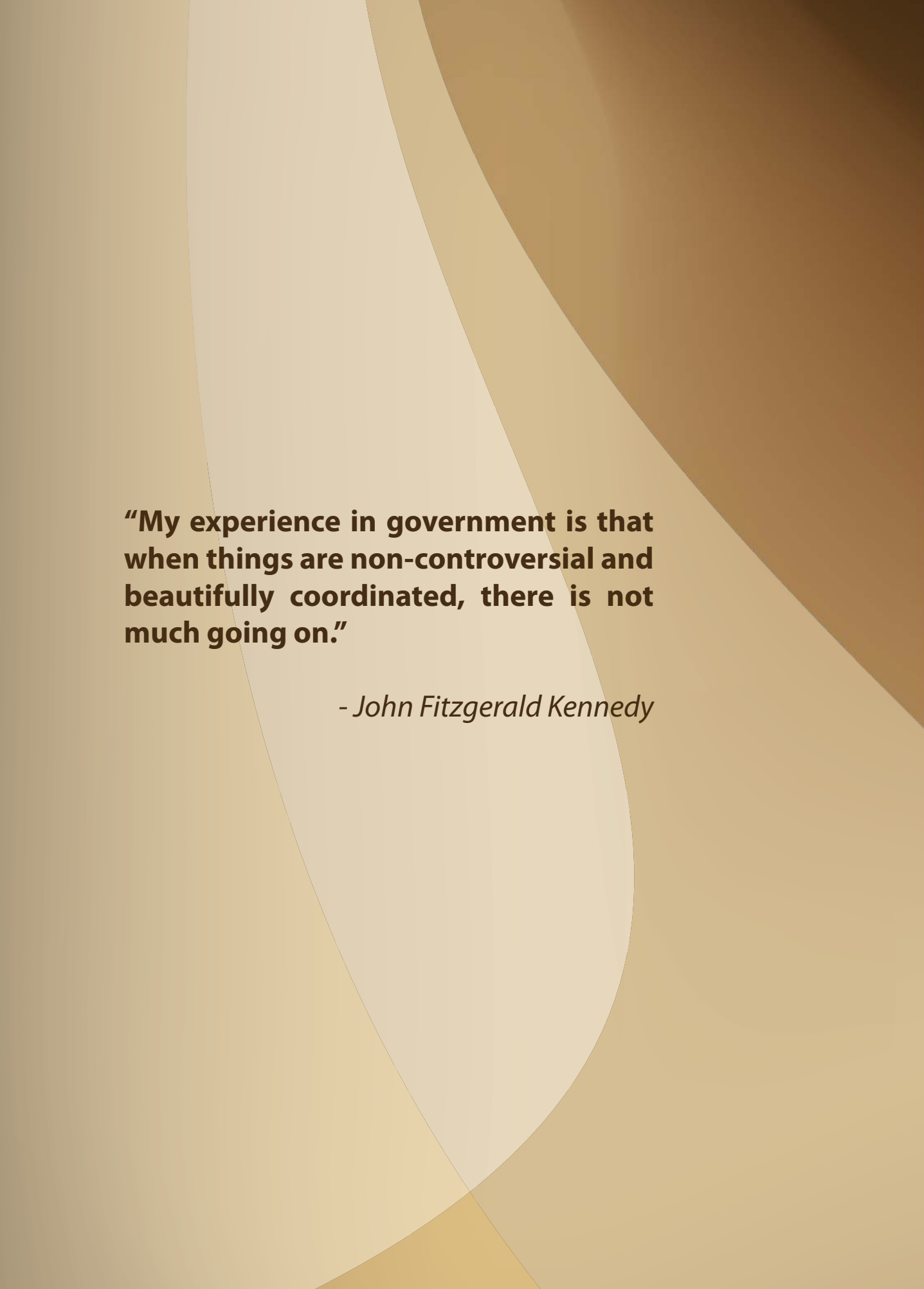
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"My experience in government is that when things are non-controversial and beautifully coordinated, there is not much going on."

- John Fitzgerald Kennedy

Role of Communication and Coordination Among Three Tiers of Panchayats under Decentralised Planning: Evidence from India

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Abstract

This paper examines the decentralised mode of communication and coordination strategies in the three tiers of Panchayati Raj, namely Gram Panchayat, Kshetra Panchayat and District Panchayat in Muzaffarnagar district of Uttar Pradesh. A Panchayat is an elected council of about five members organised by the Republic of India as an organ of village self-development. At the formulation stage, Panchayats have to give careful thought to ways of enhancing the effectiveness of programmes through focused efforts and to consolidate the gains from ongoing projects. Panchayats have to perform the task of choosing the right people, motivating them, and providing leadership suited to the needs of the development. This study attempts to identify the problem of communication and coordination of Panchayats with the higher tiers of Government officials. The findings are not only useful for policy implications on decentralised planning of rural development but will also contribute significantly to the current literature on the management of Panchayati Raj.

Keywords: Panchayati Raj, Decentralised Planning, Communication, Coordination, Discussion, Supervision, Training and Professional Growth

Introduction

In recent years, there has been a sudden upsurge of interest in decentralised governance and planning. Decentralisation has become a fashion of our times. It is being considered and attempted in astonishingly diverse, developing, transitional countries by solvent and insolvent regimes, by democracies and autocracies, and by regimes with or without colonial inheritances (Dillinger, 1994).

In 1993, the Government of India passed a series of constitutional reforms, which were intended to empower and democratise India's rural representative bodies – the *Panchayats*. The 73rd Amendment to the Constitution formally recognised a third tier of government at the sub-state level, thereby creating the legal conditions for local self-rule – or *Panchayati Raj*.

India, of course, is not alone in this process. Decentralisation has emerged as a dominant trend in world politics. In 1998, the World Bank estimated that all but 12 of the 75 developing and transitional countries with populations greater than 5 million had embarked on a process of political devolution (Crook and Manor, 1998). At the heart of this transformation are a number of complex yet inter-related themes. One is an ideological shift, in which the legitimacy of central state-led development has been challenged on the grounds that it produces systems of governance that undermine national economic performance and effective public policy (Gore, 2000; Johnson and Start, 2001). A second is a (remarkably widespread) political agenda, which asserts that the decentralisation of public administration and the introduction of locally elected bodies will produce systems of governance that are better able to meet the needs of poor and politically marginal groups in society. A third and related theme suggests that democratic decentralisation is a political strategy that national elites have used to maintain legitimacy and control in the face of political disintegration. Here, it can be argued that economic liberalisation, political regionalism, and the rise of powerful inter- and sub-national actors have weakened the traditional nation state and created the conditions under which more local identities could emerge (Giddens, 1998).

Learning to communicate is an emerging challenge in decentralised planning. It is known that agents interacting in decentralised, stochastic environments can benefit from information exchange. Cooperative decentralised planning entails the computing of a set of local behaviours for a group of agents that act in the same environment while maximising a global objective. Each local policy maps the information known or believed by the agent through action (that is, domain actions, and possibly communication acts as well). It has been observed that in the worst case, solving such multi-agent problems optimally is significantly more complex than is the case for single-agent sequential decision-making problems. One of the main sources of this difficulty is the fact that each individual decision-maker lacks global information when they compute their local behaviours. Allowing agents/members to share information may reduce uncertainty about this global information, for instance by reducing the number of possible belief states that each agent needs to consider. In extreme cases, when communication is free and mutually understood, decentralised

planning becomes equivalent to a single-agent. However, in practice, communication incurs some cost, be it the actual bandwidth used by a transmission, or some other function that quantifies the resources required for the information exchange (Goldman and Zilberstein, 2003). Consequently, although communication can indeed be helpful in simplifying coordination at the time of execution, deciding when to communicate and what to communicate may still be a complex process.

An important element of the promise of decentralisation is the ability to tailor local public sector policy and service delivery to the needs of local populations, while at the same time providing incentives for an effective, efficient, and locally accountable public sector. The conferring of discretion in planning, budgeting, and revenue mobilisation at the local level, however, hampers the formulation of national responses. While it is recognised that national uniformity is not conducive to the most effective solution for a range of important public concerns, neither is adhoc local unilateralism (Bardhan and Pranab, 2002). In decentralised contexts, a coordination mechanism must be established to effectively link national and sub-national planning processes; to ensure that national priorities are appropriately reflected in regional and local policies.

Objectives of the Study

1. To study the role of communication and coordination among Gram Panchayat, Kshetra Panchayat and Zila Panchayat - the three tiers of Panchayat Raj System.

2. To examine the extent to which people are involved in plan preparation under Panchayati Raj.

Theoretical Background

An extensive review of the literature revealed a literature gap and a complete lack of any previous work investigating the potential association between communication and coordination elements under decentralised planning. Thus, the value of this paper lies in the fact that it presents the first attempt to examine this issue empirically.

Decentralised planning had been debated for more than six decades now, and we need to pick up from these discussions to design a step forward. Many committees and commissions had strongly advocated the adoption of a decentralised planning approach. The committee headed by Balwant Rai Mehta (1957) took the first step. This lead was followed among others by Asoka Mehta (1978), Hanumantha Rao (1984), G.V.K. Rao (1985), and Ramachandran (2006). These formed some of the important milestones. Their recommendations invariably led to more people being involved in planning and development as ways of addressing their felt needs and aspirations. All emphasised that planning should begin at the grassroots level, culminating in a macro plan.

It was felt that such a process would provide a platform for rational, faster, and sustainable development, bringing transparency, and infusing confidence in governmental initiatives of growth and development. A working group on block planning headed by M.L. Dantwala, and that of Hanumantha Rao on district planning, specifically stressed the need for decentralised planning.

Agrawal and Ribot (1999) in his paper presented a brief description of the manner in which projects were decided and financed before and after the constitutional amendments were made. A discussion of the differences highlighted some existing limitations in the situation. Suggestions were given regarding a desirable structure of local government that respected the spirit of the constitutional amendments. This paper, however, did not deal with the specific problem of urban local bodies. Aziz, Abdul (2000) conducted a study on the democratic decentralisation experience of Karnataka. His paper traced the evolution of rural local governance system in Karnataka, discussed its present structure and problems, and suggested a course of action for making these institutions more effective. The paper finally suggested that there was a need to strengthen the Gram Panchayats by providing technical personnel and adequate funds.

Slater (1989) discussed some of the substantive dimensions that block level planning should concentrate on. These dimensions identified as a strategy of rural development, the determination of spatial and temporal sequence of activities, and their coordination; infrastructure of essential services; and social institutional framework. A study conducted by Ponda et al. (2010) revealed that decentralised planning would mean planning with (a) different levels of self-governance, district (Zilla) level being adjunct to state level on one hand, and a buffer for a further local level, say, Panchayats, on the other; (b) emphasis on people, considering their own resources, needs, and development capabilities; (c) production and consumption primarily oriented to local resources; and (d) some autonomy in resource mobilisation and expenditure. The planning should cover all development activities with the objective of creating assets for sustainable growth and employment with equity.

Pai (2001) in his study attempted to explore the organisational and precipitant antecedents to staff's willingness and barriers to participate in programme planning, day to day activities, and general administrative decision processes across eleven organisations in three institutional types in India, namely (State Agriculture University, ICAR Research Institutions, and NGOs) Krishi Vigyan Kendras (KVKS). Possible explanations, implications, and policies for a shared decision-making (SDM) process, and research directions were discussed. The finding revolved around people's participation, which was vital for the success of a new legislative framework of Panchayati Raj institutions and decentralised planning. The main hypothesis of this study was "Active participation, involvement and control of the people in Panchayati Raj, and decentralised planning vis-a-vis the process of development that could give rise to socio-political systems more conductive to the success of these institutions with a greater degree of social justice." The universe of the study was the two districts of Rajasthan.

Thaha and Shanthudu (1996) conducted a study in the state of Karnataka and disseminated findings at the Gram Panchayat (GP) level, the lowest tier of the Panchayati Raj (PR) system. He also conducted studies in selected states to understand the approach to planning at grassroots level, and the process adapted by the GPs, and suggested modifications. Palanithurai (1994) conducted a study on integrated development, and suggested that it was conceivable that planning for rural development could be undertaken at the level of the individual community in a rural area. This was initially the method that was adopted in community development programmes. The current trend in planning for rural development, therefore, was to look for an area larger than the small community, at the level of which national policies and plans could be meaningfully translated into programmes, and projects which would meet the development requirements common to the communities in that area. Issues and constraints at the local level could be better analysed and evaluated at the local level of the area, and more effective solutions could be sought. The study cited many examples of this area approach to rural development.

Devendra Babu (2007) studied one of the important functions of Panchayats, namely, preparation of annual plans, and more specifically, the processes involved and the role of elected members. In an essay 'Recent Development and Debates in Local Government in India' (Chaudhary, 1997), the author suggested that in India, the institution of local government had been historically linked to the realisation of the Indian leadership's overarching policy concerns, namely, to ensure effective governance and equitable political representation through the institution of federalism. This would resolve the dilemma of simultaneously achieving economic growth and social justice. Initial attempts of the 1950s were focused at implementing a centralised planned structure within a self regulating village society, in the context of a conceptual framework of initiating a formal democracy with qualitative and substantive outcomes (in other words, equality and equity must be pursued simultaneously with political freedom to contest and participate). The recent institutionalisation of local governments fell exclusively within a liberal notion of democracy which, as Amartya Sen (2003) maintained, had three different yet inter-related components: intrinsic, instrumental, and constructive. The intrinsic value of democracy, according to Sen, gave people an opportunity to participate in political debates and political life. The instrumental value of democracy allowed people, even the socio-economically most disadvantaged, to voice their concerns. Finally, the constructive value of democracy fostered societal learning through the rearranging of social values and priorities in the light of the outcome of free political competition. Indeed, the newly created constitutional local institutions may be viewed as aiming towards the fulfillment of the intrinsic, instrumental, and constructive functions of Indian democracy. It was further suggested in this essay that such attempts failed to address the structural problems of feudalism and patriarchy, political empowerment of the rural poor (which included a majority consisting of women, scheduled castes, and tribes) and may succeed in only narrowly addressing the issue of a participation deficit. It did not necessarily empower the poor

to make policy inputs into local planning.

Manor (1997), in his paper "The Political Economy of Decentralisation", presented at the Technical Consultation on Decentralisation, Food and Agriculture Organisation (FAO) Rome, suggested that efforts to promote local level participatory planning should be abandoned without even much regret. He concluded,"Democratic decentralisation can work quite effectively without effective planning from below." This paper focused on one specific aspect of the institutions of governance, that is, governance at the level of local communities. This focus entailed a range of issues involving decentralisation, people's empowerment, and the involvement of community based organisations in local affairs, and the relevance of all these for poverty alleviation.

The book entitled "An Introduction to Health Planning in Developing Countries", by Green Andrew (1992), although primarily concerned with health sector planning, provided a useful overview of the allocative planning problems common to most planning authorities in the public domain. Bardhan (1999) conducted a baseline study to evaluate the effectiveness of decentralised district level planning for rural development in Uttar Pradesh (UP). This research work reviewed the progress made in the implementation of the Brahm Dutt Committee recommendations with a view to broadening its scope and strengthening the politico-administrative machinery for further devolution of planning functions to the district and block level.

Data Collection and Sample

This study was based on both secondary and primary data. The secondary data were collected from various government offices like District Statistical Office, District and Block Panchayat Offices, State-Planning Institute, Lucknow, Ministry of Rural Development, Government of U.P., and from some other published and unpublished sources. The primary data were collected from the respondents belonging to District Muzaffarnagar. The data were collected from Gram Panchayats, Kshetra Panchayats, and District Panchayat with the help of a pre-tested questionnaire schedule. The time period of the study is 2007-2010 and data collection was carried out for 6 months in the year 2008.

Out of 14 development blocks (Kshetra Panchayats) of the district, two Kshetra Panchayats, namely, Kairna and Morna were selected for intensive study. The blocks were selected on the basis of a composite index of development, which consisted of various rural development indicators such as, per hectare productivity of agricultural output, cropping intensity, per hectare application of fertiliser, number of tractors, percentage of NIA (Net Irrigated Area) to NSA (Net Sown Area), per hectare production of food grains, number of bank branches, number of cooperative societies, length of pucca road, number of villages connected with all weather roads, percentage of village electrified, number of primary health centres, number of primary and secondary schools, the number of agricultural cooperative societies, percentage of SC/ST (Scheduled Caste/Scheduled Tribes) population, etc.. After constructing a

composite index, two blocks - one having the highest index, and the other having lowest index were selected.

Questionnaires and interviews were used to collect information on the existing planning procedure and practices at the district level. Those interviewed included all block level officers and members, and the chairperson of Kshetra Panchayat. From each selected Kshetra Panchayat, five Gram Panchayats were selected randomly. From each selected Gram Panchayat, all Gram Panchayat members along with Pradhan were selected as respondents. In addition, a few knowledgeable members of Gram Sabha were also interviewed.

To understand the demographic and geographical features of the selected area, a comprehensive checklist was prepared and filled up. A village schedule containing information regarding Gram Panchayat's existing physical, human, and financial resources, and areas of potential resource generation was also completed with the help of Gram Panchayat Adhikari and Pradhan.

Table 1.1: Organisation of Sample

Blocks	Kairana				
Villages	Mundetkalen	Gowan	Issopur	Mavi Haiderpur	Jhakhadi
No. Pradhans	1	1	1	1	1
No. Members	5	5	5	5	5
No. of Villagers	40	40	40	40	40

Blocks	Morna				
Villages	Kakroli	Tissa	Rasulpur	Kasoli	Nirgajni
No. Pradhans	1	1	1	1	1
No. Members	5	5	5	5	5
No. of Villagers	40	40	40	40	40

(Source: District Planning Office Muzaffarnagar)

Results and Discussion

Communication and Coordination among Pradhans, Members, Villagers

It can be easily observed from Table 1.2 that a majority of Pradhans (80%) felt that coordination was important for the success of planning processes and practices. So they considered that it should be high. The other 20% Pradhans thought that such coordination had moderate importance. A majority of members (40%) felt that it had little importance, 12% considered a moderate term was sufficient,16% thought that it needed very little attention. On the other hand, 32% members thought that coordination was an important aspect of planning, as well as its execution phase. They felt that coordination needed high consideration. After the interviews, analysis showed that villagers had different opinions regarding the importance of coordination. For 10.5% of the villagers, coordination was very much important, while 33.5 % thought that it was an important (high) aspect, 20.5% thought it was moderately important, 21.5% thought it had little importance, and the remaining 14% also thought that it had very little importance.

Table 1.2 Kairana: Distribution of Mean Scores – Coordination

Classification	Scores	All Respondents		Pradhans		Members		Villagers	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very High	4.5-5.0	21	9	--	--	--	--	21	10.5
High	3.5-4.5	79	34.3	4	80	8	32	67	33.5
Moderate	2.5-3.5	45	19.5	1	20	3	12	41	20.5
Little	1.5-2.5	53	23	--	--	10	40	43	21.5
Very little	<1.5	32	13.9	--	--	4	16	28	14
Total Responses	--	230	100	5	100	25	100	200	100

(Source: Analysis of Field Survey)

Table 1.3 gives a very clear picture about the different opinions of Pradhans, members, and villagers regarding communication, that is, GPs and Bank; GP and Govt. Department, GP and ZP, GP and KP between GPs members; GP and Villagers. 20% of Pradhans thought that communication among different agencies involved in planning process should be high. While 80% had the opinion that a moderate level of communication was sufficient. Members also had different opinions regarding communication. 20% members were of the opinion that its level should be very high, 40% members felt that communication should be high, 28% were in favour of moderate communication, and 12% believed that little communication was needed for decentralised planning. The majority, 43.5% of villagers were of the opinion that the moderate level of communication was sufficient, while 2.5% were of the opinion that

the need for communication was very little. But 15% villagers thought it should be high, 9.5% thought it should be very high, and 29.5% thought it should be little for the success of decentralised planning.

Table 1.3 Kairana: Distribution of Mean Scores – Communication

Classification	Scores	All Respondents		Pradhans		Members		Villagers	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very High	4.5-5.0	25	10.8	--	--	5	20	19	9.5
High	3.5-4.5	44	19.13	1	20	10	40	30	15
Moderate	2.5-3.5	94	40.86	4	80	7	28	87	43.5
Little	1.5-2.5	62	26.9	--	---	3	12	59	29.5
Very little	<1.5	5	2.17	--	--	--	--	5	2.5
Total Responses	--	230	100	5	100	25	100	200	100

(Source: Analysis of Field Survey)

Table 1.4 shows that a large number of Pradhans (80%) were of the opinion that coordination was important highly in policy framing, 20% of Pradhans considered a moderate level of coordination sufficient. The table also shows that 16% of members accepted a moderate level, 36% very high, 36% high, and only 12% goes for little. It was evident from the table that villagers' views vary with regards to their opinions towards the importance of coordination. 20% of villagers gave importance to very high level of coordination, 35% considered high level of coordination, 23% villagers considered moderate level, 21% thought that little coordination was sufficient and only 1% held the opinion that very little coordination was required.

Table 1.4 Morna: Distribution of Mean Scores – Coordination

Classification	Scores	All Respondents		Pradhans		Members		Villagers	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very High	4.5-5.0	49	21.3	--	--	9	36	40	20
High	3.5-4.5	83	36.08	4	80	9	36	70	35
Moderate	2.5-3.5	51	22.17	1	20	4	16	46	23
Little	1.5-2.5	45	19.56	--	--	3	12	42	21
Very little	<1.5	2	0.86	--	--	--	--	2	1
Total Responses	--	230	100	5	100	25	100	200	100

(Source: Analysis of Field Survey)

Table 1.5 indicated that 60% of Pradhans felt that communication was very important for effective planning and its execution. 40% Pradhans observed that it was sufficient in its moderate term. 48% of members felt that the level of communication should be very high for the success of decentralised planning, and only 16% members thought that high level of communication was required. 36% of members were of the opinion that a moderate level of communication was sufficient in this planning process. Villagers had different opinions regarding the importance of communication, 15% thought it should be very high, 16% were in favour of high, 38% gave preference to moderate level of communication, and the remaining 31% thought that a little communication was sufficient.

Table 1.5 Morna: Table Distribution of Mean Scores – Communication

Classification	Scores	All Respondents		Pradhans		Members		Villagers	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very High	4.5-5.0	42	18.26			12	48	30	15
High	3.5-4.5	39	16.95	3	60	4	16	32	16
Moderate	2.5-3.5	87	37.82	2	40	9	36	76	38
Little	1.5-2.5	62	26.95	--	--	--	--	62	31
Very little	<1.5	--	--	--	--	--	--	--	
Total Responses	--	230	100	5	100	25	100	200	100

(Source: Analysis of Field Survey)

Status of Coordination among Three Tiers of Panchayat

Analysis of T-Test

Table 1.6: Consolidated summary of 't' value obtained after treating the PPES Data for various components of planning procedure among members

Component of PPES	Kairana X_1	Morna X_2	't' value
Discussion	30.00	39.8	6.463**
Coordination	28.8	42.6	4.479**
Communication	21.5	24.1	1.572
Supervision	15.3	20.2	3.957**
Training and Professional Growth	13.3	13.3	0.126
Problems	38.0	37.8	0.67

** = t value significant   (Source: Analysis of Field Survey)

Table 1.6 represented the perceptions of importance for various components of planning procedure among members. It showed the 't' values obtained after treating the Professional Practice Environment Scale (PPES) data with 't' significance of difference between means of two groups of members of Panchayats (Kairana and Morna) regarding their perceptions of importance for different components of decentralised planning, Discussion, Coordination, Communication, Supervision, Training and Professional Growth, as well as problems pertaining to planning and implementation. Out of 6 values obtained after comparing the mean scores of all the six components, only three 't' values were found significant and three 't' values remained insignificant. Significant 't' values were obtained when the two groups of members were compared on Discussion (t = 6.463**), coordination (t = 4.479**), and Supervision (t = 3.957**) components, while insignificant 't' values were related to comparison of the two groups on Communication (t = 1.572), Training and Professional Growth (t = 0.126) and problems (t =0.67) component of the scale.

It was obvious from the comparison of mean scores of both groups on the five components of scale that the Discussion component was the most emphasised component by the members of Kairana Gram Panchayat (30.00), and Training and Professional Growth was least emphasised component (13.3). On the other hand, the comparison group, that is, members of Morna Gram Panchayat placed the utmost importance to Coordination (42.6), and least to Training and Professional Growth (13.3). The order of emphasis in the case of members of Kairana Gram Panchayat was Discussion (30.00), Coordination (28.8), Communication (21.5), Supervision (15.3), and Training and Professional Growth (21.5).

It was very clear from Table 1.6 that the mean scores of both groups of members regarding problems were nearly the same $(x_1 = 38.0)$ $(x_2 = 37.8)$.

Table 1.7: Consolidated summary of 't' value obtained after treating the PPES Data for various components of planning procedure among villagers

Component of PPES	Kairana X_1	Morna X_2	't' values
Discussion	30.03	35.8	6.415**
Coordination	33.4	38.1	3.832**
Communication	17.5	18.3	1.392
Supervision	15.3	14.7	1.084
Training & Professional Growth	12.9	11.3	4.321**
Problems	39.4	38.4	0.804

** = t value significant   (Source: Analysis of Field Survey)

Table 1.7 represented the perceptions of importance for various components of planning procedure among villagers. It was apparent from the perusal of Table 1.7 that significant differences existed between the group of villagers regarding their perception of the importance of various components of process and implementation. The components which were studied were Discussion, Coordination, Communication, Supervision, Training and Professional Growth of participants. The mean values of both groups regarding each component indicate that Discussion is the most important aspect of decentralised planning in the eyes of villagers of Kairana and Morna. The findings confirm our previous experiences. No one could deny the fact that discussion was an essential activity for effective planning, as well as for its successful implementation.

Conclusion

The ideas and evidence analysed in this paper were primarily concerned with understanding the conditions under which decentralisation could lead to improvements in the communication gap and coordination among members of Panchayats in rural India. In the context of this paper, we defined communication gap and coordination as a relationship between public officials and citizens, in which the latter possessed a means of challenging or counterbalancing the arbitrary use of power on the basis of a formal understanding of what constitutes appropriate behaviour on the part of public officials. The power which citizens could exercise to counterbalance the power of public officials may be based on the hierarchical authority of the bureaucratic state (upward accountability), or on the general consent of the citizenry (downward accountability), or on a combination of the two. In its most ideal form, accountability should be based on strong norms of communication and coordination between public officials and citizens. The new Panchayati Raj is opening up possibilities for a better flow of information.

The statistical analysis showed that discussion/communication was the most emphasised component by the members of Panchayat, and some other members of Panchayat gave utmost importance to the coordination between the villagers and Panchayat members. In the present study, the analysis depicted that for the success of decentralised planning, communication and coordination was essential in policy framing on all levels. Transparency in public dealings was missing because everything official was kept secret and confidential. Panchayats helped to break down this centralised information system when elected members asked for information on a variety of matters that affected people's lives. All indicators were lagging behind in terms of social development. One of the reasons for this was the absence of social reform movements that had penetrated several other parts of the country. This historical gap could well be filled by Panchayats through the motivation of the people to take charge of their own lives. At the threshold of the 21st century, the new Panchayats have the capacity to start a new chapter in the life of the villagers in these states through proper communication and coordination among the members and villagers.

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"We should resolve now that the health of this nation is a national concern; that financial barriers in the way of attaining health shall be removed; that the health of all its citizens deserves the help of all the nation."

- Harry S. Truman

Risk Management of Emerging Foodborne Diseases

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Abstract

New foodborne diseases have emerged in the past few decades, many of which are of animal origin. The diseases have resulted in gastroenteritis, malnutrition, other human health problems, and deaths. The disease outbreaks have also resulted in large medical expenses, trade and economic losses. The food supply chain has become global and more complex. There are many factors that give rise to the opportunities for food contamination in the supply chain; such as the intensification of food production, international trade in food, food ingredients and animal feed, changes in lifestyle, and global travel. Deliberate contamination of food is also a possibility. To prevent and control the emerging foodborne diseases, a One Health approach for risk management is necessary, and should include risk analysis and risk reduction measures incorporating quality assurance programmes like HACCP along the entire food chain.

Keywords: Emerging Foodborne Diseases, Animal Origin, One Health, Risk Management, Food Contamination, Food Supply Chain, Risk Reduction

Introduction

The purpose of this paper is to highlight the public health concerns and economic importance of emerging foodborne diseases, amidst a growing complexity of the food supply chain. The world animal-human health authorities had responded to these challenges by advocating an overarching One Health and risk-based approach for the planning and implementation of risk management strategies and activities.

Foodborne disease (also foodborne illness and colloquially referred to as food poisoning) is any illness resulting from the consumption of contaminated food; contaminated with pathogenic bacteria, viruses, or parasites, as well as chemical or natural toxins, such as poisonous mushrooms (Wikipedia, 2012).

Substantial progress had been made in preventing classical foodborne diseases in the past such as typhoid fever, tuberculosis, and trichinosis through the application of meat and milk inspection, pasteurisation of milk, disinfection of drinking water, sewage treatment, and better hygiene and sanitation during production and processing. However, new foodborne pathogens have emerged in the last few decades. These diseases have posed considerable challenges to public health and are a growing global threat (Tauxe, 1997).

Margaret Chan, Director General, World Health Organisation (WHO), speaking at a conference in Singapore on 13 April 2011, said, "Outbreaks of food-borne disease have become an especially large menace in a world bound together by huge volumes of international trade and travel. They are large in their potential in terms of geographical spread often involving multiple countries." (Chan, 2011)

Emerging Foodborne Diseases

Microorganisms responsible for emerging foodborne diseases may be organisms that are: (a) Emerging; infections that have newly appeared in a population, or (b) Re-emerging; infections that have previously existed but due to various factors (ecological, environmental, food production, or demographic) are rapidly increasing in incidence or geographical range (Semenis and Economides, 2002).

Gastrointestinal disorders are the most common findings in foodborne infections. Many of the foodborne disease cases have been attributed to contamination of food and drinking water. Diarrhoea which results in poor absorption of nutrients is also a major cause of malnutrition in infants and young adults in developing countries where food resources are often inadequate (Mead and Griffin, 1998; WHO, 2007).

It is difficult to estimate the global incidence of foodborne diseases, but about 2.1 million people have died from diarrhoeal diseases as a result of food poisoning in the year 2000. The reported incidence of food poisoning is probably an understatement as many cases go unreported. In industrialised countries, up to 30% of the population of people have been reported to suffer from foodborne diseases every year. In the USA, around 76 million cases of foodborne diseases, which resulted in 325,000 hospitalisations and 5,000 deaths are estimated to occur each year. The problem in

developing countries is likely to be greater due to poverty and the absence of many basic infrastructure and amenities, and most cases are not detected or reported. In 1988, an outbreak of Hepatitis A, resulting from the consumption of contaminated clams, affected some 300,000 individuals in China (WHO, 2007).

With the increase in global trading of food and passenger travel, many outbreaks of foodborne diseases that were once contained within a small community may now take on global dimensions. *Vibrio cholerae* was introduced into waters off the coast of southern United States when a cargo ship discharged contaminated ballast water in 1991. It is likely that a similar mechanism led to the introduction of cholera for the first time this century into South America in 1991. As such, foodborne diseases should not be tackled at the national level only but through closer linkages among food safety authorities through an organised international system as advised by the WHO (2001, 2002a, 2007).

One other major concern in foodborne diseases caused by bacteria isolated from livestock is the presence of antibiotic resistance. This has serious public health implications in the treatment in human cases of foodborne infections. The use of antibiotics as a feed supplement to promote growth or prophylactically to prevent disease in food animals, and the indiscriminate use of antibiotics in humans are contributory factors (Tauxe, 1997; WHO, 2007).

Epidemiology and Public Health Concerns of Some Emerging Foodborne Diseases

Enterohaemorrhagic Escherichia coli (EHEC) O157:H7

E. coli O157:H7 is an uncommon but serious cause of gastroenteritis, and the effects of an infection range from asymptomatic to lethal. This *E. coli* O157 is probably a mutant strain, from *E. coli* O55:H7, a pathogenic clone associated with infant diarrhoea, with the added capacity to produce at least one Shiga toxin (Pennington, 2010). The organism has probably been circulating since the early 1950s, but the first outbreak was described in 1982 in hamburgers in USA (Mead and Griffin, 1998; Pennington, 2010). Since then it has emerged rapidly as a major cause of bloody diarrhoea and acute renal failure; Haemolytic Uremic Syndrome (HUS) and death particularly in children (WHO, 2002). The incidence of EHEC infections varies by age group, with the highest incidence of reported cases in children under 15 years (0.7 cases per 100,000 in the United States) (WHO, 2005).

The organism *E. coli* O157 is found regularly in the faeces of healthy cattle but has also been isolated from deer, sheep, goats, pigs, horses, dogs, birds, and flies. The organism can persist in manure, water troughs, and other places on farms. The incidence of this disease may have been amplified by intensive livestock farming, slaughter practices, and mass retailing (Armstrong et al., 1998; Mead and Griffin, 1998; WHO, 2005).

Ground beef, as a vector for *E. coli* O157 in the USA was the transmission route in 41% of foodborne outbreaks between 1982 and 2002. However, the organism is also transmitted to humans through contaminated water, other contaminated food, such as organic bean sprouts, alfalfa sprouts, lettuce, and unpasteurised fruit juice. The largest O157 outbreak recorded so far happened in Sakai City, Japan in 1996, with 7,966 cases (2,764 microbiologically confirmed and 106 with HUS) associated with white radish sprouts served at school meals (Mead and Griffin, 1998; WHO, 2002a; Pennington, 2010).

Outbreaks of O157 have also been attributed to direct or indirect contact with ruminant animals, such as in farms, agricultural shows (UK), county fairs (US), open farms, and camps. The largest of such an outbreak recorded happened in England in 2009, with 93 infections, 78 patients had symptoms, and 17 developed HUS (Pennington, 2010).

Secondary spread in man is common, for example, in child day-care facilities or nurseries, and in institutions providing care for those with physical disabilities, learning difficulties, and dementia. Domestic transmission is most common to contacts aged 1-4 years and 15-34 years. A very small number of organisms are sufficient for infection and disease to occur (Pennington, 2010). Figure 1 shows the different transmission pathways for *E. coli* O157.

Figure 1: Transmission of *E. coli* O157
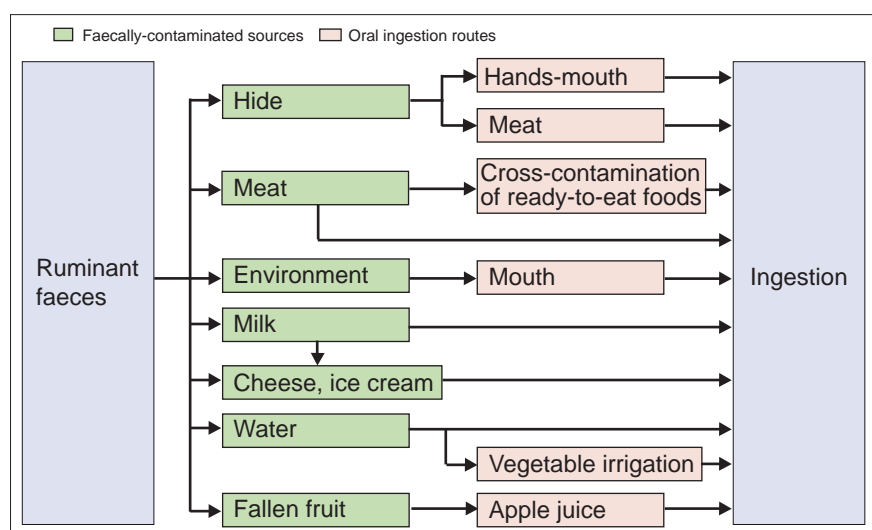
(Source: Pennington, 2010)

Shiga toxin producing E. coli (STEC) O104:H4

Another pathogenic *E. coli*, the STEC O104:H4 caused an unprecedented outbreak of bloody diarrhoea and HUS in Germany from May to July 2011. Travellers from 16 countries in Europe and North America were affected. An autochthonous outbreak caused by the same strain occurred in France (STEC Workshop Reporting Group, 2011; WHO/Europe, 2011). The source of the organism was traced to fenugreek seeds imported from Egypt (EFSA, 2011). Almost 4,075 people, mostly among previously healthy adults were infected in the outbreaks with 908 (22%) showing HUS, and a total of 51 (1.25%) dead across Europe (WHO/Europe, 2011). The *E. coli* O104:H4 strain is characterised by a low infection dose and high antibiotic resistance. Despite its low mortality rate, 5-10% of patients who suffered HUS have renal sequelae (Borgatta et al., 2011).

Non-typhoid Salmonella and Campylobacter

Two bacteria that have often been incriminated in food poisoning from poultry products are *Salmonella* and *Campylobacter*. While outbreaks of salmonellosis have been reported for decades, they have recently become more common in many continents especially with non-typhoid strains of *Salmonella* (for example, *S. typhimurium* and *S. enteritidis).* The increase in the prevalence of the disease may have arisen out of the intensification of poultry production, mass slaughter, and retailing (Semenis and Economides, 2002).

Campylobacter especially *C. jejuni* and *C. coli* have been increasingly incriminated as organisms responsible for food poisoning especially from poultry products. In some countries, *Campylobacter* had replaced *Salmonella* as the major cause of food poisoning from poultry products (WHO, 2007). This is probably due to a shift in the focus of surveillance of the two diseases; more attention and screening of *Campylobacter* is undertaken today.

Listeria monocytogenes

Listeria monocytogenes is considered an emerging disease because the role of food in its transmission has only recently been recognised. In pregnant women, infections with listeriosis can cause abortion and stillbirth, and in infants and persons with a weakened immune system, it may lead to septicemia (blood poisoning) and meningitis. The disease is most often associated with consumption of foods such as soft cheese and processed meat products that are kept refrigerated for a long time. *L. monosytogenes* can grow at low temperatures. Outbreaks of listeriosis have been reported from many countries including Australia, Switzerland, France, and the United States. Two outbreaks of *Listeria monocytogenes* in France in 2000, and in the USA in 1999 were caused by contaminated pork tongue and hotdogs respectively (WHO, 2002a).

Bovine Spongiform Encephalopathy (BSE)

BSE or "mad cow disease" was first officially diagnosed in 1986 in United Kingdom, and later reported in other countries in Europe, Israel, Japan, as well as North America. The cause of the disease was traced to a prion related to scrapie in sheep which contaminated recycled bovine carcasses used to make meat, and bone meal additives for cattle feed. The prion is highly stable, resisting freezing, drying and heating at normal cooking temperatures and sterilisation. The control measures implemented in UK and all the other affected countries have been successful (WHO, 2002b). In 2011, there were only 29 cases reported worldwide, a 99% drop from the peak in 1992 with more than 37,300 cases. The latest case was reported in a dairy cow in April, 2012 in California, USA (Lackey, 2012).

In 1996, BSE had been strongly linked to the appearance of a new transmissible spongiform encephalopathy in humans called variant Creutzfeldt-Jakob Disease (vCJD), a rare, degenerative, fatal brain disorder in humans (WHO, 2002b). As of January 2002, 119 people have developed vCJD, most are from the UK but five cases have also been reported from France. The causative agent is probably the prion found in bovine-based food products from BSE infected cattle. Due to the long incubation period, people are still being diagnosed with vCJD each year. As such, the full extent of the human vCJD outbreak is still not fully known (WHO, 2002b). Many cases may be misdiagnosed as Alzheimer's disease. The symptoms and pathology of both diseases overlap (Wikipedia, 2011).

Foodborne parasites

Foodborne parasites are also emerging as a serious public health problem. This is not only in South-East Asia but also in Latin America, in part due to a combination of increased aquaculture production, often under unsanitary conditions, and of consumption of raw and lightly processed fresh water fish and fishery products. Foodborne trematode can cause acute liver disease, and may lead to liver cancer. An estimated 40 million people worldwide are affected (Tauxe, 1997; WHO, 2002a).

Cholera

While cholera has devastated much of Asia and Africa for years, its introduction for the first time in almost a century on the South American continent in 1991 makes it another example of an infectious disease that is both well-recognised and emerging. While cholera is often waterborne, many foods also transmit the disease. In Latin America, ice and raw or under-processed seafood are important epidemiological pathways for cholera transmission (WHO, 2002a).

Nipah virus infection

Nipah virus infections have been reported in people after eating fruits or drinking date palm juice contaminated by urine or saliva of *Pteropus* fruit bats in Bangladesh and India. The infections had caused respiratory illness and created a likelihood of human-to-human transmission (WHO, 2009).

Economic Impact of Foodborne Diseases

Food contamination creates an enormous social and economic strain on societies. In the USA in 1997, diseases caused by the major pathogens alone are estimated to cost up to US$35 billion in medical costs and lost productivity. The re-emergence of cholera in Peru in 1991 resulted in the loss of US$500 million in fish and fishery product exports that year (WHO, 2007).

Enterohaemorrhagic Escherichia coli (EHEC) O157:H7

The severity and long-term sequelae of infection with *E. coli* O157 result in high medical costs. The high costs also arise from other expenses such as in outbreak investigation, legal and litigation cost from patients, and trade losses.

Table 1: Example of Non-health costs of *E. coli* O157 outbreaks

	Number of cases and deaths	Vector	Costs
Jack in the Box fast food chain, US, 1993	> 700 cases, 4 deaths	Hamburgers	Individual and class action 1992, settlements > US$50 million
Odwalla, USA, 1996	> 65 cases, >12 people with haemolytic uraemic syndrome, 1 death	Unpasteurised apple juice	Federal fine $1.5 million, recall $6.5 million, victim claim settlements about $12 million
One person, UK, 1997	1 case, haemolytic uraemic syndrome with severe neurological sequelae	Visit to open farm	Out of court settlement £2.6 million
South Wales, UK, 2005[71]	157 cases, 31 admitted to hospital	Cross-contamination	Prosecution costs from public funds £596 000. Public inquiry, £2.4 million

(Source: Pennington, 2010)

Shiga toxin producing E. coli (STEC) O104:H4

The Shiga toxin producing *E. coli* (STEC) O104:H4 outbreak in Germany and France have caused massive losses to vegetable farmers. European farm products such as cucumbers, tomatoes, lettuces, courgettes, and sweet peppers were withdrawn from the market between late May and the end of June, 2011 as a result of the disease, while Russia briefly banned EU vegetable imports. EU farmers claimed to have losses up to US$611 million per week during the outbreak as ripe vegetable produce rotted in their fields and warehouses. Initially, the German health authorities had erroneously blamed the outbreak to fresh cucumbers imported from Spain. (Dempsey, 2011 as cited by Fidler, 2011). Spanish farmers alleged that the error had caused them 200 million Euros ($287 million) a week, and caused 70,000 people to be out of work (Kelland, 2011 as cited by Fidler, 2011).

Bovine Spongiform Encephalopathy (BSE)

The occurrence of BSE had affected cattle trade in UK and USA. US exports of beef products declined from 1.3 million metric tons in 2003 (before the first mad cow disease was detected in the US) to 322,000 metric tons in 2004 (Wikipedia, 2011).

Why do Foodborne Diseases Emerge?

Some of the confounding factors that are associated with the emergence and re-emergence of the foodborne diseases are:

a) The globalisation of food supply

The global food supply chain can be complex as a result of globalisation in trade on food, food ingredients, and animal feedstuff. Food contaminated in a producing country may cause foodborne outbreaks in an importing country (Seimanis and Economides, 2002). Typically, contamination occurs early in production, for example, at the farm, or processing stages, for example, at the slaughter house. Contamination of fresh fruits and vegetables can also arise from the use of untreated or contaminated water for crop spraying, and the use of inadequately composted cattle manure (Tauxe, 1997; WHO, 2007). Contamination can also occur with food ingredients from other countries and become a hazard when combined into a food dish or package in the consuming country. Problems nowadays can arise from any link or kink in the convoluted food chain (Chan, 2011).

b) Human demographics and lifestyle

The population of highly susceptible persons is expanding worldwide because of ageing, malnutrition, HIV infections, and other underlying medical conditions which predispose them to infections including foodborne diseases. In developing countries, reduced immunity due to poor nutritional status renders people, particularly infants and children, more susceptible to foodborne infections.

Changing lifestyles had resulted in a greater number of people that eat out in restaurants, canteens, fast food outlets, and street food vendors. In many countries, the boom in food service establishments is not matched by effective food safety education and control. Unhygienic preparation of food provides ample opportunities for contamination, growth, or survival of foodborne pathogens. Precooked food is often kept at warm temperatures which are not high enough to arrest microbial growth and when these are contaminated, an outbreak of food poisoning occurs. The contaminated food look, smell, and taste normal, and may survive traditional food preparation techniques posing challenges in visual or cursory inspection (Tauxe, 1997; Mead and Griffin, 1998).

Global travel is more common today and international travellers may become infected by foodborne pathogens that are uncommon in their countries. It is estimated that about 90% of all cases of salmonellosis in Sweden are imported (WHO, 2002a).

c) Changes in the livestock industry

With the increasing demand of animal protein from a growing population and with an objective to maintain or reduce food prices, meat producers have resorted to industrial farming to achieve economy of scale. This has been seen in the cattle, pig and poultry industries where large numbers of animals or poultry are reared with high stocking density and with dietary regimes designed for fast growth (Armstrong et al., 1998).

d) Changes in microorganisms and emergence of microorganisms in the food chain

The use of antimicrobials for growth stimulation or prophylactic disease control may also suppress the clinical effects of the disease; creating silent carriers in animals. These animals will shed the pathogen when they are stressed such as during transportation or amassed at the livestock markets or slaughter houses. Changes in microbial populations can lead to the evolution of new virulent strains with multiple antibiotic resistance (WHO, 2001; WHO, 2007).

e) Bioterrorism and deliberate contamination of food

In the year 2001, *Bacillus anthracis* spores were distributed through the postal system in Florida, USA, causing 22 cases of anthrax, including 5 deaths. Besides the postal distribution of the *B. anthracis* spores, one of the concerns with the work of arsonists and terrorist is the deliberate contamination of food and water with the bacterial toxins or spores (Hughes and Gerberding, 2002).

Application of a One Health approach for Risk Reduction from "farm to table"

In view of the complex food supply chain and that many of the foodborne diseases are of animal origin, a One Health approach is recommended. The One Health approach which is multi-sectoral and multi-disciplinary, involves the veterinary and medical, wild life and environment protection, and local authorities. This is more effective in providing solutions for the prevention, investigation and control of emerging foodborne diseases than efforts by uncoordinated single health authorities for the following reasons:

a) The prevention of infection, cross contamination, and microbial growth requires control measures at all stages of the food chain, from agricultural production on the farm to processing, manufacturing, and preparation of foods in both commercial establishments and the domestic environment.

b) Good Agriculture Practice or Good Animal Husbandry Practices including hygiene and sanitation (for example, in the farming area or in the processing facilities) will reduce the contaminant load starting at the farm level.

c) At the slaughter, harvest / processing, and packing facilities, the implementation of quality assurance programmes, such as Good Manufacturing Practice and Hazard Analysis of Critical Control Points (HACCP) will help reduce product contamination, establish traceability, and enable product recall to be made.

Member countries of the World Health Organisation are encouraged to adopt a strategy with objectives to (a) advocate food safety as an issue of importance, (b) strengthen policies and legislations, (c) establish national plans of action and government agency partnerships, (d) promote effective multisectoral national food safety programmes with a strong scientific foundation, (e) support industry and trade to meet their food safety obligations, (f) identify mechanisms for effective consumer participation and education in food safety, and (g) monitor and evaluate national food safety programmes for improvements (WHO, 2003).

Since the activities in the various links of the supply chain belong to different stakeholders, it is necessary to define the role and responsibilities accordingly (refer to Table 2), with an over-arching mechanism for collaboration, information sharing and response coordination for effective risk reduction. The over-arching mechanism can be a permanent coordination office, a Zoonosis Coordination Mechanism (WHO/OIE/ FAO, 2008), a Steering Committee, or Task Force specially established for the purpose.

Table 2 identifies the roles and responsibilities of the relevant stakeholders in the food supply chain for risk reduction to contamination with foodborne zoonosis.

Table 2: Risk Reduction in Foodborne Zoonosis Contamination: Roles and Responsibilities of Stakeholders in the Food Supply Chain

| Key nodes in supply chain	Relevant stakeholder responsible for food safety	
	Public sector: • Enactment of food safety laws and guidelines • Enforcement of clean food production, processing, and sale • Advocacy for food safety	Private sector: • Provision of good basic facilities for clean food production • Practice good Quality Assurance programmes • Good staff management, and promotion of healthy and clean work culture and ethics. • Promotion of Best Practices in the trade/industry
Farm, milking parlour	Ministry of Agriculture	• Farmer and workers • Farmers Association & Veterinary Association for education and promotion of best practices and presentation of common issues to relevant authorities.
Processing facility, slaughter house	Meat Inspector, Ministry of Agriculture, Ministry of Health for workers, health checks, Local authorities approval for slaughter house	• Dairy plant owner/manager, operator • Slaughter house manager, worker • Relevant trade associations for promotion of best practices and presentation of common issues to the authorities.
Market, retailing facility (e.g. supermarket, meat shop)	Local authorities, Market authorities for supervision of market facilities and operations, Ministry of Health for enforcement of Food Act, Ministry of Trade for retail licensing	• Market owner/manager and supervisor • Market/retailing vendor
End user (e.g. restaurant, caterer)	Local authorities for licencing of food premises, Ministry of Health for enforcement of Food Act	• Restaurant/caterer owner/manager and workers • Restaurant Associations for presentation of common issues to the relevant authorities
Consumer household	Ministry of Agriculture, Ministry of Health, Ministry of Information and Ministry of Education for public awareness, school education programmes, and training of processors and vendors, and risk communication	• Housewife and domestic helper Consumer Associations & Women's Union for promotion of healthy consumerism, and improvement in family health

(Source: Researcher, 2012)

A Risk-Based Approach for Risk Reduction on Foodborne Diseases

In the past, food control was focused on the examination of samples from the end products, hygiene inspection at processing and catering establishment with action taken at the premises. These traditional systems were not efficient and could not respond to emerging challenges to food safety because they do not provide a preventive approach (EU, 2002; Seimenis and Economides, 2002).

In consideration of the complexity of the food supply chain a comprehensive strategy for risk management that spans across the entire food chain from "farm to table" is necessary. The strategy should also adopt a risk-based approach and the first step for this is a risk analysis. Risk analysis comprises hazard identification and characterisation (dose response), exposure assessment, risk characterisation and estimation, risk reduction measures, and risk communication. Refer to Figure 2 for the World Organisation for Animal Health Risk Analysis Framework (OIE, 2010).

Figure 2: Risk Analysis Framework

Ref: OIE structure of Risk Analysis Process   (Source: OIE, 2010)
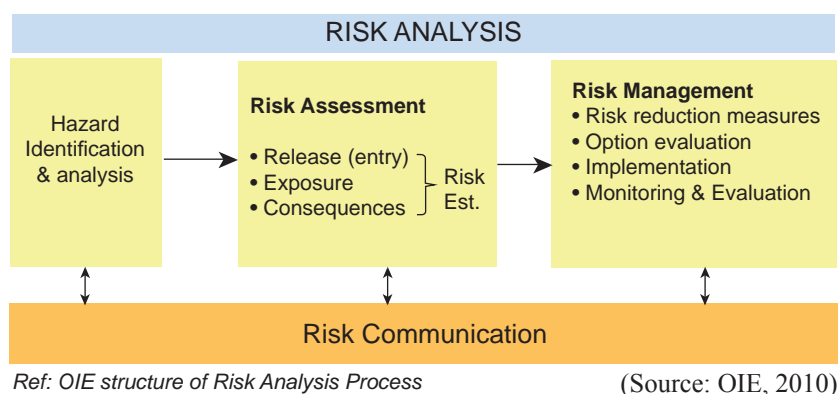
In formulating the risk reduction strategy, it is necessary to consider the results of the risk assessment, the feasibility of the risk reduction measures, the most cost-effective risk reduction measures, the practical arrangements needed, the socio-economic effect, and their environmental impact (Semenis and Economides, 2002).

The risk assessment should be coupled with surveillance of the foodborne disease. This will provide a continuous cycle for evaluation and refinement of surveillance, risk assessment, and risk management, as illustrated in Figure 3.

Figure 3: Cycle of public health protection based on surveillance and risk assessment
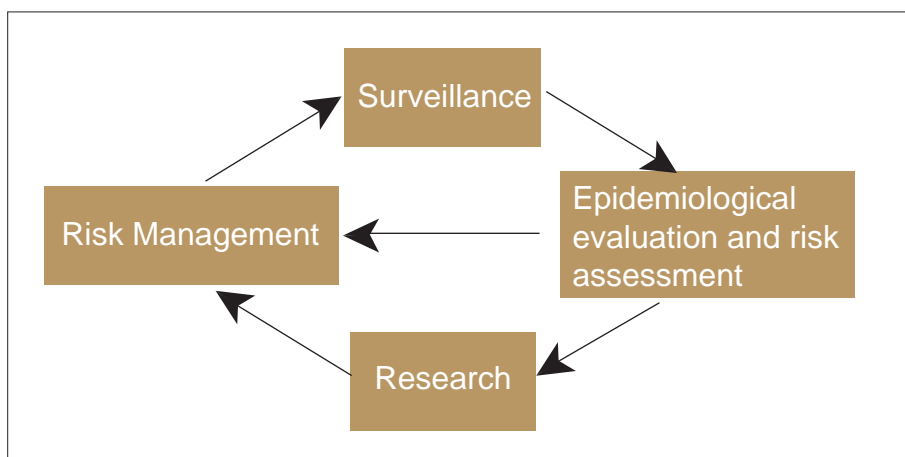
a) Surveillance and Outbreak Investigation of foodborne diseases

Surveillance and epidemiological data are critical in evaluating the efficacy of the risk management measures for preventing or reducing foodborne diseases. There are three ways for collecting epidemiological data: through surveillance activities, outbreak investigation, and conducting special studies (WHO, 2001).

b) Risk Communication

Risk communication is an essential component for risk management of any foodborne illness. It should be managed by competent authorities. Success of the communication depends on the interplay of three factors: the timeliness of the warning (how soon it is issued), the level of consumer compliance with the warning, and the time it takes to solve the problem (WHO, 2001).

Publicity on outbreaks of foodborne pathogens will result in an interaction between science, policy, and public perception. If carried out without due diligence it can result in a stigma on food safety. Stigma is a powerful shortcut that consumers use in their evaluation of food safety risks. For example, the erroneous announcement that the outbreak of a STEC O104:H4 in Germany was due to imported Spanish cucumbers led to consumers' boycott of the product, resulting in huge losses to the farmers. Also, when producers lose faith with the regulatory authorities, they may also sell off their goods in a clandestine manner. This will spread the problem and frustrate further investigative efforts (WHO, 2001).

Consumer education about basic principles of food safety, an important component of prevention, by itself is insufficient because contamination can occur at many of the links in the long and complex food supply chain. Effective risk communication requires coordinated efforts between the food producers, processors, retailers, and local, provincial, and national health authorities. It should not only

bring awareness and advocacy for preventive measures but also serve as a basis for better quality assurance by the producers, processors, and retailers. As such, the target audience should be the relevant stakeholders from "farm to table" including officials in the regulatory authorities (for example, veterinary, public health, and local government), producers, processors, and retailers. Advocacy should also be directed at school children, NGOs like Farmers Association and Consumer Associations who can also help to promote the risk mitigation messages.

Risk communication material should be informative, simple, and designed for the respective category of audience. The information, education, and communication (IEC) material is best designed by a multi-disciplinary IEC Task Force. The material may be in the form of printed brochures, audio-visual materials or materials for the mass media.

c) Risk Management on foodborne diseases

An Integrated Quality Assurance System is also required to monitor and regulate all the various links in the food chain. The World Health Organisation (WHO), World Organisation for Animal Health (OIE), Food and Agriculture Organisation (FAO), Codex Alimentarius Commission (CAC), and the European Union have endorsed the "farm to table" approach and promoted the development of surveillance, risk assessment, and implementation of risk management programmes such as Hazard Analysis Critical Control Points (HACCP) systems at all stages of the food production, preparation, and use (Semenis and Economides, 2002). Pre-market review and approval followed by continuous monitoring are necessary to ensure the safe use of pesticides, veterinary drugs, and food additives along the entire food chain. The control of foodborne diseases requires a concerted effort on the part of the three principal partners, namely governments, the food industry, and consumers (WHO, 2007).

The WHO Five Keys to Safer Food

WHO had advocated the 5 Keys for safer food for vendors at market and retailing outlets, food handlers, and consumers (WHO, 2006).

The 5 Keys to Safer Food (WHO, 2006) comprise the following:

• *Use of safe water and raw materials*

Local authorities, relevant animal-human health authorities and market owners should ensure that food supplied to a market is from safe and reliable sources, for example, purchase cattle from farms with Good Animal Husbandry Practice and meat from slaughterhouse/processing plants that practise good Quality Assurance programmes. Ensure all the food displayed for sale is within the expiry date, correctly labelled with source identification. Market and retailing facilities should only use potable water.

• *Market and retailing facilities are kept clean and sanitised*

Market and retailing facilities owners should provide basic infrastructure to promote sanitation, such as hand washing facilities, and facilities and equipment that are amenable for easy cleaning and disinfection. Health and market authorities should ensure cleaning and sanitation of facilities and equipment are carried out at regular intervals, and they are monitored and verified as correctly implemented. Also, ensure that all waste materials are collected in covered bins and disposed regularly, and the pest control programme is implemented.

• *Avoid Contamination*

Market authorities should implement zoning in the market area to minimise cross contamination. The retailing areas should be zoned to reflect the "hygiene gradient" from clean food to contaminated food. As such, cooked and "ready to eat" food should be separated from raw or contaminated food. Live animals should be sold in a different section of the market. All market vendors should be encouraged to wash hands thoroughly with soap and clean running water before and after preparing food, after visiting the toilet, and after cleaning dirty facilities and rubbish disposal. Consumers should wash and peel fruits before eating.

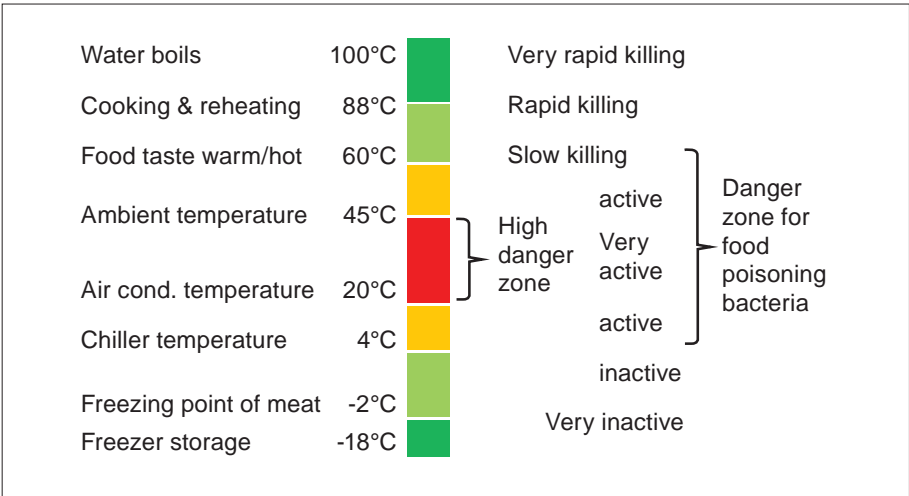### • *Destroy hazards where possible*

Consumers should cook food thoroughly especially meat, eggs, and seafood to at least 70°C, and if food is reheated, it should be cooked thoroughly. Do not leave cooked food at room temperatures for more than 2 hours. Milk and fruit juice should be pasteurised before consumption. Chlorination and ozonisation of water should be applied to destroy pathogens if the water is not from a reliable safe source.

• *Minimise growth of microorganisms in food*

Health authorities should encourage food producers to cool all raw meats, milk, and fruit juices immediately after harvesting or processing and store at temperatures below 40°C. Cooked food should be kept at temperature above 60°C before serving for immediate consumption. Food end-users and consumers should not store food too long

even in the refrigerator, and frozen food should not be thawed at room temperature. The following temperature chart is a useful guide on the different temperature zones for safe food handling:

Figure 4: Key Temperature Control Points for meat

Water boils	100°C	Very rapid killing
Cooking & reheating	88°C	Rapid killing
Food taste warm/hot	60°C	Slow killing
Ambient temperature	45°C	active
Air cond. temperature	20°C	Very active
Chiller temperature	4°C	active
Freezing point of meat	-2°C	inactive
Freezer storage	-18°C	Very inactive

High danger zone: 45°C–20°C

Danger zone for food poisoning bacteria

(Source: Anon, Murdoch University, Veterinary Faculty, 2010)

Conclusion

The World Health Organisation had warned that foodborne diseases pose significant challenges to humans, inflicting health problems especially gastrointestinal illness, internal organ failures, significant mortality especially in children, aged, undernourished, and immune-deficient people. The health problems had resulted in significant medical expenses for outbreak investigation, health care expenses, and significant economic losses to food producers. The changing trends in the world with globalisation of trade and travel, and the demand for food in large affordable quantity had resulted in many structural changes in the food production and supply chain. These changes had also resulted in the emergence of some new foodborne diseases. As the food supply chain involves players from different sectors, WHO/OIE/FAO had advocated to all their member states to use the One Health approach when planning and implementing strategies and risk reduction measures. Prevention and management of the foodborne disease outbreaks require a risk management strategy that includes adequate surveillance, risk analysis, and risk-based hazard reduction measures.

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"A woman with a voice is by definition a strong woman. But the search to find that voice can be remarkably difficult. It's complicated by the fact that in most nations, women receive substantially less education than men."

- Melinda Gates

Work-Life Balance of Women Researchers and Women Managers in India: A Multi-Construct View

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Abstract

Work-Life Balance is a global issue that concerns individuals, organisations and society at large. It is a phenomena defined by an amalgamation of support, policies, beliefs and roles. Literature over the years has revealed that women have been constantly dealing with tokenism and glass ceilings; and along with that, face the challenge of balancing work and life. They perform multiple roles in life and work towards attaining perfection in all the roles. Women sought to be super-moms and successful working personnel at the same time. Women across countries and professions face work-life challenges. This study aims to develop a multi-construct conceptual model that determines the work-life balance of Indian women, both in research and managerial careers. The developed conceptual model was validated through an empirical study. A questionnaire was developed for this purpose and 87 women researchers and managers were interviewed face to face. The analysis illustrates the importance of career drivers and barriers and the role of organisational work-life balance policies in mitigating work life conflict. Balance is seen as an important need by Indian career women, from both research and managerial fields. Findings from this research will thus help organisations to tune their WLB policies accordingly to cater to the needs of women researchers and managers. This study shows that in terms of theory building, women and gender issues cannot be treated as a composite variable. The study strongly advocates building sectoral occupational specific models rather than generic gender centric models.

Keywords: India, Work-Life Balance, Organisational Policies, Career Women, Women Researchers, Women Managers, Multi-construct Model

Introduction

Work-Life Balance is a global issue that concerns individuals, organisations and society at large. It is imperative for individuals to maintain their well-being and for organisations to ensure that their policies help employees attain this balance. While both genders face the task of balancing conflicts, arising from home and work, society tends to place a greater onus on women. There are various studies that have looked at how women deal with work-life issues, and the role of support and organisation in helping them overcome these work-life conflicts. Some studies specifically look at women and career progression, barriers and drivers, work flexibility, family balance, role of culture, working hours, and work family enrichment (Burke, 2001a; Blake-Beard, O'Neill, Ingols and Shapiro, 2010; Chow and Luk, 1996; D'Agostino and Levine, 2010; Desvaux, Devillard-Hoellinger, and Meaney, 2008; Ehrich, 2008; Emslie and Hunt, 2009; Ezzedeen and Ritchey, 2009; Gani and Ara, 2010; Ismail and Ibrahim, 2008; Jogulu and Wood, 2008; Sabil and Marican, 2011; Takeishi, 2007; Tlaiss and Kauser, 2010). There have also been multi-country studies that have looked at women, career and aspects of work life balance (Lirio et al., 2007; Punnett et al., 2007; Rajadhyaksha and Smita, 2004). There is an emerging global phenomenon where an increasing number of women are taking on responsibilities at a managerial level right up to corporate boardrooms. While there are a large number of women at the entry level in organisations, these numbers dwindle as women go up the ladder.

The 2005 Catalyst Census of Women Board Directors of the Fortune 500 showed that while 46.4% of the labour force comprised of women, 14.7% had board seats, and 1.6% were CEOs. Literature has shown the prevalence of token representation over the years, a term coined by Kanter (1977). It has been seen that levels of education, work experience, and job performance are not sufficient for women to reach senior levels of management. In areas of scientific research, the number of women scientists are more concentrated in the areas of medicine and bio-technology. In the Indian scientific scene, though there has been a steady increase in the representation of women from 2.98 % to 5.25% in the years 1995 to 2007 respectively, in the Indian National Science Academy's Fellowship, it is still a tiny percentage. Women scientists cite, as career barriers they faced, responsibilities at home and lack of support. (Sodei, Science Council of Asia, 2005). Women managers across organisations also face varied challenges of work and life. Studies have looked at the aspect of glass-ceilings, the culture of the organisation, family support, and other factors that impact how women managers deal with work-life issues (Altintas and Altintas, 2008; Burke, 2001a; Barrett, 2004; Desvaux, Devillard-Hoellinger and Meaney, 2008; Ehrich, 2008; La¨msa and Hiillos, 2008; Loderstedt, 2005; Linehan, 2001; Nath, 2000; Simpson and Altman, 2007; Stassen and Cameron, 2005). A study by Accenture examined the future, the challenges and opportunities for working women around the globe. The Report, "One Step Ahead of 2011 – A New Horizon for Working Women," is based on a survey of more than 4,000 male and female business professionals in 17 countries across Europe, Asia, North America, and South America,

2008. The results showed that just 43% of women professionals surveyed currently feel well-equipped to compete in the global business economy of the future. Women in several key emerging markets – particularly India, China, and Brazil – appear to be better equipped than their female counterparts in many developed markets. In India, the family structure may be a support factor but at organisational level, there is much to be desired. Women cited gender (23%), the need to devote energy to children/family (22%), and an unwillingness to relocate (18%) as the factors that most limited their careers. 83% of women said they were willing to learn and use new technologies, such as blogs or social networks, as a means of achieving future success. It is in this perspective that work-life balance needs to be studied in India.

The culture of a country is an important determinant of how work-life balance issues prevail and permeate. Women in the US and the European countries may find various policies and laws coming to their rescue. By contrast, the situation in Asian countries is far from satisfactory due to a lack of awareness and the mechanism to deal with work life conflict. In Asian countries, work-life balance is a major concern with women receiving very little support from organisations to meet their requirements (Nishikubo, 2010). Also, there has been little change in family roles, and family responsibilities in marriage are primarily a woman's domain. Along with this, the tasks of child and home care fall predominantly on the women (Lo, 2003). Studies have shown that role sharing is the self-devised strategy that women entrepreneurs in Vietnam use to deal with work-life issues; despite the fact that 27% of three million household businesses in Vietnam are owned by women (Thi Huong Lan, 2009). The situation is similar in Hong Kong with work-life balance being mitigated with more companies now introducing flexible working policies (Welford, 2008).

Various studies have considered samples from India or have been conducted in India that have looked at the issue of work-life balance and how individuals deal with it. Studies have looked at career issues, glass ceiling aspects, job satisfaction experienced by women employees; support factors at family and organisational level; various organisations and compared work-life policies that help mitigate balance issues; the role of human resource policies across organisations, and impact of policies on quality of life (Aycan et al., 2000; Baral and Bhargava, 2011; Chatterjee and Pearson, 2000; Gani and Ara, 2010; Hay, 1996; Kasper, Meyer and Schmidt, 2005; Mathew, 2007; Nath, 2000; Rajadhyaksha and Smita, 2004; Shankar and Bhatnagar, 2010; Spector et al., 2002; Varatharaj and Vasantha, 2012). Indian organisations have also over the years worked towards providing work-life policies that would play a supportive role for women employees (Baral and Bhargava, 2011; Varatharaj and Vasantha, 2012). It is important to understand that with regard to India, most studies focus on the urban population as work-life issue is a greater concern in cities with a 24/7 work environment and also the distance people travel to work.

Progressive organisations strive towards promoting a work-family culture wherein organisations encompass beliefs and values that support the integration of work and life of employees (D'Agostino and Levine, 2010; Gani and Ara, 2010;

Tlaiss and Kauser, 2010). Research has shown that companies with women members on corporate boards perform better and are financially more successful (Tremblay, 2002; Desvaux, Devillard-Hoellinger, and Meaney, 2008). The London School of Economics' Centre for Economic Performance recently found that 97% of designated "family friendly" workplaces enjoy above average financial performance. Thus, it is imperative that employers have a major role to play in promoting family life (Devasahayam and Leong, 2010), as it has positive impacts on both employees and organisations.

Literature Review

Work-Life Balance

A "good" work-life balance is defined as a situation in which workers feel that they are capable of balancing their work and non-work commitments, and, for the most part, do so (Moore, 2007). For this, it is essential that organisations look at integrating themselves with the community, make applicable policies that are more holistic in nature, address the competing demands that individuals face, and increase a sense of respect for employees (Bergman and Gardiner, 2007).

Work-life balance studies have been conducted around the world, and across industries and service sectors (Atsumi, 2007; Burgess, Henderson, and Strachan, 2007; Doherty and Manfredi, 2006a, 2006b; Gani and Ara, 2010; Hyman and Summers, 2004; Jogulu and Wood, 2008; Ismail, Rasdi, and Wahat, 2005; Kodama, 2007; Lirio et al., 2007).

Predictors of Work-Life Balance

There are various aspects that have been studied as predictors of work-life balance. There are studies that have focused on the necessity for work-life balance policies. The majority of work-life balance issues revolve around domestic responsibilities and motherhood (Ezzedeen and Ritchey, 2009; Ismail and Ibrahim, 2008; Kumar, 2006; Linehan, 2001). Achieving this balance depends on the stage of the working life, caring responsibilities, and job roles (Doherty and Manfredi, 2006a; Krishnakumar and Jessica, 2006; Punnett et al., 2007). Organisations express their support towards work-life balance through their policies, benefits, culture, and career paths (Desvaux, Devillard-Hoellinger, and Meaney, 2008; Ezzedeen and Ritchey, 2009; Gani and Ara, 2010; Gordon and Whelan-Berry, 2004; Marcinkus, Whelan-Berry, and Gordon, 2007; Tlaiss and Kauser, 2010). Legislations further strengthen the practices, beyond just giving a token lip service (D'Agostino and Levine, 2010; Cortis and Cassar, 2005). Policies on work-life balance have been linked to predictor variables such as education, age, marital status, family, children, care-taking responsibility, career, leadership, motivation of individuals, and career penalties perceived by them (Altintas and Altintas, 2008; Atsumi, 2007; Drew and Murtagh, 2005; Emslie and

Hunt, 2009; Gallup, 2006; Gani and Ara, 2010; Ismail and Ibrahim, 2008; Jogulu and Wood, 2008; Kumar, 2006; Sabil and Marican, 2011; Sakai, 2007; Wakisaka, 2007).

The following Table 1 enumerates the various work-life balance policies adopted by organisations.

Table 1: Work-Life Balance Practices across Organisations

Flexible Work Options	Temporal flexibility - part-time work, variations in starting and finishing times, home/tele-working, compressed hours, reduced working week, midday shifts (to accommodate school hours) Task Flexibility - job rotation, multi skilling, job sharing Numerical flexibility - size/structure of workforce changed Wage flexibility - individualised pay strategies
Specialised Leave Policies	Paid sabbaticals/study leave, Unlimited sick leave, Paid family leave, Paid adoption leave, Compassionate leave, Parental leave, Career break schemes
Dependent Care Benefits	Job protected maternity and paternity leave arrangements above the statutory minimum, Extra pay for maternity and paternity leave arrangements in addition to the statutory minimum, Access to short periods of leave at short notice to deal with a sick child or family emergency, Child care provisions, Crèche facilities, Elder care provisions

(Source: Created by Author for this study)

The most common work-life balance policy utilised was temporal flexibility-part time work, flexible hours and compressed work weeks (D'Agostino and Levine, 2010; Burke, 2001a, 2001b; Burgess, Henderson, and Strachan, 2007; Doherty, 2004; Drew and Murtagh, 2005; Hyman, and Summers, 2007). The Indian government and Indian organisations have over the years worked to provide work-life policy benefits for the women employees. They include maternity leave, crèche facilities, child care leave, flexitime, and work from home options.

From an individual's perspective, social support has positive consequences for improving health, reducing stress, and mitigating work-family conflict. It comes from both the workplace and from outside it. The career drivers and barriers faced by women have to be understood in the context of the organisation (policies, culture, and environment); the society (sex role socialisation, expectations of women, economic conditions), and relations (personal and professional) (Boyar et al., 2008; Forret and De Janasz, 2005; Kumar, 2006; Marcinkus, Wheelan-Berry and Gordon, 2007; O'Neil and Bilimoria, 2005). Literature has shown that the difficulty of having both a career and a family life may constrain the female managers, and they may choose to remain single and childless. By doing so, they limit the number of social roles and the degrees of role conflict, and in turn the work-life pressures they face (Cortis and Cassar, 2005; Elloy and Smith, 2003 and White, 1995). It was also seen that satisfaction for women

increases with age and married women were more satisfied than single women. This is despite the fact that the WLB conflicts that they had to contend with are greater (Krishnakumar and Jessica, 2006; O'Neil and Bilimoria, 2005; Weyer, 2007; White, Cox, and Cooper, 1997). Interestingly, at the same time, we have also reviewed studies which show that multiple role commitment is positively related to life satisfaction, self-esteem, and self-acceptance; interpersonal and task-related managerial skills. It is also seen that work overload, role conflict and role ambiguity is a common source of stress which in turn causes work-family conflict (Burke, 2001a; Elloy and Smith, 2003; Boyar et al., 2008; Posig and Kickul, 2004; Sabil and Marican, 2011).

In terms of leadership, women have a preference for more equal transformational leadership style - supporting and nurturing others, sharing information, and leading from within. For women, intrinsic values like a challenging job, development opportunities, quality of feedback, and autonomy motivate them to work better (Altintas and Altintas, 2008; Ehrich, 2008; Jogulu and Wood, 2008).

The Consequences of the Work-Life Balance

Work-life balance when achieved by the employees in the organisation, is exhibited in their behaviour. Organisational citizenship behaviour is an attitude exhibited by employees. It is reflected in their loyalty, commitment, pro-activeness, corporate social responsibility, and altruistic behaviour. Studies illustrate that organisational citizenship behaviour can be viewed as a reciprocal behaviour; it perpetuates a feeling of well-being (Atsumi, 2007; Krishnakumar and Jessica, 2006; Kodama, 2007; Lirio et al., 2007; Punnett et al., 2007; Rajadhyaksha and Smita, 2004; Young and Hurlic, 2007).

Quality of working life is determined by how an individual balances the work life issue. Work-life boundary variables like fairness, supervisor support, organisational rewards, and job conditions affect the trust of the employee, and consequently the job satisfaction and organisational commitment (Burke, 2001b; Kodama, 2007; Scholarios and Marks, 2004). While women find their careers challenging, they feel that the support from their spouse and the organisation would make things easier (Burke, Burgess, and Fallon, 2006; Ezzedeen and Ritchey, 2009; Gani and Ara, 2010; Krishnakumar and Jessica, 2006; Straub, 2007). Women indicating organisational values more supportive of balance also reported greater joy in work, less job stress, greater satisfaction with their jobs, careers and family, less intent to quit, fewer psychosomatic symptoms and higher levels of emotional well-being (O'Neil and Bilimoria, 2005). In the cases of little or no support, the problems that arise include absenteeism, lack of morale, lower job satisfaction, and lower overall productivity (Elloy and Smith, 2003; Gallup, 2006; Kirrane and Buckley, 2004; Lewis, 2001; Marcinkus, Whelan-Berry, and Gordon, 2007; Moore, 2007; Posig and Kickul, 2004; Prottas, et al., 2007; Rayman et al., 1999; Burke, 2002; Hacker and Doolen, 2003; Hughes and Bozionelos, 2007; McDonald, Brown, and Bradley, 2005).

In terms of organisational success factors, the business gains organisations receive from implementing family-friendly policies and flexibility are employee retention and recruitment, low absenteeism, greater employee satisfaction, low labour turnover, increased productivity, improved employee commitment and morale. Work-life balance programmes encourage employees to show more initiative, encourage teamwork, and also enhance working relationships between colleagues (Atsumi, 2007; Boyar et al., 2008; Burke, 2001a, 2001b; Ehrich, 2008; Elloy and Smith, 2003; Forret and De Janasz, 2005; Hacker and Doolen, 2003; Hughes and Bozionelos, 2007; Hyman and Summers, 2004; Kodama, 2007; Lewis, 2001; Marcinkus, Whelan-Berry, and Gordon, 2007; Moore, 2007; Posig and Kickul, 2004; Rayman et al., 1999; Schwartz, 1996; Takeishi, 2007; Tlaiss and Kauser, 2010; Wakisaka, 2007; Wise and Bond, 2003). Research also shows that some family-friendly policies like allowances for childcare and granting women permission to take nursing time out of their daily schedules are correlated with higher revenues per employee (Korea Labour Institute, 2007).

Research Problem Definition

Research Gaps

The literature review highlights gaps in current research studies. It also highlights the need for a multi-construct WLB model for Indian women and the need to study how women researchers and women managers react to work-life conflicts, and how they fare on a comparative scale.

The objectives of the study are:

1. To develop and validate a multi-construct WLB model for Indian women.
2. To determine the aspects in which women managers and women researchers differ, pertaining to work-life balance.

The Conceptual Model
Based on literature and the identified variables, we developed the conceptual model.

Figure 1: Work-Life Balance Multi-Construct Conceptual Model
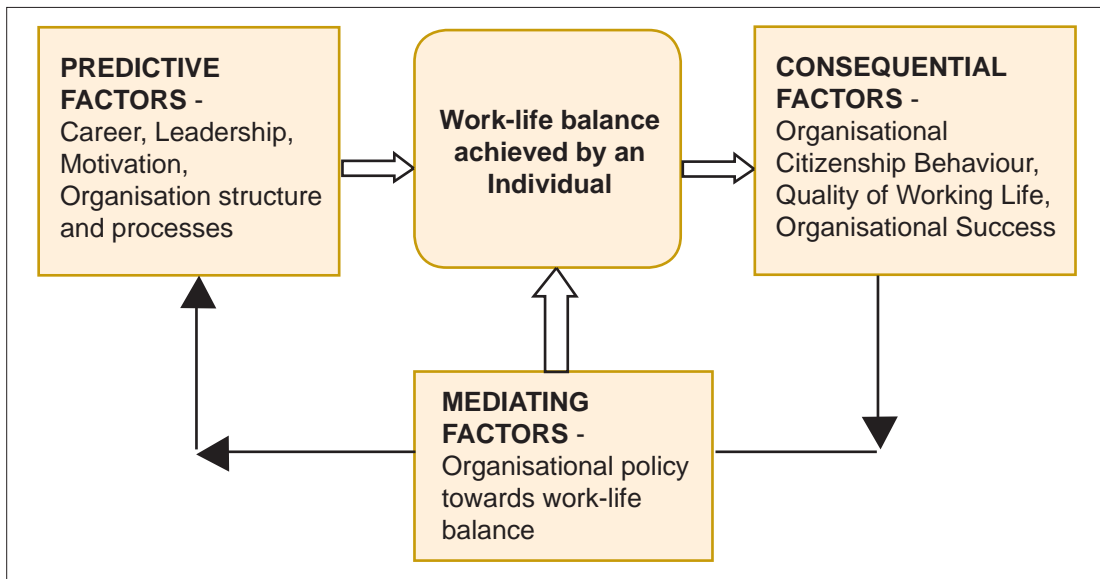
<div align="right">(Source: Created by Author for this study)</div>

As seen from the above Figure 1, the multi-construct model of work-life balance of career women is a form of an input-output model. It considers three kinds of variables - the predictive, mediating and consequential, to assess work-life balance.

The predictive variables in the study are:
1. Career - the nature and role, drivers and barriers, gender aspects;
2. Leadership - support and control aspects,
3. Motivation - intrinsic and extrinsic in nature; and
4. Organisation structure and process - decision-making and supervision aspects, type, and ownership.

These are analogous to the inputs for work-life balance of individuals. The work-life balance of individuals in organisations is manifested in the form of :
1. organisational citizenship behaviour - the proactive and altruistic behaviour, loyalty and commitment and Corporate Social Responsibility;
2. quality of working life-satisfaction, well-being, stress, work home aspects, and organisation success factors, comprising of attrition and absenteeism rates; and
3. retention, performance, and recruitment.

These are the consequential variables of work-life balance and are analogous to the outputs of work-life balance of individuals.

The organisational policy towards work-life balance - existence and awareness, implementation and benefit aspects - acts as a control and feedback mechanism, mediating the relationship between the predictive and the consequential aspects and thus is the mediating variable.

The model also considers the possibility that when women achieve work life balance and exhibit behaviors of citizenship and well-being, the organisation will enjoy positive impacts. This will, in turn, lead to changes in the policy in the organisation. The changes in policy will then impact the predictive aspects of work-life balance. This is a cyclical process in motion, involving individuals, organisation, and society.

The Study Method

An empirical study was conducted to verify and validate the conceptual model. For this purpose, a questionnaire was developed and the survey technique was adopted to administer the questionnaire. The random sampling technique was adopted in both the IT services organisation and the research institution. The questionnaire was administered to the respondents through face to face interviews. The respondents were also asked some open-ended questions to understand their career goals and the main aspects that supported their career at home and at work. The career obstacles they faced at their home and workplace were also noted. The respondents were asked to state the corporate social responsibility activities that they were a part of in their organisations. To understand their satisfaction level with their career and life, they were also asked what they would like to change about their career or life.

Questionnaire Development

The questionnaire was developed based on the study variables and administered to women researchers and women managers.

Respondents
Group 1: Women pursuing research at a premier institute in the country
Group 2: Women managers in an IT services organisation

Sample
A random sampling technique was used to identify respondents and administer the questionnaires. The sample consisted of 87 respondents. 3 questionnaires were rejected due to incomplete answers. In all, 84 questionnaire responses were analysed for validating the questionnaire. The break up of the sample for analysis:
> • Women researchers - 32
> • Women managers - 52

The questionnaire was administered and interviews were carried out during the period November 2008 - March 2009.

The Analysis and Results

A Factor Analysis was conducted to understand the component matrix for the Predictive, Mediating, and the Consequential Variables. This helped to validate the conceptual model that was developed. The Cronbach's Alpha was calculated to check the reliability of the items.

**Table 2: Work-Life Balance Multi-Construct Model
that Emerged for Career Women in India**

	Factors	Cronbach's Alpha	Significance
Predictive Factors	Women - focused organisation Leadership	0.748	Significant
	Gender Difference and Motivation	0.476	Satisfactory
	Career Support and Obstacles	0.702	Significant
	Organisation Factors	0.628	Significant
Mediating Factors	Awareness and Usage of work life balance Policies	0.832	Significant
	Impact of work-life balance Policies	0.817	Significant
Consequential Factors	Satisfaction, Work-Home Interphase and Working condition	0.811	Significant
	Organisation Success and Work Ethics	0.714	Significant
	Life satisfaction and CSR	0.219	Low
	Attrition and Absenteeism	0.559	Satisfactory

(Source: Created by Author)

The above Table 2 shows the results of the factor analysis. The exploratory factor analysis yielded a modified conceptual model with the predictive factors grouping into four factors, the mediating factor grouping into two factors and the consequential factors grouping into four factors.

Predictive Variables

After factor analysis, four factors emerged. The factor analysis table for the predictive variables shows that 12 items have loaded in Factor 1. The items are Gender difference with attitude towards women's careers, Keep staff under control, Criticise in case of mistakes, Praise promptly for good work, Meet deadlines, Structure of work, Customer right to quality, Customer opinion, Customer satisfaction awards, Reward and punishment, and Organisation structure, and Meeting daily deadlines. This factor has been named as Women-focused Organisation Leadership and captures the attitude towards a woman's capabilities; her leadership in the organisation in terms of control, and focus on organisation and customer. It also gives some insight into the organisation structure and the importance of deadlines. Factor 1 shows a Cronbach's Alpha value of 0.748 which is considered as high and significant.

In Factor 2, 6 items loaded. The items are Gender difference in Promotion, Gender difference in Salary, Support to staff emotionally, Trust, Daily performance, and Praise importance. These capture the gender differences in promotion and salary between men and women, and the motivation for work, as well as how support to staff plays a role in the organisation. This factor has been named as Gender Difference and Motivation, and has a Cronbach's Alpha value of 0.476 which is satisfactory and exhibits reliability of the items.

Factor 3 has 9 items loading on it. The items are Career support at home, Career support at work, Career support from significant others, Career obstacles at home, Career obstacles at work, Career obstacles from significant others, Personal growth and organisation success, Personal satisfaction, and Personal benchmarks. It has been named as Career Support and Obstacles, and captures the support that women receive at home, work, and from significant others, and the barriers in career they face from these fronts again; importance of personal benchmarks, and satisfaction and role of organisational goal. The Cronbach's Alpha is 0.702 which is again significant, showing that these items reliably contribute to understanding the variable.

Factor 4 has the following 4 items loading - New Ideas, Organisation Processes, Organisation Decision Making, and Organisation Supervision. This factor has been named as Organisation factors and it captures the various organisation factors of processes, decision-making modality, and the nature of supervision and individual contribution of new ideas. While the earlier three items look at the organisation, the fourth item is more individual specific. The Cronbach's Alpha is 0.628 which can be considered as being significant and showing the items to be reliable.

Mediating Variables

After factor analysis of the mediating variables, two factors emerged.

Factor 1 has 10 items loading on it. The items are WLB also faced by men, Organisation has WLB policies, Managers are aware, Staff are aware, Maternity leave benefit, Paternity leave benefit, Flexitime benefit, Job sharing benefit, Child care benefit, and Crèche benefit. Based on these items, the factor has been named as Awareness and Usage of WLB Policies and captures the awareness and usage level of the policies in an organisation and the role of gender. The Cronbach's Alpha calculated as per the formula given, and is 0.832 which is highly significant. This shows that the items in Factor 1 reliably captures the variables.

The remaining 8 items of the mediating variable are loaded on Factor 2. The items are WLB was a tough job, WLB affects personal level, WLB affects performance, WLB affected career, Employee benefits adversely affects, Employee benefits affects promotion, Staff perception of usage, and Organisation perception of usage. This factor has thus been named as Impact of WLB Policies as the items explicitly captures the impact that the WLB/Employee benefit policies have in the organisations. The Cronbach's Alpha calculated is 0.817 which is highly significant. Both factors emerge

with high reliability showing the importance of organisational policies in augmenting the roles played by women in organisations.

Consequential Variables

After factor analysis of the consequential variables, four factors emerge.

Factor 1 has 12 items loading on it, which are Take more tasks, Work satisfaction, Career satisfaction, Handle job demands, Express opinion freely at work, Involve in decisions, Organisation policies family-friendly, Employee policies affect family life, More family time, Work conditions affect performance, Physical resources, and Attend office regularly. This factor has been named as Satisfaction, Work Home Interphase, and Working condition. The factor captures job and career satisfaction, impact of policy usage on work home well-being, and how working conditions influence performance. The Cronbach's Alpha, calculated according to the formula is 0.811 which is highly significant, thus showing that the following items reliably capture the variable.

Factor 2 has 8 items loading on it, and they are Take others tasks, Work ethics, Success depends upon organisation loyalty, Organisation goals and boss, Organisation goals and personal, Organisation success and personal, Priority to helping others, and Decisions on I am doing good to others. Based on these items, the factor has been named as Organisation Success and Work Ethics, and looks at the importance of work ethics and success of an organisation. The Cronbach's Alpha is 0.714 which is significant, and reliably helps to capture the impact and understanding of the variables.

Factor 3 has only 3 items loading on it. They are CSR (Corporate Social Responsibility) adds value to organisation, Availability to people in time of help, and Life satisfaction. The Factor has thus been named as Life Satisfaction and CSR. This has a low Cronbach's Alpha of 0.219, and thus may not be reliable in capturing the variables. A revalidation of these items can be carried out in the future to determine if they need to be retained.

Factor 4 has the 2 items of organisation loyalty, Absenteeism among married women, and attrition among married women loaded on it. The factor has been named as Attrition and Absenteeism, and captures how the organisation is affected by attrition and absenteeism with respect to married women in their workforce and also how loyalty plays a role. This factor has a Cronbach's Alpha of 0.559 which is significant as according to earlier research, an alpha value of above 0.5 can be considered to show some reliability with regards to the items.

It is essential for us to understand that changes in the economy will impact how individuals are affected in terms of changes to their work roles, along with the increased demand of their time, how organisations frame policies for the mitigation of work-life issues, and how much time and resources they can invest in looking at work-life balance as a goal for an organisation. The US financial downturn and the Euro Zone crisis have an immense impact on the Indian economy. Organisations will cut manpower and in a scenario as such, women face pressure. Work hours may become longer with work spilling over into the weekly holidays. For women with

huge responsibilities at home, this can be another barrier to stay on at work. Thus, businesses face complexity and uncertainty, and this affects individual's personal lives and work roles. Due to this practical constraint, with most organisations wary of revealing data on attrition and performance, this study has not particularly focused on economic downturns and changes impacting organisational policies and general work-life.

We thus see that the developed questionnaire meets the requirements of validity and reliability.

Comparison of the Means of the Two Groups - Academics and Industry

Tables 3, 4 and 5 show a comparison of items between the two groups of women researchers and managers for the factors that have emerged. The means are stated for each group with the standard deviation in the brackets. The T values are stated with the significance level marked.

** Significant at 0.01 level   * Significant at 0.05 level

Predictive Variables

Table 3: Comparison of the Means of the Two Groups - Women Researchers and Women Managers - Predictive Variables

Factor 1 – Women-focused Organisation Leadership			
No significant difference on any item			
Factor 2 – Gender Difference and Motivation			
Item	Researcher N=32	Manager N=52	t Value
Daily performance	3.91 (0.69)	4.33 (0.69)	2.68**
Factor 3 – Career Support and Obstacles			
Item	Researcher N=32	Manager N=52	t Value
Career support from significant others	3.68 (0.95)	3.14 (1.03)	2.35*
Career obstacles at home	4.44 (0.76)	3.58 (1.05)	4.33**
Career obstacles at work	3.94 (0.99)	3.44 (0.96)	2.24*
Personal satisfaction	4.75 (0.44)	4.46 (0.50)	2.78**
Factor 4 – Organisation Factors			
Item	Researcher N=32	Manager N=52	t Value
Organisation Supervision	3.42 (0.99)	2.92 (0.83)	2.21*

Factor 1 – Women-focused organisation Leadership: There is no significant difference between the two groups in the understanding of attitude towards a woman's capabilities; her leadership in the organisation in terms of control, focus on organisation and customer; the organisation structure and the importance of deadlines.

Factor 2 – Gender Difference and Motivation: With regard to daily performance, the two groups of women researchers and managers differ significantly, with academics exhibiting greater intrinsic motivation.

Factor 3 – Career Support and Obstacles: These two groups differ with career support they receive from significant others and the career obstacles at work that they face. It is interestingly seen that women researchers receive greater career support from their mentor, face greater career obstacles at home and work when compared to the managerial women, and also report greater personal satisfaction with their work. This could reflect the difference in work environment at an industry and an academic institution.

Factor 4 – Organisation Factors: The two groups differ showing a more closed supervision for the research group compared to the managerial group.

Mediating Variables

Table 4: Comparison of the Means of the Two Groups - Women Researchers and Women Managers - Mediating Variables

Factor 1 – Awareness and Usage of WLB Policies
No significant difference on any item
Factor 2 – Impact of WLB Policies
No significant difference on any item

Factor 1 – Awareness and Usage of WLB Policies: There is no significant difference between the two groups in terms of the awareness and usage level of the policies in an organisation, and the role of gender.

Factor 2 – Impact of WLB Policies: there is no significant difference between the two groups in terms of the impact that the WLB/Employee benefit policies have in the organisations.

Consequential Variables

**Table 5: Comparison of the Means of the Two Groups - Women Researchers
and Women Managers - Consequential Variables**

Factor 1 – Satisfaction, Work-Home Inter-phase and Working condition			
Item	**Researcher N=32**	**Manager N=52**	**t Value**
Take more tasks	3.41 (0.83)	3.94 (0.61)	3.01**
Career satisfaction	4.19 (0.69)	3.58 (0.87)	3.54**
Involved in decisions	2.8 (0.93)	3.48 (0.83)	3.33**
Attend office regularly	4.03 (0.73)	4.35 (0.52)	2.08*
Factor 2 – Organisation Success and Work Ethics			
Item	**Researcher N= 32**	**Manager N=52**	**t Value**
Take others tasks	2.9 (0.9)	3.64 (0.78)	3.70**
Work ethics	3.59 (0.91)	4.02 (0.84)	2.09*
Factor 3 – Life satisfaction and CSR			
No significant difference on any item			
Factor 4 – Attrition and Absenteeism			
No significant difference on any item			

Factor 1 – Satisfaction, Work-Home Inter-phase and Working condition: While women in managerial roles take on more tasks and are involved in the decision making processes in their organisation more, the women researchers experience greater career satisfaction. However, interestingly, there is greater attendance regularity among the industry women.

Factor 2 – Organisation Success and Work Ethics: Women managers exhibit greater altruistic behaviour and take on others' tasks. This could also reflect the work pressure that women in academics face in the sense that they are reluctant to take on others tasks, having high personal workloads themselves. Also, it is seen that the managerial role gives more importance to work ethics.

Factor 3 – Life satisfaction and CSR: There is no significant difference between the two groups in terms of their attitude towards CSR policies, being available to people exhibiting altruistic behaviour and Life satisfaction.

Factor 4 – Attrition and Absenteeism: There is no significant difference between the two groups in terms of their organisational loyalty and the absenteeism and attrition among married women. This means that the absenteeism and attrition rate of married women in both academics and industry is similar. This indicates the role of other factors affecting them apart from just their work and organisation.

Conclusion

This study on work-life balance among two groups of Indian women professionals led to the following conclusions.

1. The work-life balance multi-construct conceptual model provides a holistic approach to considering work-life balance of women in India. The final model that emerged after the analysis shows the importance of career support and career obstacles in the determination of the work-life balance. It highlights the importance of organisational policies in mitigating work-life balance issues.

2. The input-output framework of the model enables individuals and organisations to take a proactive stance in dealing with work-life balance issues. The model demonstrated that organisational structure and processes is a significant predictive factor in determining work-life balance. The consequential factors provide the organisation a feedback on the attitude and behaviour exhibited by employees as a result of its various policies.

3. The open-ended questions show:

    a) The most important career goal for them was the current role completion.

    b) The greatest support at home was from husband and parents and the greatest support at work was from manager and colleagues.

    c) The greatest barriers at home were the responsibilities, time constraints for personal work and children's education, and at work it was the lack of support or guidance, favouritism, and work pressure.

    d) Women considered their bosses, mentors, and friends providing equal support as significant others, and the uncooperativeness of the boss, unrealistic expectations, and lack of time were the greatest barriers from the significant others.

This model thus has implications for business and organisations, and will help them understand the work-life needs of their women employees, and tune their work-life balance policies accordingly.

This study looked at the input-output framework and considered variables on a Likert scale. There is a need to extend this study to include other variables, such as age, caretaking responsibilities, and so on for a better understanding of how this multi-construct factor model of work-life balance will help to diagnose issues of work-life conflict. Work-life conflict which manifests itself as perceived and experienced stress requires a scalable measure of work-life balance which is applicable across Indian organisations.

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"All things are created twice; first mentally, then physically. The key to creativity is to begin with the end in mind, with a vision and a blue print of the desired result."

- Dr. Stephen R. Covey

Establishing a Valid Rationale for a Holistic Approach to Business Project Management

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Abstract

Business project management, as the management of non-standard, cross-functional in-house initiatives, seeks to effect internal changes in business organisations. Despite the efforts to improve the effectiveness of the project management profession and the abundance of project management related researches, the failure rate of business projects remains high. This article examines the current state of knowledge and concludes that (1) the organisational factors exert a much greater influence on business projects than traditional engineering and construction projects; (2) the direct impact of organisational factors at the project level has not been extensively investigated. Further analysis revealed that current business project management practices are built upon adoption of concepts developed for traditional projects and thus, are inappropriate for business project management as a subject matter in its own right. The need is for a more holistic approach to business project management research done from an organisational perspective. This approach will allow the business project to be studied in terms of its interaction with its parent organisation beyond a study from the project's point of view. This paper proposes the application of systems theory as the theoretical foundation and the use of an open system model to develop the conceptual framework for subsequent empirical research.

Keywords: Business Projects, Project Management, Holistic Approach, Open Systems Model, Systems Theory

Introduction

A project is a temporary endeavour undertaken to create a unique product, service, or result (PMI, 2008). Initiated as a means to deliver unique products and/or services to external clients by project-based industries such as engineering and construction, it has since evolved into a mechanism deployed by business enterprises to effect organisational changes. These "business projects" which refer to non-standard, cross-functional in-house initiatives are designed at effecting internal changes which lead directly or indirectly to improvements in either one or more of the four quadrants in the balanced scorecard (Kaplan and Norton, 1992) namely, financials, customer, business process, learning, and growth. Two examples of such projects would be (1) organisation-wide transformation endeavours to improve profitability, reduce cost, uplift quality of customer service, upgrade organisation learning capability, improve work processes in order to increase work productivity and operational efficiency; and (2) an Information Technology (IT) initiative to integrate business data and processes across the organisation for better visibility of overall business performance which in turn, enables timely decision making.

It has also been acknowledged that project management requires distinct technical skills and more companies are stating their preference for certified project managers (Levinson, 2010). Certification can be obtained through project management professional bodies which include international establishments, such as International Project Management Association (IPMA) and Project Management Institute (PMI); and country specific associations such as Australia Institute of Project Management (AIPM) and Project Management Association of Japan (PMAJ). In addition to the provision of training and certification, selected associations also publish journals to promote further development in the field, and host conferences to facilitate the exchange of ideas. These developments lead to the upgrading of project management standards, guidelines and/or manuals. Backed by the increasingly strong industry demand for certified project managers, these project management standards have been one of the most effective means for the latest research findings to reach the industry.

But despite the availability of comprehensive standards and the continued efforts in developing the field, business project success rate remains low as highlighted by both past and recent research. The survey conducted by PIPC (a global project management specialist firm) for example, concluded that one in three projects fails to meet deadlines or budgets, and 60% fails to deliver the benefits as set out in the business case (PIPC, 2004). Standish Group's 3rd Quarter 2004 Research on the IT industry indicated that 18% of all surveyed projects have failed, that is, cancelled prior to completion or delivered and never used, while 53% are challenged, that is, late over budget and/or with less than the required features and functions (Dinsmore, 2006). Recently, Gartner Research (2012) reported that 66% of large programme initiatives fail to achieve their stated business objectives, or are delivered late, or are substantially over budget.

Evidently the current emphasis on qualifications and the competency dimension of the project managers alone is insufficient. It is noted that while most of the standards acknowledge that project management effectiveness can be affected by elements and conditions in the operating environment, not much research or study have been carried out on analysing their impact, and incorporating context-specific requirements into the standard project management practices and processes. This calls for further investigation into why projects fail by looking beyond the project boundary for answers.

Literature Review

Earlier project management researches were mostly devoted to engineering and construction projects with a focus on optimising the techniques of planning, scheduling, and control (Betts and Lansley, 1995; Kloppenborg and Opfer, 2002; Turner, 2010). This was followed by efforts to incorporate management concepts, such as organisation learning (Kotnour, 2000) and total quality management (Bryde, 2003b) into the project management process, and linking project management with business strategy (Morris and Jamieson, 2005; Milosevic and Srivannaboon, 2006; Srivannaboon, 2006). A recent review of more than 500 journal articles from 18 top management and business journal publications further reveals that there has been strong interest in project management research in eight allied management disciplines since the 1980s, and the trend is likely to continue in the future (Kwak and Anbari, 2009). Project management today is thus not merely a practice of planning, scheduling, and executing projects effectively, but a multifaceted inter-disciplinary academic field supported by both practical and empirical research. To maintain focus, the literature review will be limited to two most relevant areas, that is, previous research effort of defining project success, and identifying critical success factors.

a) Project Success Criteria and Critical Success Factors

Traditionally, project success is defined in terms of satisfying the "triple constraints" or "iron triangle". Thus, a project is only considered successful if it is delivered on time, within budget, and its output meeting specifications (White and Fortune, 2002). The last criterion of meeting specification is often associated with meeting quality expectations. Other criteria have been proposed to supplement the iron triangle from various angles. Shenhar and Levy (1997) for example, proposes a multidimensional universal framework to assess project success from multiple perspectives namely, project efficiency, impact on the customer, direct business success, and future potential. Atkinson (1999) on the other hand, states that the iron triangle criteria as measures of success for the project management process should be supplemented by other criteria used to measure the success of the project post implementation. Similarly, Lim and Mohamed (1999) see the three criteria as a micro view of project success and suggested that the macro view of whether the original

project concept has been achieved should also be addressed. The more recent efforts in this category include assessment from the benefits perspective (Nogeste and Walker, 2008), and the application of balanced scorecard concepts (Niebecker, Eager, and Kubitza, 2008). In other words, it is generally accepted that project success is a multidimensional concept (Shenhar and Wideman, 2000; Turner and Müller, 2006). But in the context of the traditional view that it is impossible to objectively measure the success of a project (De Wit, 1988), this multidimensional view of project success has not advanced much in terms of fundamental thoughts. What is worth noting, however is the inclusion of the iron triangle in the multidimensional concept. Thus, the iron triangle remains as the most objective and universally accepted criteria to determine project success. The more challenging aspect is how to consolidate the other criteria into a single fourth criterion if this is at all possible. The multidimensional view of project success is attributed to the fact that every business project has a unique set of stakeholders, each with different expectations as well as differing roles and interests on the projects. In addition, there is a time dependent factor where the project may be considered successful one day and a failure on the next, subject to the point of view at that point in time. Instead of attempting to address the potentially endless types of expectations, focus can be placed at its origin, that is, the stakeholders. By defining the stakeholders and their expectations at the start of the project, the fourth criterion capable of representing the multidimensional aspect would be "meeting stakeholders' expectations".

The other area of direct interest to the research is the study of project outcome through the investigation of the Critical Success Factors (CSFs) as predictors of performance. This topic has been researched extensively in the 1980s and one of the most important findings is the distinction between project management performance and project performance, and the theoretical justifications of positive relationship between them (Bryde, 2003a). This has clearly led to the current industry's focus on the project management effectiveness and competency dimensions of the practitioners. Based on this same principle, Cooke-Davies (2002) identifies a list of 12 factors relating to what contribute to successful project management, successful projects, and consistently successful projects. The other identified success factors include project managers' leadership competencies (Geoghegan and Dulewicz, 2008), top management support (Zwikael, 2008), project politics (Faisal, 2006), effective development and communication of project vision (Christenson and Walker, 2008) etc. The list goes on depending on the angle from which the matter is approached.

On the other side of the scale is the contingency school of thought which proclaims that there are no fixed sets of critical success factors and different situations call for different success factors. The determining variables include stages of the project life cycle (Pinto and Slevin, 1987), project types (Shenhar et al., 2002), project manager's leadership style (Turner and Müller, 2005), and project manager's personality fit (Dvir et al., 2006) just to name a few. The more extreme thought in this category is Sauser et al. (2009) who suggests that the root cause of project failure

is the application of inappropriate approaches for the specific project. Their proposal is to develop a contingency framework to determine a suitable management style for each project, and a new field of "project management design" should be established.

Despite the seemingly exhaustive list of critical success factors, there are few studies exploring the significance of organisational factors in the attainment of project success. Attempts generally stop at creating awareness that the dynamics in the project's operating environment must be observed (Cicmil, 1997), as such project managers must be politically savvy (Peled, 2000), and learn to cautiously leverage the organizational power grids (Bourne and Walker, 2004). This observation is affirmed by a recent study, reviewing 1681 project management related researches published over the last 21 years. It was found that project related research has been based on a more silo "product creation" view, whilst considerations from the organisational perspective has been taken up by programme-related research (Artto et al., 2009).

There is still no standard definition for programme today, beyond the common emphases on its composition as a group of projects, its strategic importance, and its objective of meeting longer term benefits. Due to this lack of clarity, a programme may take a variety of forms depending on the objectives it sets to serve. It is common practice that the terms "project" and "programme" are still used interchangeably in some organisations.

A new perspective on projects and programmes as value creation processes has been proposed in recent years which has provided the much needed linkages between business strategy, programmes, and projects (Winter and Szczepanek, 2008). Project Portfolio Management (PPM) as a result, becomes a critical function in a business organisation which prioritises and dedicates project resources, and consequently also manages the programme consisting of multiple projects.

Programme management processes can be grouped into 5 relatively discrete phases, similar to that of a project life cycle, namely, "Initiation", "Defining and Planning", "Project delivery", "Renewal", and "Dissolutions" (Pellegrinelli, 1997; Thiry, 2002). Supporting the management of programme is the Project/Programme Office (PO) or Project/Programme/Portfolio Management Office (PMO). The different ways of naming the establishment is because as mentioned earlier, programme still means different things to different organisations. Based on the differences in principle and focus of their activities, Pellegrinelli and Garagna (2009) summarise the types of PMO into 4 categories, namely:

1. "Project Office" which coordinates and supports a single project or a single programme;
2. "Project Support Office" which is still operational focused but covers an expanded scope of multiple projects and multiple programmes;
3. "Project Management Centre of Excellence" which is responsible for both operational and governance aspects of all project management related work; and
4. "Programme/Portfolio Management Office" which refers to an enterprise

wide set-up that emphasises the strategic role of the PMO.

Although the existence of a PO/PMO poses a positive impact on the attainment of project success (Dai and Wells, 2004), not much has been discussed with regards to how it should be optimally organised for maximum benefits. The current prevailing belief is that PO/PMO is created in response to perceived needs which are temporary in nature; thus its relevance and value are to be continuously reviewed as the needs that warrant its existence are progressively addressed (Aubry et al., 2008; Pellegrinelli and Garagna, 2009).

The findings reflect the view that programme management is an extension of project management where it acts as an interface between the projects and the organisation at large. Consequently, the direct impact of organisational factors at the project level is still relatively unexplored.

b) Importance of organisation factors for business projects

The fundamental distinction between traditional engineering/construction projects and business projects is that the former is client-focused and the latter is organisation-centric. Traditional projects are typically granted with a high degree of autonomy, whilst business projects are more dependent on parent organisations in terms of securing access to resources and identifying suitable work processes (Modig, 2007). As a result, a matrix organisation which mobilises internal resources in order to capitalise on both flexibility and specialisation has been the most widely cited project management structure for business projects (Gray et al., 1990). Nonetheless, the operating effectiveness of the matrix organisation within a typically bureaucratic / functionally structured business organisation remains questionable (Gray et al., 1990; Payne, 1993; Brown, 1999). Having said that, this problem can be overcome by organisational facilitation such as a comprehensive project management framework where project-related policies and procedures are consistently applied throughout the organization (Loo, 2003). However, most companies have not reached the desired level of maturity, the main reason being the practical difficulties in implementing processes linking project management training to career and personal development (Bryde, 2003a).

Without the support of a comprehensive project management framework that guides and recognises project work, the type of organisation structure chosen will significantly affect the success of the project (Gobeli and Larson, 1987). Among the three matrix organisation structures with varying degrees of shared authority and responsibilities between the project managers and the functional managers, "project matrix" is rated as most effective because the project manager is given a strong and formal role (Gray et al., 1990). In organisations where "functional matrix" or "balanced matrix" is adopted, project involvement is often perceived as a deterrent to the individual's career development and thus, obstacles to project success are hit as early as the project mobilisation stage. Even when the project team is sufficiently staffed, managing these two types of matrix organisations is no easy task. This is not

difficult to comprehend as each type of organisational culture is often associated with a particular organisation structure (Handy C.B, 1986). Thus, an ad hoc creation of a project team in a matrix form within a structure full of vertical chains of command is unlikely to yield full cooperation, and the dual reporting arrangement often becomes a brewery of conflicts that drains unnecessary time and resources. As highlighted by Alsene (1998), this mismatch between the organisation structure and organisation culture can create undesirable organisational influences on project success. This is especially true for those involved in a part-time basis where delicate arrangement must be maintained at all times to prevent clashes between operational work and project work. In most cases where such situations arise, attention to operational issues always gets the priority, putting the project at risk (Ives, 2005). Regardless of the special treatment given to operational work, most functional managers are unwilling to spare staff for project work fearing that the quality of operations would be sacrificed as a result. It is therefore not uncommon that some projects ended up with using "dispensable" resources, and in the process, increasing the likelihood of project failure. Gray (2001) in his research, assessed the negative correlations between the levels of purposive threat and project success, as well as between levels of environmental threat and project success, and proposed that management make serious efforts to reduce such threats.

In summary, an underlying management system and organisation structure which has not been tailored to support business project implementation can create various organisational behavioural issues impacting business project success. As such, the influences of organisational factors at the project level should not be taken lightly.

Discussion

It would appear that current investigations into why projects fail have covered most possible angles except for considerations of organisational factors. Most of the researches focus on the "project" as its unit of analysis. In addition, the nature of the studies are mostly uni-variant descriptive analysis or bi-variant causal analysis between an independent variable and project success, and most of the identified variables are found to have some effect on project success depending on the scenario. Most of the conclusions and recommendations on the other hand, were individual-centric that is, what the project manager must have (attributes, skills and knowledge), must be aware of (context), and must do (applies skills and knowledge in context) to ensure project success. While it may be trivial to relate a managerial problem to the manager, making the project management team totally responsible for success is inappropriate (Munns and Bjeirmi, 1996), especially since the incompatibility between the underlying management system, and an inappropriate organisation structure could also impact project success. Placing all the expectations on the project managers to manage the influences of these environment factors which are beyond his/her control is unrealistic and unsustainable.

It is also noted that there is still very limited empirical work that examines specifically the subject of business project management despite the earlier calls to

focus on business projects as an area for future research (Morris, 2002; Winter et al., 2006). The situation has improved somewhat in recent years with more authors covering the topic. Heerkens' book (2006) on the need for business project managers to be business savvy and the launch of International Journal of Managing Projects in Business (IJMPB) to boost business project management research effort (Walker, 2008) are notable examples. As yet, a consolidated view of what comprises business project management in totality is still not available today and the current understanding of business project management is incomplete. The gaps which have yet to be filled are the assessment of the collective effect of all influencing factors in an organisation that could impact business project success, and the identification of essential components of an effective business project management practice. Incidentally, this holistic approach is in line with the call for a novel approach of combining project-centric and organisational-centric views (Artto and Kujala, 2008), with an increased sensitivity to the possibility of oppression and exploitation in project settings (Hodgson and Cicmil, 2008).

The closest empirical works which adopted the similar approach of considering the effect of multiple factors are (1) the investigation into the project management effectiveness by considering organisational structure, technical competency, leadership ability, and the characteristics of an effective project manager (Hyväri, 2006a); as well as (2) the study of relationships between project success and organisation size, project size, organisation type, project manager's work experience (Hyväri, 2006b). However, these two researches are still conducted from the project point of view and the approach omits the relevance of project management in business. The selection of the variables, on the other hand, is motivated by the discrete areas which have not been addressed by previous research. This means a more robust and objective way is required to identify all the potential organisational factors that could impact project success.

Applicability of Systems Theory

The theory which is known to be synonymous with holism is systems theory. Systems theory as an area of study was pioneered by Ludwig von Bertalanffy, founder of General Systems Theory (GST). The core of systems theory is systems thinking which advocates that constituting elements of a whole shall be analysed in association with the inter-relationships among them which fit them together to form the whole. The concept has since been adopted by the management discipline as the systems school of management theory and the open systems model has since been developed. Based on the systems model, "organisation can be viewed as open systems which take inputs from the environment (outputs from other systems), and through a series of activities transform or convert these inputs into outputs (inputs to other systems) to achieve some objective" (Mullin, 2007, p.84). The social-technical version of systems theory coined by Eric Trist and Fred Emery further pointed out that the "transformation or conversion unit" in the open systems model is made up of 5 interrelated subsystems which must work together to carry out the required series of activities in order to

deliver the output (Mullin, 2007). These subsystems are:

1. Task – the nature of work activities to be carried out;
2. Technology – the manner in which activities are carried out;
3. Structure – the pattern of organisation and formal relationship within which activities are carried out;
4. People – the nature of members undertaking the activities; and
5. Management – the effective coordination of subsystems and direction of activities of the organisation as a unified whole.

Regardless of its nature, a project is essentially an organisation in its own right and differs only by its temporary existence (Turner and Müller, 2003). The open systems model as such, applies to a project the same way it applies to an organisation. Specifically a project takes input from the environment (the parent organisation) and through a series of activities (project activities), transfers or converts the input (project resources) into output (project deliverables) to achieve some objectives (project objectives).

Given the open systems model, existing issues with matrix organisation due to mismatch among organisational factors as illustrated in the earlier section can now be explained. Since an organisation is a set of inter-related and inter-dependent parts that operate as a unified whole, an adjustment to one subsystem must be accompanied with careful consideration to the others components, failing which the result will be ineffectiveness.

The use of the open systems model to systematically identify organisation factors which could impact project success as such is both valid and sound.

Conclusion

The project as a mechanism to effect internal changes and as a template for operational and strategic redesign (Cicmil, 1997) is playing an increasingly important role in the organisation. As reported by PriceWaterhouseCoopers's (PWC) cross sectors survey, 200 companies from 30 countries are running a total of 10,640 projects a year worth in excess of US $4.5 billion (Maylor et al., 2006). The initiation of business projects, motivated by the need to implement organisational changes could only be on the rise given the increasingly competitive business landscape and stringent market conditions. It is foreseen that continued business project failures will no longer be tolerated and the need for a better understanding of business project management would become urgent. In the light of the above, this article has presented the direction of approaching the subject matter from a holistic point of view that is, from the organization's perspective by adopting an open systems model as the basis to systematically search for variables in the organisation settings. A conceptual framework could then be developed to support the next step of conducting an empirical research which aims at obtaining a better understanding of business project management as a subject matter in its own right.

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Guide for Authors Submitting Articles to
Singapore Management Journal

The Singapore Management Journal (SMJ) is a peer-reviewed publication and publishes original articles relating to business and management. The international panel of advisors are peer experts in the field. Articles submitted by authors are subject to a 'blind' review by this panel. The reviewers may recommend but the Editor-in-Chief makes the final decision on whether the submitted article will be published, revised, or rejected. Single research studies, integrative research reviews, theoretical papers, and "action research" are welcome. All articles and data must be original.

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