Improving the effectiveness of public sector organizations to manage change

Dissertation

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Declaration

I declare that no portion of this work referred to in this dissertation has been submitted in support of an application for another degree or qualification of this university or other university.

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Abstract

Public sector organizations face a momentous task of constant change and upgrade to their services in today's dynamic and hyper turbulent market place. Owing to the hyper active nature of the market place, the pace of change has never been greater than in the current business environment and is becoming a constant feature of organizational life. Coupled with massive economic expansion, increased globalization and massive transnational flow of information, there is a colossal pressure on public sector organizations to relentlessly instigate change. More so manage change effectively so as to increase the competitiveness of the states; else the increased diversification and ambitious growth strategies pursued by states can be rendered futile.

This research focuses on one such change ('Salik') wherein the organization (roads and traffic agency) is faced with the task of resolving the traffic woes of Dubai and is working towards the integration of the entire road and transport network. The aim of this research is to examine and improve the effectives of the public sector organizations to manage change. In light of the aim the objectives of the research are to: Investigate how the road and traffic agency is managing change, especially change related to the implementation of advance technology, examine 'Salik' as technological change adopted by the agency, evaluate the consequences of this change on the existing network and stakeholders and to appraise the management strategy deployed to address the transport network in general and 'Salik' in particular.

The findings of this research indicate key emerging issues adversely impacting change approach deployed. These include prioritization issues, timing of the change activities, time allotted to the change activities and issues pertaining to monitoring and feedback of change. Despite the prevailing issues; the study indicates that the state of flux has transformed into a state of equilibrium. The research findings also indicate that owing to this initiative undertaken by the agency, similar other projects are in the pipeline and a trend of symmetrical change approaches will emerge due to increased public spending and overhauling of state infrastructure fostered by the economic growth. This nonetheless, calls for the entities to carefully implement change and manage change effectively; wherein this research provides detailed insights into the current change and hence serves as a good case study to extrapolate results.

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Chapter 1 – Introduction

1.0 Background

Recent changes to the road network of Dubai have received fierce criticism from critics and commuters alike. With the economic losses caused by traffic congestion and accidents amounting to more than Dh4.5 billion and Dh400 million per annum respectively; the Roads and Transport Authority (RTA) faces an intricate challenge to manage the transport system. The task is further complicated when the need and urgency for change is amplified by phenomenal economic growth, multiplying the existing colossal pressure on the infrastructure. This chapter provides the context to the problem, observations of Dubai's phenomenal growth and significance of ICT in Dubai's growth. This is followed by the problem statement, aims and objectives, research content and limitations to the study.

1.1 Context - Diversification

Dubai is the prodigy of transformation and change in the Middle East and is viewed as role model in a region rich with petroleum dollars. Since the inception of UAE; Dubai has been the commercial hub of the country with revenue streams being crude oil and by products, trade, transportation and tourism. However in the past decade share of oil revenue in the economy has reduced drastically while at the same time that of non oil sector in the economy has become colossal. Sectors like construction, trade, finance and logistics have come to the main stream and are forerunners in the growth of Dubai. This is due to a carefully thought out growth strategy. Success of this strategy is laudable and

the financial outcome is reflected in the GDP growth. The growth strategy has its foundation on a myriad of diversification and market liberalization initiatives. Coupled with a tax free policy; these initiatives are deeply entrenched in the non oil sector of the economy. Core competencies of Dubai being trade, logistics, transportation and tourism; investments in these sectors has been the main driving force of this growth.

It is evident from the growth of Dubai over a period of time, that the mentality of satisfactory performance / incremental growth is a religion not delved. In recent years the GDP numbers have compounded to a staggering amount. These numbers have surpassed their date of achievement. Experts writing about incremental growth often utilize the connotation of supertankers as an analogy; that while turning in long circles, supertankers turn slow and cannot be jerked around. "There is a religion in the field of management: it is called Incrementalism. It is based on the belief that everything in companies happens slowly and incrementally." (Ghoshal et al, 2000)

Ghoshal et al, further note that there are those on the other hand, who never believe in this religion. They have achieved much, not simply for the sake of achieving, but because the desire to achieve exists. There are examples of companies having achieved what others have dared not to. Ghoshal et al note that Jack Welch, the legendary CEO of GE; during his tenure changed the $ 14 billion market capitalization of GE to $ 410 Billion at the end of 2004. When Jack took office it was not that GE was performing poorly but rather was a well respected company. *"Indeed, there is at least some element of truth in the claim made by a Harvard Business School professor that Welch's transformation of*

GE, with its employee base of over 200,000 people, represents one of the biggest planned change efforts" (Ghoshal et al, 2000).

Dubai has followed a similar path; that of monumental growth and tremendous change. However, in order to achieve sustainable results, change requires careful management. Economic growth makes it imperative for states to overhaul the public infrastructure to reap the benefits. Internal process refinement is a crucial issue faced by Dubai whereby public organizations are improving their service offerings to complement the growth strategy; *"Learning to cook sweet and sour"* (Ghoshal et al 2000). Sweet and Sour are two sides of the same coin, in which one side has to do with exploiting growth and creating new opportunities (SWEET); while the other, (SOUR); is internal process refinement. The SOUR side primarily consists off but not limited to labor productivity improvement, reduction in processing time, paperless processes, and improving other integral operational activities, to manage the SWEET process.

1.1.1 Plan Dubai 2010 – Growth Strategy

Dubai 2010 vision was presented by Dubai Internet City (DIC) CEO Omar Bin Sulaiman at the "Knowledge for Development" conference in Marseille, France in September 2002 (Madar, 2003). In this presentation, CEO Sulaiman pointed to a 3 phased strategy of Dubai extending from short to long term. This strategy has been the key policy guideline for Dubai. It is important to note that all the three phases of this strategy have been completed long before the targeted date; hence reference to phenomenal growth is made earlier.

Phase 1 of this strategy was termed “Do what we do best, better”. Concept being to continue growth and enhancement of services in the areas of trade, logistics, transportation and tourism as these form the core competency of Dubai.

Phase 2 of this strategy was named “Application to new areas” and comprises of steps to apply the core competencies mentioned above to new areas. This phase was a critical stage in the transformation because it was the launching pad of Technology enabled services and special purpose zones. Formation of Knowledge village, Dubai Internet City and Dubai Media city are the various outcomes of this phase. Major sectors of concentration for technology enabled services were Finance, Media and Telecom / IT. This stage also saw the formation of Dubai Development and Investment Authority and Dubai International Financial Center.

Phase 3 is the seeding stage hence was termed as the “Seed investments for future competencies”. Several sectors were pin pointed and investment was made to facilitate formation of zones and special initiative clusters. Sectors highlighted for this stage are: Research and Development, Education, Emerging sectors i.e. Pharma, Biotech, Nanotech, and Wireless. This phase has seen the introduction of special purpose zones like Dubai Healthcare city, Silicon Oasis, Dubai Textile city and others.

The rate of growth of Dubai has been superfluous to the point that the 2010 Plan was rendered obsolete in 2005. In February 2007, Sheikh Mohammed pointed this fact and therefore laid down a new plan; a much more ambitious plan of major investments and diversification. “*We need a new economic plan because the 2010 plan was already exceeded. The goal of achieving GDP of $US30 billion by 2010 was surpassed in 2005,*

when Dubai's GDP was $US37 billion." - Sheikh Mohammed (Khaleej Times 4th Feb, 2007)

1.1.2 Advent of ICT

Benefit of utilizing technology is recognized by the leadership of Dubai and as a result technology has always been on top of the agenda. Phase 1 and 2 of the 2010 plan made it possible to introduce a variety of technologies and technology enabled services with in the state. With the creation of technology oriented zones and high class infrastructure; these zones have provided a competitive edge to organizations operating from Dubai.

The government of Dubai opted for a valiant move by introducing the E-government project. The purpose of this project is to streamline the process of services provided by each individual ministries, paperless work environment and improved service offerings to both individual and organizational customers.

With the implementation of this system, services offered by all the ministries working within Dubai have become online and integrated. These ministries have started providing online services to their clients and have managed to render ICT as the core of their operational activities.

1.1. Public Sector Organizations

Current capacity of Dubai's infrastructure has been put to a test as a result of the diversification and growth strategy. For example Dubai Electricity and Water Authority (DEWA) has recently procured several power plants to fulfill the rising demand of

electricity. Currently DEWA has projects worth billions of dollars under construction to supply the endless demand of electricity. DEWA also initiated plans for internal improvements in services to assist its customers. (Source: www.dewa.ae)

Similarly other ministries both federal and state based are taking various initiatives to cater to the growing demand of services. One such organization is the Roads and Transport Authority (RTA), a public sector organization responsible for the entire transport network of Dubai. RTA is a versatile entity, mandated to manage marine, roads, metro (mono rail project) and public transport thru its sub agencies (detailed in chapter 4). RTA is viewed as the forerunner in providing technology enabled traffic solutions in the region. As the economic goals of Dubai are changing, so are the stakes and therefore RTA faces the brunt of these ambitious goals.

1.2 Problem Statement

(RTA) was constituted by the Government of Dubai to manage the roads and public transportation. One of the major challenges faced by RTA is the management of roads and transport network and the extant traffic congestion. Traffic congestion is a major problem in Dubai and an extremely time consuming issue for the residents of Dubai and adjacent states. Furthermore, according to RTA traffic congestion, accounts for approximately Dh4.5 Billion in economic losses to Dubai.

In order to manage the traffic situation and transformation of the overall road network, the roads and traffic agency, a subsidiary of RTA; introduced electronic toll system thru its Intelligent Traffic Systems (ITS) department. The outcome of this change has brought

to light a major dispute between the authority and customer (i.e. road users) ever since it was introduced and questions are raised regarding its effectiveness.

Motivation

This project is the first of its kind in the region and serves as a test case for both researchers and practitioners. Being an innovative change initiative, the project is a testing ground for projects of similar nature where the dynamic contextual factors are forcing organizations to rethink their approach to change; especially when the extant advanced technology is conveniently prevalent.

Given the negative enthusiasm from the customers upon implementation of change; it becomes necessary to conduct a study of this project given its magnitude so as to ascertain the effectiveness of RTA to manage change and to provide recommendations for its improvement. In so doing, to lay a foundation for organizations and managers to learn from the case and where necessary improve the effectiveness of change management approaches within their organizations. For researchers; to extrapolate results of this case and to apply to similar streams of knowledge and practice in the region.

1.3 Aims and Objectives

Aim:

The aim of this research is to improve the effectiveness of RTA to manage change. In light of this aim, the dissertation has the following objectives.

Objectives:

1. Investigate how RTA is managing change, especially change related to the implementation of advance technology.
2. Examine Salik as technological change adopted by RTA.
3. Evaluate the consequences of this change on the existing network and stakeholders.
4. Appraise the management strategy deployed to address the transport network in general and Salik in particular.
5. Present recommendations based on the study findings and implications for further research.

1.4 Research Content

Chapter one provides an introduction to the research. It presents a bird's eye view of the entire scenario and covers the background. Discourse on the phenomenal growth of Dubai and Plan 2010 is provided. Furthermore a discussion on the importance of ICT in Dubai's growth is also articulated. Next on, the problem is depicted along with the aims and objectives of this research. Finally research limitations and research contribution to knowledge is portrayed.

Chapter two covers the conceptual context of this research. Literature review presented covers the knowledge streams of change and change management models; change in national context and relationship of ICT with change in today's dynamic environment.

Chapter three depicts the methodology of this research. It articulates the introduction and the process flow of the methodology along with the philosophical stance of the researcher. Furthermore, information gathering sources utilized for this research are identified along with the synopsis of the participant interviewed, documents/releases reviewed and secondary sources utilized for data gathering.

Chapter four covers the analysis and case findings. The chapter presents an introduction to RTA and its sub-agencies, discourse on change in national context and the directives for change and the altering contextual forces enveloping the organization area also portrayed. Followed by change, change appraisal, change implementation, the overall change strategy and issues related to the change.

Chapter five portrays the concluding remarks of this research. A series of recommendations derived from the case findings and analysis are given along with the propositions for further research and studies. Lastly references used in the research, including journals, books and media accounts are detailed at the end of the report.

1.5 Research limitations

The research takes into account ten months of company data / press releases. Starting from Feb 2007 to end of November 2007; wherein the first five months are pre implementation. Consecutively, the post implementation (after July 1st 2007) period is limited to November 2007; all in all total of five months post implementation. Likewise, the secondary data analyzed also is limited to that time frame. Even though time and resource constraints to not permit a large scale customer survey; the researchers'

philosophical stance is that since the results of these survey's are extant, hence, conducting another survey will entail no additional value to this research.(detailed in Chapter 3: Methodology).

1.6 Contribution to knowledge

Change and change management form a pervasive part of our daily lives. With increased globalization and competitiveness, organizations both public and private alike face challenges in order to operate in a volatile environment. Even though change and change management are deeply researched disciplines and despite the vastness of literature available to practitioners, change initiatives have a relatively low percentage of success. Large scale innovative change projects utilizing advanced technology to assist in achieving objectives are gaining in number through out the world. However, Dubai being a commercial hub in the Middle East provides a regional perspective to the existing knowledge of change and change management.

Not only is it the epistemological base of this research that the results of this study can be extrapolated to other projects of similar nature therefore implying the importance and advent of a new wave of projects of symmetrical nature utilizing technology but the research also reflects this notion. The research will demonstrate with compelling evidence that owing to this particular case in question; similar projects are undergoing evaluation and are being endorsed by other organizations and departments. This thus makes it imperative that this research be undertaken and the results be presented.

Chapter 2- Literature review

2.0 Introduction

The literature review presented in the following sections pertains to the occurrence of change in today's business environment, the altering contextual factors surrounding the organization and the motivation behind change. Moreover, a section delves into the management of change and models of change management; change in national context and finally literature pertaining to ICT and change is also reviewed.

2.1 The occurrence of change

Change has been a pervasive part of human lives from the start of history, but never more so than the current era. The industrial revolution was the harbinger of swift societal, economic and organizational change. The start of the information revolution then further catalyzed a structure of economy and society in a state of flux. With the advent of globalization and the ubiquity of transnational flow of information, organizations are now confronted with a dynamic playing field where distribution, information systems, communication systems and technological breakthroughs play key roles. This fact is increasingly reflected in management concerns and management literature. According to Toffler (1980), geopolitical boundaries that have persisted throughout history are fading and contemporary organizations are faced with a far larger context in which to normalize the process of change. In fact, modern organizations are caught up in a virtual cyclone of change as they look to adapt to the increasing demands of domestic and global markets (Toffler, 1980; Siegal et al, 1996; Meyer and Stensaker, 2006)

The need for change has led to several paradigms for reordering information and reorganizing work flows. According to Karp (2005), organizational learning, process re-engineering and total quality management are popular paradigms that have been used by organizations to invoke change. These paradigms have become the banners for new ways of organizing in the face of global competition that has squeezed individual market share and paced up the change cycle. All these trends in management consulting represent attempts to generate systematic responses to the pervasive need for change imposed by an increasingly competitive and complex marketplace (Siegal et al, 1996).

Despite the fact that there is a lack of consensus in regards to change (By, 2005); researchers do agree that the pace of change has never been greater than in the current business environment (Balogun and Hailey, 2004; Burnes, 2004; Kotter, 1995; Luecke, 2003) and is becoming a constant feature of organizational life (Hayes, 2002).

2.1.1 Altering contextual forces

Organizational ability to cope with dramatically altering contextual forces has become a key determinant of competitive advantage and survival. Abrahamson and Fairchild (1999) reviewing the performance of organizations and their change management habits writes that change or perish is the new corporate mantra, (Abrahamson and Fairchild, 1999), while reviewing the demise in dominance of US firms in the automotive sector noted that the contextual forces can become extremely detrimental if not taken seriously as was the case with the firms in US auto industry.

Accordingly, Abrahamson and Fairchild (1999) noted the commonality among these firms is their rigid approach to change and this eventually led to the demise of their dominance to such an extent that the threat of extinction was inevitable if they had not succumbed to change. *"Such organizations had remained so maladaptive, for so long that they literally had to change or perish"* (Abrahamson and Fairchild, 1999). Noting further, that in contrast, firms in same sector acknowledging the changing environment and adopting a more flexible approach to change have managed to survive and more so flourished. Adding further, that because of their ability to recognize and acclimatize with the altering forces, they are credited with success and ensuing growth.

The notion of survival in the face of altering contextual forces and the ensuing progressive growth associated with change is also voiced by Gagliardi (1999). The author states that, *"Change is perceived as not only necessary for survival but is often equated with progression."* The researcher describes experiences with organizations wherein the response to the changing environment is merely seen as a ceremonial façade; whereas that of a competitor is more pragmatic and thus pointing to the prevalent dichotomy amongst organizational capacities to cope with the altering environment (Gagliardi, 1999). Similarly, previous research has also shown that while organizations may be faced with similar contextual forces, they opt for various responses (Meyer and Stensaker, 2006). This variation could be due to differences in terms of how organizations interpret signals and events in their environment; but it could also be based on different capacities within organizations to undertake change (Meyer and Stensaker, 2006).

(Voelpel et al, 2004) note that amongst other forces; technological advancements and globalization are the major driving forces behind the hyper-turbulent and competitive landscape in which organizations operate. Noting that globalization has been creating a mindset of the world as a single market and thus has removed the traditional boundaries of organizations; thereby continuously challenging growth. Furthermore, coupled with rapid technological advancements, this has prompted a wide array of options for organizations in terms of how, where and when to find and seize opportunities and in so doing increase growth. Similarly, Graetz (2000) also note that increasing globalization, deregulation, the rapid pace of technological innovation, a growing knowledge workforce and shifting social and demographic trends are some of the altering forces that affect the organizations.

Similarly, Bettis and Hitt (1995) note that sustaining positive outcomes in a hyper-turbulent and extremely competitive landscape is a challenge that executives face daily in their quest of reaping emerging benefits while sustaining or enhancing current profits. They argue that in order to comprehend to this global and volatile environment and anticipate future business needs and constraints, executives and their organizations must not just be flexible but also proactive.

Furthermore Bettis and Hitt (1995) also note that such flexibility and proactive behavior must extend to more than a simple adjustment to rapidly changing environment. They also note that change has become such an important facet of organizational performance that it has become the remit and express area of expertise of a large body of scholars, practitioners and researchers. Bettis and Hitt (1995) concluded that the current era is not

one that bases itself on coping with strategies, but on a move from 'good to great' wherein profitable organizations are trying to improve further. In a landscape where the good have become average, organizations have no choice but to carry on in the march of improvement and growth. A fact also noted by Karp (2005); wherein the author noted the results of recent surveys that concluded that growth will become the number one priority in most global businesses in the near future. Hence as "*the pendulum swings back towards growth, change is on top of the corporate agenda."*

2.1.2 Motivation behind Change (Theory E and O)

Despite the agreement among researchers that change is a constant feature of organizational life (Hayes, 2002); there still exists a stark divide in the motivation behind change. From organizational point of view, a motive to change can be either to reap economic incentives and rewards or organizational efficiency.

The stark contrast in the theories of change management is prevalent between Theory E and Theory O. Essentially; experts note that there are two main forces behind organizational change – economic pressure and organizational pressure. Economic pressure is exerted by stakeholders and acted out by management. It involves changing the organization to increase revenue, amplify profits and improve finances. Financial targets are used as change benchmarks and financial incentives drive the change (Beer and Nohria, 2000).

Theory O, on the other hand states that organizations can change because of internal pressures, for instance the need for better processes, better communication, etc. Theory O

is not against creating economic value, rather that competitive advantage is the best way to generate economic value for stakeholders (Beer and Nohria, 2000). They argue that the approach to change is based on the perception of how organizations view themselves to be evolving.

Despite these two dominant motives behind change, Beer and Nohria (2000) suggest that organizations should opt for an integrated approach. Amalgamating key factors in both the theories, they argue that organizations can derive significant benefits. They caution that this has to be undertaken carefully as this is a potential minefield. Nonetheless, this integrated model is reviewed in the following section of managing change.

2.2 Managing change

Though change has become an imperative for all manner of organizations, the nature of that change, the processes driving it and the results of the change effort are usually very varied. In fact, research indicates that many change initiatives do not demonstrate a lot of success (LaClair and Rao, 2002). This phenomenon is also noted by Kotter (1990) and Higgs and Rowland (2003).

For instance, according to Schaffer and Thompson (1992), a survey of 300 electronics companies indicated that though up to 73 per cent were undergoing organizational change in the form of implementing some kind of total quality initiative, massive 63 per cent had failed to yield improvements in their level of product defects. Noting further, that, only 10 per cent of the change initiatives could be considered successful. Similarly, Wren and Dulewicz (2005) provide statistics pertaining to unsuccessful change efforts prevalent in

Fortune 1000 companies and note that some estimates of successful change are as low as 50% or even 20%.

Systematic failures in undertaking successful organizational change can be attributed to a myriad of factors. For instance, Siegal et al (1996) cite factors such as inappropriately conceived future states, faulty change processes, unexpected contingencies to name but a few. Noting further that while some of problems may be attributed to the content, or nature of a change, most change efforts fail due to a failure to keep momentum in the face of adversity. Similarly, researchers have also highlighted the need for planning and the systematic approach to change and how change should be managed (Wren and Dulewicz 2005).

Similarly, another view of approach to managing change has been provided by Siegal et al, (1996) wherein they are of the view that organizations need to manage the process elements and that their approach to change should be holistic. They note that; "*It is management of the process elements of organizational change that are often least considered during change initiatives. And yet, management of these factors is vital to the successful implementation of change…It seems apparent that one considerable strategic advantage available to organizational managers who wish to experience a greater level of success in their efforts in organizational transitions involves reliance on a more well-rounded and integrated conception of the general nature of system-wide change" (Siegal, 1996).* Coherently managing the nature and process of change is therefore an essential aspect of any organizational change effort and researchers have paid a great deal of

attention in developing various models to ensure a smooth transition and successful change efforts.

2.3 Models of change management

There is no agreement in the change management literature regarding the most appropriate and effectual approach towards organizational change. This is hardly surprising, considering the diversity of definitions of organizational change. It is this arena of disagreement and conflicting voices vying for attention that make change management an often confusing subject for practitioners- i.e. those managers, employees and change champions that are actually working to consolidate and manage an organizational change (Bamford and Daniel, 2005). Further, that those practitioners are thrown into doubt vis-à-vis the validity and applicability of a body of literature that disagrees on key points

However, by listening carefully to the cacophony of voices surrounding change management, a careful listener can begin to detect a pattern to the babble. It is just such a pattern that this literature review follows. Broadly, extant literature on change management follows two main categories change management. The first is a planned organizational change approach, while the second, deals with the concept of complex emergent change.

2.3.1 Planned Change Management

According to Bamford and Daniel (2005); *"planned change has dominated the theory and practice of change management for the past 50 years."* Drawing on the work of

Lewin (1951); they note that this approach tends to view organizational change as a process moving from one fixed state to another discrete fixed state, with the transformation being done in a number of pre-planned steps.

Change management models that treat organizational change as planned include Lewin's Three phase model (Lewin, 1951) demonstrated in figure A. This model is based on phases, wherein the organizations transition from one state to another.

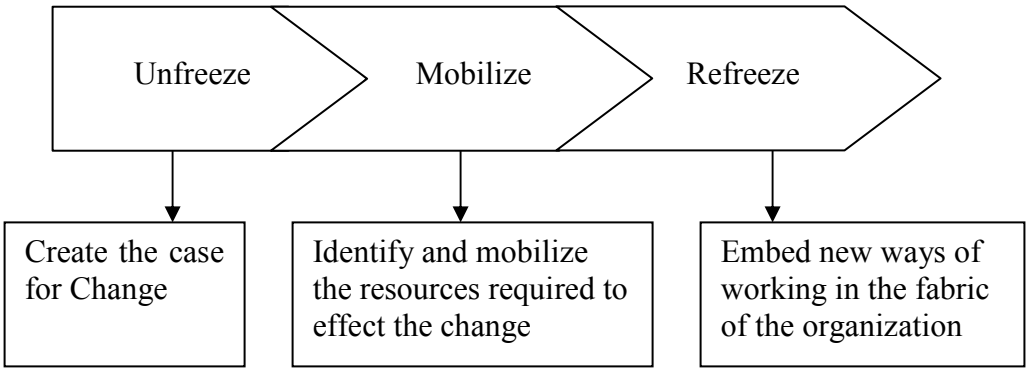

Figure 2.1: Lewin's *Three Phase model*, (-extracted from Higgs and Rowland, 2005)

Similarly, another change management model for planned change is given by Lewin (2003). The model includes the stages – freezing (when the organization continues with what it knows and does not accept any change efforts), unfreezing (a process that deals broadly with introducing and championing new ideas and new ways of thinking, working and organizing) and ultimately refreezing (ensuring that organizational values, processes, political discourses, management approaches and policies are fixed on top of the new form that the change has given rise to (Lewin, 2003). Bamford and Daniel (2005) note that Lewin's model introduces an important concept, that the process of change

management will have to discard the old value, political and process based systems of an organization before new ones can be implemented.

Many researchers have built on Lewin's foundation and have adopted approaches based on similar principles. For instance (Higgs and Rowland, 2005) note that (Cummings and Huse, 1989) have developed an eight-phase model detailing the steps needed to manage change, while (Bullock and Batten, 1985) have developed a four-phase model of planned change that is itself synthesized from a review of 30 different models of change. Yet, despite the accepted notion of planned change management and movement from one stable state to another, researchers argue that the simplicity of the planned change model is questionable. The argument is supported by evidences from field studies conducted by researchers, wherein there is a general consensus that change is a complex process (Higgs and Rowland, 2005).

Similarly, Stacey (1996) argues that the validity of assumptions made by managers prevalent in the theoretical paradigms of planned change management is not always ensured. Further that the planned change approach assumes that managers can choose to make successful changes in advance of changes in the environment. Stacey (1996) note that the planned approach assumes that change is a linear process and that organizations are stable systems that want to reach equilibrium. The emphasis therefore is on moving an organization from one stable state to another. This is obviously the case with Lewin (1951), wherein it is mentioned about unfreezing equilibrium and then refreezing around a new desirable equilibrium.

The somewhat straightforward notion of planned organizational change is explored thoroughly by various change management researchers (Kotter 1990; Beckhard, 1969). The planned change management approach as noted by its supporters' is invariably top-down – because change is assumed to be a straightforward, linear process and that the impetus to move organizations from one state of equilibrium to another should come from top management (Higgs and Rowland, 2005). The management responsible for the change can then ensure that the change process is implemented smoothly, uniformly and according to a detailed plan of action.

2.3.2 Change as a complex emergent procedure

Whilst planned change management has many followers as noted above, yet it has also seen the start of a backlash against what critics call an overly simplistic approach. For instance, Garvin (1993) argue that change can not take place from one stable equilibrium stage to another due to the hectic business environment that organizations operate in. In a similar vein; Hayes (2002) argue that there are many instances where organizations many need to change because of environmental pressures, but there may not be a clear idea of how best to respond to these pressures. Therefore, there is no clear stable start and end stage for the organizations to work from or towards. This argument highlights the weakness of the planned change approach, as (Hayes, 2002) notes that not all change is obvious and planned.

Similarly, Dawson (1994) and Wilson (1992) both challenge the assumption of planned organizational change in environments that are themselves very uncertain. In fact Wilson (1992) argue that the planned change management process of laying down timetables,

outlining objectives and deciding on methods well in advance, is too heavily reliant on the role of the manager. Dawson (1994) argue that in today's business environment, one dimensional, planned change management approaches are likely to only generate short-term results and may even decrease stability rather than increasing it.

Buchanan et al (1999) also illustrate the difficulties inherent in planned change management. They note the results of a survey that shows that managing change according to textbook theory is very difficult. Similarly, Rumelt (1991) note that quantitative research has demonstrated that planned change programs have unpredictable outcomes generated by interactions within the organization. Further empirical evidence against the effectiveness of planned change is given by (Harris and Ogbonna, 2002) who argue that top-down change management has failed and that such planned approaches are frustrated by the impact of unexpected (and often unintended) outcomes that result from interactions throughout the organizational system.

Bamford and Forrester (2003) note that the planned change approach assumes that everyone in the organization agrees to work in the direction of the change and therefore, it goes without saying that the planned change management approach simplistically glosses over the fact that organizations are complex networks of social and political influence where agreement is a rare thing. According to (Bamford and Forrester, 2003) differences of opinion will always exist within groups over any important matter and therefore the smooth unfreezing and refreezing concept of the planned change model cannot progress into practicality.

As a response to the inflexibility and linearity of the planned change management model, critics have come up with the "emergent change approach." Though the emergent change approach may be skeptically considered a loose collection of different accounts, models and processes, the approach is held together by a common understanding that change is always multidimensional and complex and that it almost never goes the way it is planned due to a variety of external and internal pressures. The emergent approach is universally critical of planned change management models (Burnes, 2004). The emergent change management approach argues that if organizations operated in stable environments, there would be less need for change and it might then be possible to use the planned change models where organizations move from one stable state to another.

For authors and practitioners advocating emergent change, it is the uncertainty of the environment and the complexity of organizational pressures that make planned change management naïve. For instance, Strickland (1998) explains this point by using systems theory. Strickland (1998) emphasizes that firms are not closed systems – they are separate from, but linked to their environment and that the planned change management approach asks the question of how much an organizational system is in control of its own change process and how much is driven by the environment. In this account, the environment consists of both external and internal pressures and influences.

Authors that adopt an emergent change management view tend to distance themselves from planned change, arguing that complex change phenomena can not be predicted or managed using linear prediction models. One of the earliest contributors to emergent change management approaches was Reynolds (1987). He argued that rather than try to

manage change from one stable system to another, complex change systems can be better managed by setting a general direction supplemented by a few simple guiding principles. Such self-organizing complex systems can then move in relative harmony without a leader. However, Reynolds cautions that the end-result of such systems can not be predicted exactly, but patterns can nevertheless be discerned (Reynolds, 1987).

Further, Dawson (1994) introduces a process based approach to change management that is more analytical. Dawson's approach to change management aims to better achieve a broad understanding of the variables involved in managing change in complex environments. According to Dawson (1994), organizational change is less reliant on detailed plans and careful objectives than it is on reaching an understanding of the actual complexity of the issues involved and then moving on to identify a spectrum of possible options. Dawson's change management model calls for linking organizational change to market developments, organizational systems to management control and also the shifting of organizational boundaries (where an organization interacts with its environment).

Other emergent change management models include Pettigrew's process/content/context model Pettigrew (1985) and Burnes (2004) change management framework. However, the persistent commonality amongst the emergent change models is that organizations need to pay specific attention to the process elements (Siegal et al, 1996; Pettigrew, 1985; Burnes, 2004). They argue that these process elements are least considered by organizations during implementation of change despite their importance. Similarly, Huq et al (2006), argue that to avoid change management pitfall organizations need to pay

attention to the "Implementation and control of Change". Furthermore, that "Change Review" is also another important issue wherein the company measures the attainment of the strategic, tactical and control goals. In essence recent versions of change models show a consensus that change management should be taken as a complex emergent phenomenon.

2.3.3 Integrated Change Models – Combining Theory E and Theory O

According to Beer and Nohria (2000); to understand the sharp contrast amid Theory E and O, a comparison is undertaken along several key dimensions: goals, focus, process to name a few. In comparison, the main focus of theory E is structure, processes and systems, whereas that of Theory O is corporate competitiveness thru internal refinement. Yet, despite the polarized dichotomy prevalent, utilization of one approach should be avoided whereas merging the two should be undertaken carefully. They provide a case of how organizations utilizing either of the two approaches though have succeeded in short term but faced limitations in the future. They further propose that these should be utilized in tandem by merging organizational dimensions. An important observation of Beer and Nohria (2000); that though change is uniform in approach however, because the environment is dynamic; change is multidimensional and complex, a fact also noted by (Burnes, 2004).

One of the recent approaches to emergent change models is by Leppitt (2006a); wherein the author has attempted to highlight commonalities in the areas of improvement of change management effectiveness amongst a variety of models. Analyzing the key dimensions of the integrated change model by Beer and Nohria, (2000); Leppitt, (2006a)

compared key dimensions of Theory E and O integrated approach with a review of dimensions in 18 change frameworks / approaches. Despite variety of models utilized for the comparison, the article noted that the frequency and occurrence of top three reasons are of primary importance when dealing with the effectiveness in change. The researcher concluded that though most change approaches / models are concerned with bringing about change in capability or competency; support both Theory E and O aspirations, they fail to have a contextual concern. Further Leppitt (2006a) recognized that the model should be reviewed by practical testing and this is undertaken in Leppitt (2006b).

Testing the model by practical application; Leppitt (2006b) analyzed a change management approach of an organization and compared it with the proposed key dimension of comparative integrated model. Leppitt (2006b) found that; poor prioritization of change activity, activities related to monitoring metrics and lack of alignment between discrete change activities and strategy were highlighted among others as areas of improvement in the change management approach. This reinforces two streams of thought: that the process dimensions of change are critical in the change management and secondly that change should viewed in a broad organizational context. This is hardly surprising, considering that the original work of the researcher on the integrated model (Leppitt, 2006a) pointed to a realistic implementation approach to change in terms of contextual diagnosis; *"The integrated model must be adapted to contextual diagnosis"*; also endorsed by (Siegal et al, 1996; Pettigrew, 1985; Dawson, 1994).

2.4 Change in national context

Review of the literature presented above reinforces the fact that organizations are considered open systems and react with their contextual setting outside of organizational boundaries. While the literature extends largely to private sector organizations that have to enact change in order to stay competitive, a rapidly transitioning economy can also invite rather mandate change within the public sector. Change at a national level can be far-reaching, and have wide-spread involvement.

For instance, Manning and DelaCerda (2003) notes the change in Mexican industries as a response to recent democratic trends and the opening of new economic markets and free trade organizations. According to them, most Mexican organizations needed to transform their structures and processes and to develop management and human resources that would enable them to compete in the global marketplace. In addition, the change required was a widespread realignment toward lifting the masses (people) out of poverty, and making them productive members of society that successfully contribute to formal and informal economic activity.

According to Manning and DelaCerda (2003), even large scale change, contributing to a national recalibration can be produced and facilitated through highly participative, egalitarian and intensive large-group interventions. Manning and DelaCerda also notes that existing cultural research suggested that large scale approaches appeared inconsistent with the cultural orientation assumed to be predominant in most Mexican organizations. Nevertheless, the article offers up case studies where large scale and participative change efforts were made.

Manning and DelaCerda (2003), argue that capable, all-engaging and egalitarian organizational change methods are becoming needed in Mexico and by extrapolation, to other parts of the world. But they caution that: *"change in a complex, forward-moving society cannot be seen as a simple linear process or as a magic jump from one state to another but as a very dynamic process of social re-construction of reality."*

Other well documented cases of organizational change process occurring within a national context including the public sector are for instance Ndou (2004). Ndou points to the need for change in public sector bodies in developing countries and documents opportunities and challenges arising from such change. Pointing to the adoption of e-government as a particular manifestation of public sector change, Ndou (2004) notes that government agencies and sectors are being forced to move forward in the 21st century with higher quality, cost effective services that offer a better relationship between the citizen and the government. Ndou (2004) notes that many government agencies in developing countries have taken positive steps towards exploiting the inherent potential of the World Wide Web and other ICT tools in adding coherence to activities and opening up interactive services that are far reaching to increase the participation of citizens.

Ndou 2004 notes that such wide reaching e-government initiatives have seen success in countries such as Brazil, India and China. In fact, according to Ndou (2004), *"...The traditional bureaucratic [government] paradigm, characterized by internal productive efficiency, functional rationality, departmentalization, hierarchical control and rule-based management is being replaced by competitive knowledge based economy*

requirements such as flexibility, network organization, vertical/horizontal integration, innovative entrepreneurship, organization learning, speed up in service delivery and a customer driven strategy…These new paradigms…emphasize coordinated network building, external collaboration and customer services." Similar example of well documented governmental change initiatives have been covered by (Asgarkhani, 2005) while reviewing the works of various researchers in countries such as Argentina, New Zealand, Chile, India and China.

As per Ndou (2004), there are three distinct transformational areas that public sector organizations deal with when changing with the help of ICT tools to a more responsive model of service provision. These areas include the internal layer, which refers to the use of tools (usually IT tools) to improve efficiency and effectiveness in the internal functions and processes of government by forging stronger linkages between different government departments. Changes in the internal layer can result in faster and easier information flow that reduces processing time and paperwork bottlenecks, thereby eliminating long, overly bureaucratic and inefficient procedures. Then there is the external layer, where change (usually ICT driven) opens up new possibilities for governments to be more transparent both to citizens and businesses. Change at this level can help the collection and generation of a wider range of information and help the public sector body interface well with other departments and businesses at the boundaries.

Another excellent example of organizational change in public sector organizations at a national level is given by Braa et al (2001). Offering results from a study of organizational change in Mozambique's health sector through the use of ICT. Braa et al

(2001), note that many third world developing countries are in the process of decentralizing public sectors using information systems support. The study focusing on the health sector of Mozambique, extrapolates to suggest that change in the public sector can catalyze in the operational aspects up to the district level by the use of ICT.

In a similar tone, Asgarkhani (2005) notes that public sector organizations, particularly in developing countries are usually motivated by a desire to improve internal functional efficiency, improve internal communications, increase the management of workflow, allow the creation and implementation of tools to facilitate citizen participation through feedback and allow for transactions between citizens and government, business to government and government to government. The aim of public sector organizational change is to offer prompt accurate service because local government bodies can potentially receive millions of enquires per annum, improved quality of service that do away with fragmented record keeping, removing barriers and tackling social exclusion, and setting up local access points that allow clients to meet up with government service representatives. Yet Asgarkhani (2005) warns that such organizational change must keep in mind other key parameters to be successful. For instance, social structure, key processes and attitudes all require alignment before public sector change can occur.

2.5 ICT and Change

Extant literature on change brought about by organizations very often points to the introduction of ICT as a starting point for the change process. And even if ICT is not the starting point, most process reorganization efforts involve the use of information

technology in some way shape or form (Champy, 1995; Manning and DelaCerda, 2003; Macy et al., 2007; Schaffer and Thomson, 1992; Meyer and Stensaker, 2006).

There is no simple explanation for why information technology is an ever-present fixture in change. One plausible explanation is the use of information technology to compress organizations' operational cycle and is a powerful catalyst that invokes both threats and opportunities on a global level. By facilitating the management, analysis and transmission of information globally, ICT has heralded in a large spectrum of approaches that organizations can use to take advantage of opportunities or deal with threats. As per Stamp (1989), technologies; including information technologies are those artifacts and processes that (can) help humans, 'that mediate in human action' or 'that enhance human capabilities'. Illich (1973) argues that while a technical artifact may be a central element in how we conceive technology, it is only one element in a "package" which also includes the components required to apply the technical artifact to some socio-economic activity, which will then also result in change at different levels. This view is also developed by Scacchi (1982) into what the author calls the "web of computing" which includes the commitments, additional resources such as training, skilled staff (knowledge), support services and the development of organizational arrangements, policies and incentives.

As far back as 1986, the catalyzing power of information technology was analyzed by Benjamin and Morton (1986). They noted that the driving force behind the economics of the information technology industry has been the ability to integrate ever more tightly electronic circuitry. According to them, very large scale transistorized circuits gave rise

to what they called a unique economic circumstance wherein an industry was improving cost performance at 30 to 40 percent an annum, and did so consistently for many decades (Benjamin and Morton, 1986).

According to Benjamin and Morton (1986), information technology is a driver for new and powerful forms of integration in companies that are enabling them to radically reduce the cost of the primary business transactions and to secure important strategic advantages. They noted the potential of information technology to integrate multiple classes of transaction data, integrate multiple forms of data representation, integration of knowledge and also integration of group communications. They noted that information technology leads to change pressures being created through its ability to create new forms of integration at any of these four levels. They further argue that information technology and its driving cost performance facet has changed traditional labor-to-capital-goods price ratios opening up opportunities for radical change in organizations and process and that these opportunities can be used to generate strategic advantage applications.

Information technology's improved interconnectivity potential and larger, complex database can help organizations derive strategic advantage, again through the possibilities afforded by integration. The relation between organizational change and IT is also explored by Farbey et al (1994). They argue that any organization is exposed to a variety of triggers and that change pressure can be exerted from within or outside of the organization. The paper argues that IT is used as a response to change triggers and helps an organization to generate a suitable response to change.

The article noted that the first step in ICT induced change normally falls under 'mandatory changes.' Here, information technology is used to respond to direct competitive pressure – for instance, cost savings through process systems, or even air reservation systems for airlines. Such changes have to be undertaken without a cost-benefit analysis, because they are essential to survival in the face of a competitor's step. Of course, public sector organizations are usually exempt from this pressure (Farbey et al, 1994).

As per the article, the next rung for IT change is applications designed to replace existing methods of working. The third rung for responding to change triggers through IT is to invest in value adding systems that can complement business processes. Management information systems, infrastructure, inter-organizational systems and strategic systems can be added later as per the demands of the environment, or change pressures. Lastly, if all goes well, the organization may look to IT systems that can help the organization transform and reengineer to its own benefit (Farbey et al., 1994).

IT therefore is a catalyst that organizations turn to in response to external and internal pressures. The role of IT as a catalyst stems from the changes it brings in the discourse between labor capital ratios and productivity. The flexibility and high rate of improvement of IT makes it a powerful force for catalyzing change. That said, evidence notes that IT in itself is not a sufficient motivation for change. It is more appropriately treated as a response to change pressures. At the end of the day, the information technology revolution has catalyzed the process of organizational change by changing the economic relationship between labor and capital. Historically, the relation between

capital and labor prices held relatively constant, but the successive large and exponential improvements heralded by information technology infrastructure have changed the status quo. Compared to other capital goods and labor, information technology provides an economic imperative (Benjamin and Morton, 1986). This is perhaps the most powerful explanation of its ubiquity in organizational change and change management.

2.6 Summary

It is evident from the review of existing literature that change is an omnipresent part of our daily lives and with the advent globalization and technological revolution the frequency of change has been radical (Hayes; 2002). Researchers agree that organizations nowadays are in the midst of a state of flux wherein change is mandating adaptation and flexibility in an increasing domestic and global market demand (Toffler, 1980; Siegal et al, 1996; Meyer and Stensaker, 2006). There is a consistency in the attempts by management consultants to generate systematic responses to the pervasive need for change imposed by an increasingly competitive and complex marketplace (Siegal et al, 1996).

Because of this ubiquity; it can be appalling for organizations to approach change discretely and in a rigid fashion (Abrahamson and Fairchild, 1999). In retrospect organizations adapting a more positive and flexible approach to change have flourished and this can be equated with their growth (Abrahamson and Fairchild, 1999; Gagliardi, 1999).

Researchers comprehend that organizations are challenged to improve their operations because of competitive, challenging and ever changing milieu. Owing to the ever changing turbulent environment research shows that while faced with similar contextual forces, organizations opt for different responses (Meyer and Stensaker, 2006) and this variation could be due to differences in terms of how organizations interpret signals and events in their environment; but it could also be based on different capacities within organizations to undertake change (Meyer and Stensaker, 2006).

This goes on to suggest the pertinent belief that coping with altering contextual forces is a key determinant of competitive advantage (Abrahamson and Fairchild, 1999; Voelpel et al, 2004). Another fact noted by Voelpel et al (2004); is that globalization and technological advancements are the major driving forces of the altering forces. As organizations continue to focus on growth and competitive advantage; they not only need to have a flexible approach towards change but rather need to have a proactive approach to change (Bettis and Hitt, 1995). Whereas extant literature is focused on private organizations and change; Manning and DelaCerda (2003); note that even large scale change contributing to a national recalibration can also be produced by public sector organizations. The effects of this can be far reaching and works towards a national context. They warn however, that; *"change in a complex, forward-moving society cannot be seen as a simple linear process or as a magic jump from one state to another but as a very dynamic process of social re-construction of reality"* (Manning and DelaCerda, 2003).

Other well documented need of change in national context is also provided by Ndou (2004), wherein the researcher documents opportunities and challenges arising from such change by public sector organizations. Ndou (2004) notes that governmental agencies and sectors are being forced to move forward in the 21st century with higher quality, cost effective services that offer a better relationship between the citizen and the government. These government agencies in developing countries have taken positive steps towards exploiting the inherent potential of the World Wide Web and other ICT tools in adding coherence to activities and opening up interactive services that are far reaching and increase the participation of citizens.

Benefit of ICT in change has been covered by Benjamin and Morton (1986); wherein they note the catalyzing power of information technology. They noted that the driving force behind the economics of the information technology industry has been the ability to integrate ever more tightly electronic circuitry and as a result, organizations and industry have witnessed improved cost performance at 30 to 40 percent an annum. Existing literature on change and ICT points to the introduction of ICT at the staring point of change process and if not at the starting point then even more so at the process reorganizations efforts (Champy, 1995; Manning and DelaCerda, 2003; Macy et al., 2007; Schaffer and Thomson, 1992; Meyer and Stensaker, 2006).

Similar relationship prevalent in the study by Benjamin and Morton (1986) between change and IT is also noted by Farbey et al (1994) wherein they argue about increased strategic advantage which organizations can derive from information technology. The paper argues that IT is used as a response to change triggers and helps an organization

generate a suitable response to change. Utilizing ICT to respond to change triggers in national context are also well documented (Ndou, 2004; Braa et al, 2001). Ndou (2004) document the deep impact experienced in countries such as Brazil, India and China where change in a national context in being brought about public organizations. Whereas offering results from a study of organizational change in Mozambique's health sector through the use of ICT; Braa et al (2001) note the deep impact noticeable up to the district level.

Despite the prevalent economic benefits of ICT available for private organizations in light of competitive advantages, Farbey et al (1994) note that public sector organizations are immune to this pressure. As Asgarkhani (2005) notes that these entities tend to improve the relationship between citizens to governments and business to government (service offerings) by bringing about innovative change initiatives utilizing ICT.

Nonetheless, the motivation behind change as noted by Beer and Nohria (2000); can be due to what they call Theory E for economic purposes or Theory O; for organizational competitiveness or improvement in the operations. They do note that the planned change models should be used in tandem with both integrated approaches (Theory E and O).

This fact tends to reflected in the ensuing comparison undertaken by Leppitt (2006a) the following field test by Leppitt (2006b); that the weakness identified as a result of this notions have to do with the process elements. These factors are also considered detrimental by researchers; referring to them with varying terminology. For example, process elements (Siegal et al, 1996; Pettigrew, 1985) or complex change variables (Dawson, 1994); "Implementation and change control factors" (Huq et al, 2006).

Nonetheless, the centrality is that the management of these factors will enable organizations to instigate and implement effective change management approaches.

Thus it is evident from the review of literature that change is dynamic and complex especially taking into account technological innovations and ICT. Furthermore, that the change approach should be contextually analyzed, whether the organization is a private entity wherein the impact is primarily for competitiveness or public sector entity; in which the impact is far reaching and more on a broad national scale. In retrospect to the approaches to change management, planned change approach in a complex contextual framework and the highlighted dimensional weaknesses / variables / process elements offer an appropriate guideline of assessing the effectiveness of change management approach.

Chapter 3- Methodology

3.0 Introduction

From the review of literature it is apparent that change in national context can have far reaching impact because public sector organizations tend to operate on a broad national scale (Manning and DelaCerda, 2003); especially when the change involves utilization of advanced technology (Ndou, 2004) to solve a particular problem or owing to the necessity of change technology is implemented (Macy et al, 2007; Schaffer and Thomson, 1992; Meyer and Stensaker, 2006). Also evident is the notion that contextual forces are critical to change (Abrahamson and Fairchild, 1999; Gagliardi, 1999) as are the approaches to managing change (LaClair and Rao, 2002; Kotter 1990); hence both be utilized in tandem rather than discrete variables. Moreover, that the planned change approach (Lewin, 1951) is as important as the process elements of change management (Huq et al, 2006). More specifically, as Leppitt (2006b) highlights, among others factors such as: poor prioritization of change activities, activities related to monitoring and the disparity between change activities and strategy; are areas of improvement in the effectiveness of organizations to manage change; also referred to by other researchers, but with varying terminologies. For example, process elements (Siegal et al, 1996; Pettigrew, 1985) or complex change variables (Dawson, 1994); "Implementation and change control factors" (Huq et al, 2006).

In light of the literature reviewed and the stated aim of this research; a case study approach is utilized. The purpose of which is to bring forth a clearer picture from the authority's perspective on the entire change process. Since the prevalent notion is to

maximize and gain an in-depth knowledge (Stake, 1995; Yin, 2003); a case study approach will be utilized. Similarly as researchers note that the central tendency of case study is that it tries to illuminate a decision or set of decisions, why they were taken, how they were implemented (Yin, 2003). Since this research requires a detailed version from the organization's perspective, therefore a case study approach is appropriate.

It is imperative at the onset of the methodology discourse that the philosophical stance of the researcher be articulated. The philosophical stance is that conducting a large scale customer survey will not add value to the research. This stance ensues from two reasons; firstly, because surveys conducted by secondary sources are existent. Since the premise of survey's is to generalize the results of the sample onto a larger population size (Yin, 2003); conducting a survey for the purpose of this research will be paradoxical to the existing survey results. Furthermore; as survey results are based on breadth (Stake, 1995) whereas this research begs depth rather than breadth; conducting a survey will not add value. In light of this philosophical stance and the research approach; following section details the data collection techniques.

3.1 Data Collection

In order to understand and gauge the effectiveness of the change effort, development of a detailed in-depth narrative will be undertaken. The purpose of this is to bring forth a clear picture of the entire change effort from the organizations' perspective. More specifically the rationale behind the change, what contextual factors were considered, how was the change appraised by the organization, what implementation procedure or steps were followed and how are the post implementation stages ensuing and hence a rich account of the entire change effort will be synthesized. This will be undertaken with the deployment

of following techniques:

3.1.1 Formal interview:

Appleton (1995) cite Polit and Hungler (1991) who describe interviews as a *"method of data collection in which one person, an interviewer asks questions of another person, a respondent, [and] are conducted either face-to-face or by telephone."* Researchers note that interviews are deployed where in depth look at events is required; *"Interviews are often used in research where textual depth and insight is required"* (ONS, 2005) and (May, 2001) "interviews yield rich insights into people's biographies, experiences, opinions..." (Quoted by Lilleker, 2003). Hence, since the purpose of this research beseeches insights from the organizations perspective; thus the interview technique is imperative to this case.

Furthermore because an in-depth insight into the project is required; it is essential that the interview be conducted with individual(s) possessing detailed knowledge of the project, been involved through out the entire change process and encompassing proper authority to defend the position of the organization and the ensuing decisions. Thus to gain in-depth understanding of the participants experience we should, deliberately seek out individuals who fit the bill (Jick, 1979). Even if that means only one instance (interview) is undertaken; it should provide a holistic view of the entire process and proper insights. As Lilleker (2003) note; that while conducting research on governmental issues (as is the case with this research); it is highly likely that various participants will distance themselves because of the controversy; even though they hold influential positions and are directly involved with the project. Most often these individuals will cite "assertions or misgivings" with the events that unfolded.

Needless to say though, that it is arguable to base results from one instance rather than across multiple participants to gather the entire theme (Lilleker, 2003; Yin, 2003); but at times it becomes detrimental to the research that the right source is approached and asked to defend their decisions especially when governmental organizations are involved (Lilleker, 2003). In the article Lilleker (2003) recalls the research of a colleague (on Suez crisis) having conducted interviews of 13 different government officials (MP's) holding prominent roles in the policy and each official offered completely different perspectives of the event that unfolded. Furthermore; Lilleker (2003); notes that; *"the question the data begged was: how did the crisis come about when no one agreed with the government policy."* Adding further that the answer was simple; "*it was the fault of British Prime Minister Anthony Eden; after all he had long since died and could not offer his own defense."* Though this appears fairly anecdotal in nature (Lilleker, 2003); however, it is important that a clearly articulated reason be provided for the selection of one particular individual. The following section provides a synopsis of the respondent and provides justification on the notion of why one interview will suffice.

Nonetheless, the researcher approached the Roads and Traffic authority (RTA) in question to ascertain other individuals within the organization being involved with the project and gain access to them. The researcher was advised by the external communications department; (media and corporate communications department, by the senior editor) that, *"Eng Salah is the best person to talk to; you don't need to talk to any one further, as you know he is the project manager."* This statement was communicated to the researcher by Yahya Khalid; the senior editor of the department.

Participant synopsis

The interview is based on a series of open ended questions. These questions were presented pre hand to the respondent for screening purposes. This screening was undertaken to avoid any questions which would have any potential political fallout. A copy of the questions was also handed to the respondent post interview. For this project, to gather RTA's perspective, interview is conducted with Engineer Salah Aldeen Al Marzouqi, Director ITS department at roads and traffic agency and former head of Smart Card systems section. The department is directly related to the project as it encompasses complete jurisdiction over it.

The interview is conducted towards the end of the research to ensure that prior to the interview a complete account of the entire change is undertaken. This ensures that the questions to be asked will be of relevance to the research at hand. This thus enables the researcher to gather the relevant appropriate details from the respondent and to synthesize an appropriate depiction of the decisions and events. Eng Salah was recommended by two of his peers; both referrals hold strong standing within the organization; at manager and director level positions. Both individuals have vouched for Eng Salah (referrals are mentioned in the acknowledgement section for providing insights to the organization and the project informally). Furthermore, the researcher verified the credibility of Eng Salah, his position within the organization (for strategic insight and management view); relation to the project (for data relevance) and his capacity to defend the decisions. The process was undertaken and verified thru the Media and Corporate Communications Department

by the Senior Editor. The MCC department is hierarchically located upwards in the organization chart (Figure 4.1) and reports directly to the CEO of Strategy and Planning.

Currently as Director of ITS; Engineer Salah holds a senior position in the roads and traffic agency and brings with him a wealth of knowledge and understanding of the project and policies. He has been directly involved with the project thru out the time scale from analysis to implementation and post implementation; all activities pertaining to this change project directly fall under the jurisdiction of Eng Salah as project manager and the ITS department headed by Eng Salah himself as the Director. Previously, the department was non existent and Eng Salah; headed the Smart Card System (SCS) section. This section is basically the think tank where the Salik case was studied and synthesized. Additionally, Eng Salah was also part of the delegation visiting the US for direct observation and interaction with manufacturers of Salik cards.

Later on the (SCS) section was converted into a department and Eng Salah was appointed as the director. The implementation of Salik, the change techniques, feedback mechanisms, website, call center all and other support systems also come under the sole jurisdiction of the ITS department. The ITS department is completely self functional and self operational; an organization within an organization. The department is staffed by its own IT support team, specialist, engineers and website strategists for Salik website. For these reasons, Eng Salah is the appropriate individual to consult for this report and to gather the perspectives of the organization. He has assisted in explaining the case of Salik appraisal and the change appraisal grid utilized to study Salik. Because of his direct involvement with the project; the implementation strategy of Salik, various change

implementations steps, feedback mechanism deployed, quality of the support staff, creation of the call center; in essence all the aspects related to change have been generously explained and these are documented in next chapter. And because of his position as project manager, he presents rich information to the entire change process and therefore the data gathered from this interview will suffice and no further interviews with multiple respondents is required.

For the interview; the researcher was invited to the Gulf Traffic Conference and Exposition held on the 2nd week of December as RTA was participating in the event. Eng Salah took time out and explained the intricate details of the project and the entire implementation process along with new and upcoming changes to the Salik project.

3.1.2 Direct Observation

Direct observation technique is also utilized in this research to get first hand impression of the actual change. Direct observation technique is one of the strengths of the case study approach because it provides evidence which is contemporary based on observations of the researcher (Yin, 2003). Since the researcher is actually a part of this change; therefore direct observation forms an important part of the data gathering process. This technique is utilized to assess the implications of the system on the road network in general and particularly the tolled roads. Because the researcher is a regular commuter to and fro the university / research center (which is located after the second toll gate) and the residence / work premises (located in adjacent state and not in Dubai); this has provided an ample opportunity to observe the system in the pre and post implementation stages.

3.1.3 Documents

Review of the existing company documents also forms an important part of the techniques to gather data for comparison (Patton, 2002). These include the following:

RTA Press Releases

RTA Press releases form an integral part of this research as these releases are direct source for information on the project and the activities which were carried out. It is pertinent to point that from the entirety of the releases prevalent; these were screened and those relevant to the project are utilized. Once these were gathered, the releases were arranged on chronological basis. This allowed for analyzing them further; when and how each activity was implemented. The chronological arrangement enabled the researcher to analyze in detail each activity and the related causal factors. Furthermore, this was also utilized to cross refer the data amassed from the interview.

Media Accounts

Lastly, media accounts studied for the purpose of this research have been limited to two well respected English daily newspapers. This is undertaken to gather responses of the customers to the change and also to cross refer the result of the interview. Following are the dailies reviewed:

- Gulf news

  This paper can be accessed online from the company website. (www.gulfnews.com)

- Khaleej Times

  This paper can be accessed online from the company website. (www.khaleejtimes.com)

Chapter 4-Case findings and analysis

4.0 Introduction

This chapter portrays the case findings and the analysis. The chapter begins by portraying a synopsis of the organization and its operations in the national context. Then on a discourse on the directives for change and contextual factors affecting the change is presented. This is followed by the change – Salik, the change appraisal grid, the implementation process and the overall change strategy.

4.1 Change in national context

The growth strategy detailed in chapter one is the corporate mantra for public sector organizations in Dubai. This strategy (issued by the Executive Office) lays forth the goals and objectives on the corporate level and sets the overall direction. On the basis of these objectives, correlated goals are delegated to the supporting arm of the government i.e. the various public sector organizations. Keeping the goals in view; public organizations issue policies and directives accordingly. Alignment of policies at the ministerial level is exceedingly critical for a successful accomplishment of the objectives in particular and the strategy in general. Hence, in accordance with the objectives and the policies, various public works are undertaken and new initiatives are instigated. Since the focus of these polices is on a national level; this sets the corporate tune for the governmental organizations to adhere to. The Roads and Transport Authority (RTA) also follows this pattern of operation by instigating projects and changes complementing the objectives of the executive strategy.

Road and Transport Authority

In late 2005 under a decree by the government of Dubai a roads and transport authority was created. Issuance of this decree symbolizes unification of all transport services under one roof. All functions related to management and policy of the entire road and transport network of Dubai fall under the jurisdiction of this organization. An important element of this responsibility is the integration of entire road and transportation network keeping in light the broad national policy.

RTA is entirely responsible for the planning and execution of the entire traffic and transport network and projects within Dubai. It is also responsible for preparing legislation and strategic plans, planning and constructing the Dubai Metro, developing other integrated solutions of road systems and marine networks that are safe and in line with the city's economic development plans and the highest international standards. (Source: www.rta.ae)

Mission: *The mission of RTA is to prepare legislation and develop integrated solutions of road systems and land/marine transportation networks that are safe and in line with Dubai's economic development plans and the highest international standards.* (www.rta.ae)

Vision: *Safe and Smooth transport for all.*

RTA Subdivisions: Profile of agencies

RTA as an entity comprises of four sub sections or agencies at the operational level and each operational section comprises of various departments and sections. Each agency is responsible for planning, development and execution of the activities within its jurisdiction.

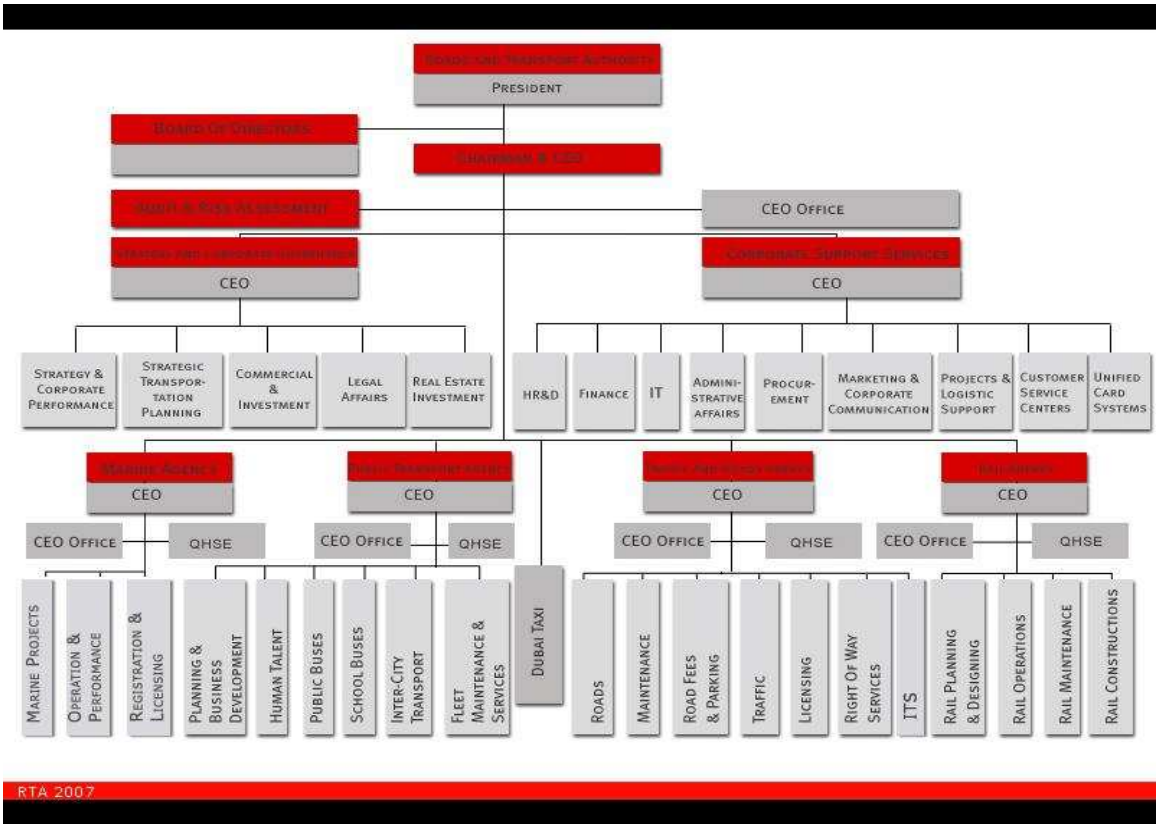

Figure 4.1: Road and Transport authority organization chart (Source: www.rta.ae)

- **Marine Agency:** is responsible for the entire marine transport system including the current water transport network between Bur Dubai and Deira.

- **Roads and traffic agency:** is responsible for road network, bridges, highways, alternate routes, toll system and utilization of advanced technology in the road network.
- **Metro Agency:** is responsible for the construction and management of the monorail project and related support services.
- **Public Transport:** is responsible for mass transit, including buses, trams, construction of facilities for mass transit and other related services.

The mission of RTA clearly reflects the notion of management and unification of the entire national transport infrastructure; this is reflected in the ensuing operations of RTA and its agencies. Therefore the changes already instigated or those in the future will be directed to the overhaul of the entire transport system. This reinforces the perception of wide spread and far reaching impact of change manifested by public sector organizations on a national level prevalent in the review of literature. However, the sub agencies of RTA can also be categorized in a similar manner as each agency is responsible for activities under its jurisdiction and therefore works towards the national context. The notion of change in national context is also evident from the directives which have been set forth for the authority by the executive office. A review of these directives is covered in the next section.

4.2 Directives for Change

RTA and its roads and traffic agency are in pursuit of an ambitious strategy to overhaul the entire road network of Dubai. This strategy requires several changes to be made to the current network as well as the extension of this network. Some of these changes include:

adjustments to direction of traffic flow on a particular road or district; extension of roads, expansion of road capacity and construction of new roads and bridges to name but a few. Nonetheless, numerous changes to the extant network have already been implemented and as time goes by further changes are being instigated. Moreover the ubiquitous nature of change currently visible on the roads in Dubai is evidence of a large scale modernization and up-gradation of the entire road network.

This need to overhaul and modernize the road network ensues from the general direction which has been set forth by the executive office. This general direction (since it is initiated by the executive office) takes the form of change stipulations or mandates. The stipulations require RTA and its road and traffic agency to integrate the entire road network as noted by the Chairman of RTA; "*Dubai Strategic Plan 2007-2015 stipulates that RTA will provide an integrated road and transportation system"* (RTA, 2007a). Evident from the directives, an overall planned change strategy has been envisioned; which is to integrate the entire road and transport network. This strategy forms the basic principle at the operational level, thereby enabling RTA to bring about the necessary changes.

In light of the mission of RTA there are two important factors which have been mentioned in the directives. These factors are imperative for RTA operations and therefore the changes that are to be instigated. These factors reflect the notion reviewed in the literature that organizations are open systems and therefore react with their environment. Furthermore, the changes which will be instigated have to be in line with the economic plans of Dubai. This is noted by CEO of roads and traffic agency, Eng

Maitha while discussing the integration of the road network; "*This is to be ensured by addressing the current congestion problems and accommodating future needs by increasing the share of public transportation and decreasing the overdependence on private vehicles."* (RTA, 2007a)

The change methodology noted by the CEO of roads and traffic agency symbolizes the critical perception in change management theorem that organizations are considered open systems and react with their contextual settings. This is evident from two concepts in the methodology: firstly addressing the congestion problem and secondly accommodating future needs. This goes on suggest that, whenever changes are being instigated, they will be contemplated in light of the contextual factors that the agency faces and the factors mentioned above. These factors will be the focus of attention in the section; however, suffice to say that the directives reflect that the organization and its sub agencies are working towards a national policy.

4.3 Altering contextual forces

Changes to the road network are necessitated by demand on current infrastructure ensuing from the economic growth. The changes instigated on the current road infrastructure ensue from the economic growth and the rapid expansion of the footprint of Dubai in terms of residential, commercial and industrial zones. The economic growth being witnessed has its roots in the diversification drive of Dubai as discussed in chapter one. As the executive office lays forth further challenges and objectives of expansion of corporate Dubai; the offset gets translated into demand on the infrastructure; which in

turn mandates changes to be introduced to the infrastructure. Hence, as the pendulum swings back towards growth, change is on top of the corporate agenda.

The resultant offset of economic growth on the geographic footprint of the city has also been immense. Within a short period of time a surge in the coastline and onshore construction is witnessed in Dubai. Yet, despite this surge, the footprint keeps on adding up thereby altering the factors constantly and the dynamism of the environment can be sensed. Dubai's coastline has increased from 70 km to 360 km due to new off-shore developments such as Palm Jumeirah, Palm Jebel Ali, The World, Business Bay and Dubai Water Front in a matter of years.

The explosion of economic growth in the construction industry and the off shore projects has consequently increased the coastline coverage thereby alternating the factors with in a few years time. On the same note, massive construction activity on the onshore projects follows a similar pattern. With an increased number of projects in the construction industry and creation of new commercial, residential and industrial zone covering vast areas, aptitude of the agency is put to a test and therefore whenever a change is introduced, the officials highlight the notion of economic growth as a justification. Similarly, the change in question in this research (Salik) when it was conceptualized the officials of road and traffic agency highlighted its significance as it has ensued because of the economic growth that Dubai has witnessed. This point was noted by Eng Salah while highlighting the goals of the project.

Another important environmental factor is the ever increasing population and the rise in vehicle numbers in Dubai. According to Eng Salah the purpose of Salik is to reduce the high movement of vehicles on the tolled roads. This notion is also reflected from the company press releases which have been reviewed (appendix). According to RTA the congestion problem is because of two issues: population increase and surge in vehicle movement. Taking into account these issues assessment studies are conducted to determine the required of road capacity for vehicles for particular districts and accordingly change is introduced. The extent of this problem was highlighted by the Chairman of RTA wherein he noted that the movement of vehicles in Dubai increases by 25 per cent every year and there are about three vehicles for every 10 people. There are more than 640,000 registered vehicles in Dubai

This observation hence reinforces two change management concepts reviewed in the literature; that change is not linear and simplistic; rather is complex in nature and secondly, that it is affected by the contextual forces. The contextual forces themselves are not constant in nature but rather variable and dynamic; thus posing a constant challenge for organizations operating in the dynamic environment. The organizations working in the private sector tend to approach the issues from competitiveness point of view; however, the public organizations as the case with the entity in question; the tune is set for national strategy. Keeping the lens of national strategy in sight, the ITS department of roads and traffic agency embarked on ‘Salik’ project; this change is presented in the next section.

4.4 Change - Salik

Salik meaning open or clear, is Dubai's new electronic toll collection system launched in July 2007. Salik was first made aware to the public in February 2007 with an objective to manage the congested roads. The name Salik emphasizes the system's congestion management objectives as well as the choice of technology utilized for the toll system.

Salik comprises of toll gates installed on 2 points; at Al Garhoud Bridge on Sheikh Rashid road and the other one being at Al-Barsha on Sheikh Zayed road at interchange four. Both these roads are integral part of the road network and are important arteries of the system; majority of the new developments are also located on these roads. While explaining the details of 'Salik' change, Eng Salah noted that the system represents two important areas of transformation from the perspective of the organization: that is, Shift in policy and utilization of advanced technology

Policy

The toll system highlights an important policy shift of RTA. The system is an outcome of a long term study by the roads and traffic agency to solve the traffic congestion problems in Dubai. The results of the study were evaluated and compared to international standards and practices of road and traffic management. The outcome of the study reflected a need for moving the traffic from within the city to the exterior roads because of existing heavy utilization of the interior roads. Therefore taking into account international practices and related contextual factors; it was determined to move this traffic to the exterior of the city; thereby decreasing vehicle movement from inside the city.

"We studied the problem over a period of time. It was a long term study; we had data going back to several months. According to the study and international standards, we decided to move the traffic to outside the city."

-Excerpt from Interview with Eng Salah

Previously however, this was not the case. Most of the traffic passed thru the city and the leftover traffic utilized the exterior highways. Nonetheless it can be argued that if the interior roads are tolled to a certain extent, logically the highway capacity should be increased so that commuters who intend not to use the tolled system are given appropriate alternate routes. This notion will be covered in the implementation strategy and alternate routes section.

Salik technology

Salik utilizes the latest open road tolling technology to achieve free flow of operations with no toll booths, no toll collectors and no impact on traffic flow, allowing vehicles to move freely through the tolling point at highway speeds. Utilizing this technology is critical as the system only uses sensors to read the tags and thus avoids unnecessary stops for vehicles intending to the pass thru. A manual toll collection system on these two points would simply be impossible to think off since the objective is to ensure smooth traffic flow. A manual system would just create another tailback and cause further delay in transit time for the commuters. *"I was against the manual toll from the start, because it would just create another bottleneck."* (**Eng Salah)**.

This reinforces the deduction from the review of literature that; even though ICT is not the starting point of the change process; most process reorganization efforts involve utilization of information technology in some way shape or form. The particular nature of the requirement; that is to ensure a smooth traffic flow and the solution provided by the technology in practice is the personification of the dominant belief of researchers and practitioners alike. Nonetheless, as Eng Salah noted, the type of technology was beneficial to the requirements of the project and this is reflected from its implementation.

From an operational perspective, the system is simple, a commuter needs to fill up the Salik registration form, purchase a Salik tag, stick the tag on the vehicle wind shield and pass thru the gates. The system automatically deducts a set amount from the tag. When the credits are below a certain level, a system generated message is sent to the consumer via phone prompting the consumer to recharge the card. The registration process is fairly simple as well. Upon registration, a guide booklet is furnished to the customer specifying details about the system and a list of resources are listed in case of any questions. Salik also has its own dedicated website which can be logged on from the internet. (www.salik.ae)

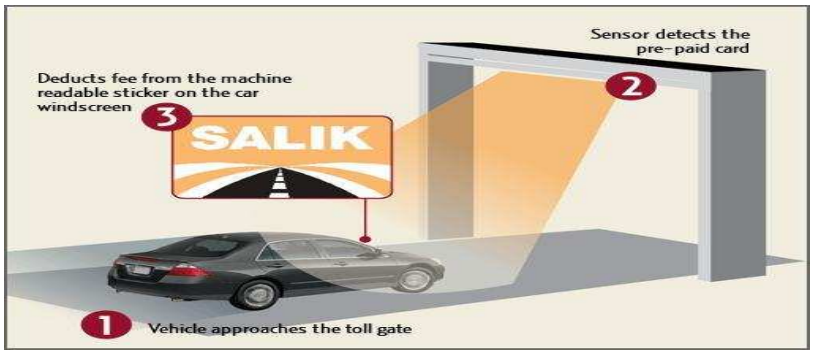

Figure 4.2: Pictorial depiction of Salik

SZR factor – Location of the Toll

An important factor in the entire change effort is its location on SZR. Sheikh Zayed Road (SZR) is the most commonly used road in Dubai, with huge vehicle movement. SZR is horizontally situated extending from east to west, with trade center round about to the east and the Dubai-Abu Dhabi boarder on the west. It is divided into sections overlaid by interchanges at certain distances. The portion of Dubai extending from trade center round about on SZR up to the border with Abu Dhabi is dubbed the new Dubai. Toll gate one is situated on Sheikh Rashid road at Al Garhoud Bridge as pointed out in the figure below.

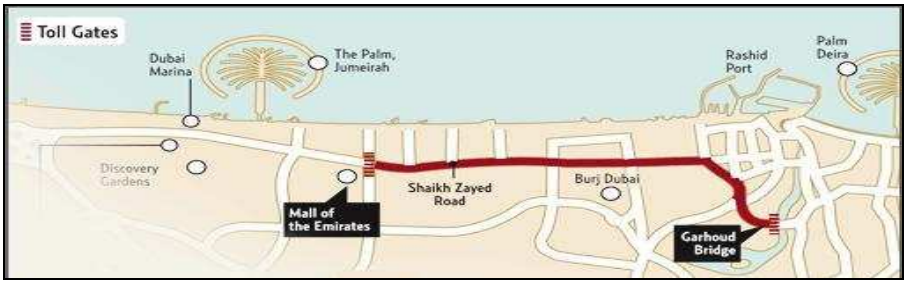

Figure 4.3: Birds eye view of Salik with toll gates

Al Ittihad road, which starts from the border of Sharjah and passes into Dubai, eventually blends with Sheikh Rashid road near the airport (Figure 4.4). Vehicles transiting from Sharjah and other northern emirates to Dubai utilize this road; along with Emirates roads (highway on the exterior of the states) figure '4.4' (Emirates Road E11 is denoted by pointer 4). After merging into Sheikh Rashid Road; Al Ittihad road ultimately merges into SZR.

Figure 4.4: Depicts the tolled portion of the SZR, Sheikh Rashid road, Al Ittihad road.

Pointers 1, 2, 4 and 5 represent alternate routes to the toll system; whereas pointer 3 has partial toll.

With SZR being the location of new developments (residential, commercial and industrial); major sea port and the site for the Dubai Int'l airport; congestion on this entire corridor extending from beginning of Al Ittihad road all the way up to SZR and onwards the border of Abu-Dhabi is immense. Furthermore, because SZR eventually links directly with Dubai - Abu Dhabi interstate road, those commuters intending to travel to the capital, pass thru the entire corridor thereby further congesting the traffic. This is the crux of the problem and the main reason behind the implementation of 'Salik' as pointed out by the project manager.

In order to analyze the change in detail the organization followed a change appraisal grid; which is part of the change strategy. Various factors were then studied and assessed in

regards to the change itself and the implementation of this change. The appraisal grid as the project manager notes was the basis of ensuing implementation decision and this is the focus of the following section.

4.5 Change Strategy

Appraisal Grid

While detailing the planning and change appraisal aspect, Eng Salah explained that each change initiative is viewed from four different angles i.e.

1. Impact on Road Network
2. Mass transit and Emergency vehicles
3. Policy Matters
4. Technology

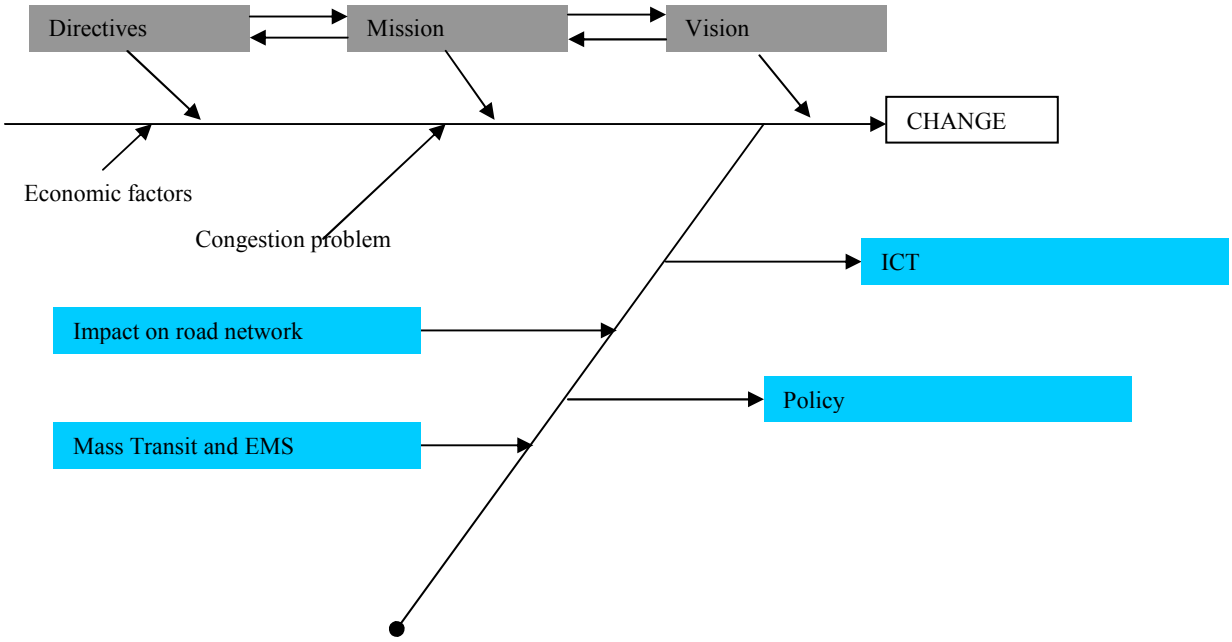

Figure 4.5: Conceptual Change analysis grid

Prior to the onset of change; the problem is analyzed keeping in view the congestion problem mentioned previously and the economic demands. This goes back to the notion of contextual factors and reaction of organizations to the environment. Nonetheless, keeping in mind the contextual factors the validity and applicability of the solution is tested and scrutinized.

The first step in the analysis procedure is to evaluate the solution in terms of the impact on road network. This process reviews the impact from two streams: firstly if the change fits well within the current network by reducing traffic congestion (keeping in mind the traffic flow, direction of the roads, construction work on the particular road in question etc) and secondly, whether supplementary changes are needed to accommodate the principle change. This again goes back to the two factors of population surge and high vehicle movement pointed out earlier wherein the agency / department assesses and determines whether the current and future increase in vehicle movement can be reduced by the change. This is undertaken to 'build the case' for change. This assists in determining the applicability of the change. While determining the applicability various question are analyzed; for example, how will change impact the current congestion problem, will the change assist in reducing the traffic, will the change reduce usage of private vehicles, what percentage will be reduced and others to name but a few. Thereby, going back and forth and validating the impact, various issues are highlighted and decisions are taken as to how these should be handled and thereby an overall assessment in terms of the impact on road network is compiled.

Another important criterion in the change appraisal is that of policy. More specifically this goes back to the change directives detailed above and whether the change equates with the directives, mission and vision of RTA and the contextual factors. Furthermore, whether any specific polices need to be issued in regards to the change for example, legislative / official Decree; these issues are then handled according to official protocol.

Consecutively, whether the change would have a negative impact on mass transit (for example the bus routes, or metro routes which are under construction) and emergency vehicle services routes (disaster recovery teams, fire fighting trucks, police vehicles, ambulances etc). It is important to point here that during the interview Eng Salah was extremely persistent on the safety issues, wherein he mentioned that despite the nature of the change, safety is always the first priority. This issue was specifically taken into account during the evaluation process to assess whether the EMS routes would be negatively impacted or not.

Lastly, as Eng Salah mentioned the technological aspects of the change are factored in. This involves determining the ensuing issues which need to be considered and planned for when implementing the change. In case of this project a delegation from the agency including Eng Salah visited the card manufacturers to study the manufacturing process and the technology during implementation in detail. The conceptual change appraisal grid depicted above Figure ‘4.5’; shows that the department took into account the contextual factors, the current congestion problems, the directives, mission and vision of the authority and evaluated the change in light of four factors as stated by Eng Salah.

Afterwards, once the change was decided the implementation strategy was carried out along with the supplementary changes (alternate routes).

Implementation strategy

The strategy implemented maps well onto the planed change management approach evident in the review of literature. The common notion of Unfreeze/Mobilize/Refreeze can be substantiated from the implementation procedure followed. "*Everything was planned from the beginning, whatever change there is was planned."* Eng Salah. While implementing the change as pointed out by Eng Salah; the department ensured the following:

- Detailed study of the problem was undertaken; eventually providing the rationale behind the change i.e. to shift traffic congestion from within the city.
- A set of objectives were laid forth and followed, a specific timeline was recommended; which was eventually followed.
- Mobilizing resources and initiating change activities.
- Progress was monitored thru surveys. At every stage of the project whether pre implementation or post implementation, surveys were utilized to measure the progress.
- Post change impact evaluation surveys were also conducted.
- Lastly the feedback mechanism was also provided for the consumers.

The above mentioned strategy is mapped onto the planned change model as follows:

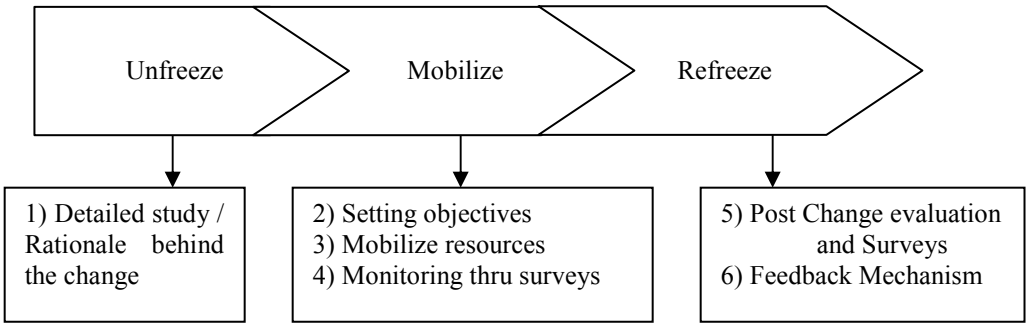

Figure 4.6: Mapping Salik strategy into planned change model

Part of the implementation strategy as Eng Salah explained was the implementation of the change activities (detailed in section 4.6); wherein support services and advertising campaigns carried out to support the change. Nonetheless, an important contingent of the strategy is the provision of alternate routes, which goes hand in hand with the toll system.

Provision of alternative routes

The agency has taken initiatives to provide alternate routes to the commuters for those who do not wish to use the tolled roads. These alternative routes are also part of the agency's change strategy. The roads and traffic agency has ensured that appropriate alternative routes capable of handling high vehicle movement are provided. These initiatives include:

- Business Bay Crossing
- Dubai by Pass road (linking Sharjah and Abu Dhabi)
- Expansion of Al Makhtoum Bridge
- Expansion of Emirates road

- Floating bridge
- Expansion of Garhoud Bridge

Provision of these alternate routes reflect that the agency has taken appropriate measures to combat the congestion problem and that while assessing the appropriate change various other factors have also been considered. The entire change effort along with the appraisal factors, implementation strategy and alternate routes highlights the notion that change in not linear, but rather is complex and that the organization in question is taking a holistic approach. For example, the floating bridge has a capacity of handling up to 6000 vehicles per hour during peak times. Similarly, the expansion of Garhoud Bridge is to increase the number of lanes on each side from three. The Dubai by Pass road links the emirates of Sharjah and Abu-Dhabi, thereby allowing the vehicles to completely avoid passing thru Dubai if their journey is from Sharjah or the northern emirates to Abu-Dhabi. Likewise, various change activities particularly related to the implementation of the project were also carried. These activities have been implemented over a period of time and act as support services. For example the pre project implementation activities are more tuned to creating awareness, introducing the actual change, its benefits and various public campaigns; whereas the post implementation activities are related to enhancement of services, special instructions, debugging of the system and others.

4.6 Managing Change – Implementing Change activities

The roads and traffic agency has introduced a variety of change management initiatives in light of the toll system. Ever since the announcement and branding of the toll system, the organization has introduced a variety of services to assist its customers. For

chronological purposes and to provide a better sense of reality; these initiatives are divided into pre and post implementation and are arranged on a temporal basis.

4.6.1 Pre-implementation

These initiatives were introduced prior to the implementation date of July 1st 2007 of Salik.

- **Branding Campaign** - February 14th 2007 - announced that brand name of its upcoming toll system is Salik.
- **Awareness Campaign** - March 29th 2007 - RTA launched a public awareness campaign for the Dubai toll system, Salik, though audio-visual and print media. The campaign was part of RTA's sustained efforts at enhancing awareness of principal objectives of Salik – that is, effectively manage traffic in Dubai and minimize congestion.
- **Call Center** – April 23rd 2007 – RTA launches toll free call center (800-SALIK: 800-72545). Eng Maitha on the launch of the call center said, *"The RTA wants to reach out to the largest possible number of road users in our community. Our call center operators are trained to provide complete information about the toll system, from the locations of the electronic gates to the mechanics of the system and (registration/application) information."*
- **Workshop for Businesses** – April 29th 2007 – RTA holds a special workshop for the fleet owners and operators about Dubai's new electronic tolling system.
- **Salik Tag distribution agreements** – RTA signs agreements with a variety of companies as point of sales (POS) of Salik tag distribution and recharge locations.

The tags were distributed to a total of 287 outlets in Dubai: 180 EMARAT petrol stations, 70 EPPCO/ENOC stations, and 37 branches of Dubai Islamic Bank. Furthermore these tags are also distributed to a number of stations in neighboring emirates as well. A colossal 400,000 tags were distributed by late June for the launch Date of July 1st 2007.

4.6.2 Post-implementation

These initiatives were launched by the organization post implementation (after 1st July, 2007)

- **Development of Web services and IVR System** – RTA launched a new series of integrated services including web services and IVR system. On August 3 2007, a dedicated webpage for Salik (www.salik.ae) was launched. The authority also enhanced the performance of the call center by launching a new Interactive Voice Response (IVR) service. These services enable motorists to check their account balance and view the number of crossings through the toll gates. These services also allow subscribers to amend their personal data and print out financial statement.
- **Awareness Campaign** – August 14th 2007 – RTA requests the motorists to provide correct information while recharging and applying for Salik. RTA stated than more than one million tags have been distributed thru various point of sales (POS) in addition to the licensed RTA centers. The authority also declared that more than 600,000 tags were sold and activated from July 1st 2007 till August 14th 2007.

- **Salik On-Line recharge service** – September 19th 2007 – RTA launched an on line recharging service from the website www.customer.salik.ae. According to RTA, on line recharge service provides customers the facility to recharge their accounts from the convenience of their homes or offices. The new service is a vital addition to an array of customer-friendly services already available on the website offering subscribers of Salik full access to information on their Salik account. September 30th 2007, RTA reports a strong positive response for its online services from subscribers. RTA stated that in cooperation with Dubai e-government; the service has achieved more than 6,000 transactions within a week of its launch.
- **Enhancement of Support Services** – On October 23rd 2007, RTA announced to link Salik accounts to a group of financial institutions to offer users more option while dealing with the system. RTA also announced its plans to sign new agreements with several partners to enhance the convenience of Salik users. RTA also issued a press release urging customers to pay proper attention and to follow right procedures before subscribing to or recharging Salik.

The approach undertaken by the authority reflects a thought out planned approach taking into account variables (altering contextual factors). The explanations provided by the project manager indicate and imitate the planned change model mapped in Figure '4.6'. Whereas the appraisal grid and the change evaluation procedure followed, depicted in Figure '4.5' portray the factors which have been taken in account while evaluating, planning and implementing the change.

This view is symmetrical to the notion noted by Manning and DelaCerda (2003) who note that even though public sector organizations can have a large scale impact on a national level, but *"change in a complex, forward-moving society cannot be seen as a simple linear process or as a magic jump from one state to another but as a very dynamic process of social re-construction of reality."* Save for the approach adopted by the agency which suggests that there was a great consideration for the factors and specific attention was paid to these variables and reflects the notion of "context" noted by the researchers. This in turn reflects the belief held by the project manager of the project to be successful; who also notes the considerable percentage reduction in traffic congestion as evidence. *"Yes, 'Salik' has been successful"* noting further that "*We estimated the reduction to be 25%. However, initially in July it was 50% reduction, this was because people were not aware of Salik properly, but now it ranges from 20% to 25%."* – (Eng Salah)

Not only does this show that the project has been successful from the perspective of the organization but also that the percentage reduction is evidence that the change, paved way for the desired results as estimated by the authority. Five months after the implementation of this project, RTA is at the closing stages as the director notes and further that "everything is set" (Eng Salah).

Significance of the Change

A significant feature of this change management approach is its innovative characteristic. This is the first time that the organization has instigated a change utilizing advanced technology on such a large scale, that it affects every commuter and this is just the

beginning. More and more projects will be instigated with the purpose of bringing about various changes and not only from the organization's perspective but other organizations will try to extrapolate from this change management approach to implement symmetrical systems within their jurisdiction. Because the organization in this case undertook innovative steps they are viewed as role models by others. Hence reflects the notion that similar change and similar technology can and will be applied to other organizations. This notion is also noted by Eng Salah; *"Because we are the first one to implement this kind of system in the region, we have received requests for assistance with this technology. People are asking us to help in their projects."* Without disclosing much about the nature of the projects or which organizations, the director did mention one application which is being investigated for others; that is parking systems.

This however, needs to be carefully implemented keeping in mind the lessons learned from this project so that the current system is not affected adversely. As evident from this case the pre launch pessimism was immense and the post launch implications have been negatively associated by the customers. Despite the ubiquitous pre and post launch pessimism and negativism, the organization does hold the premise that results have been successful and that without nudging away from its premise, the results 'now' are positive.

"Yes, there were many people who said this will fail, but if you look at the traffic reduction now, it is different. The reduction in traffic is as we had estimated." (Eng Salah)

Despite this belief, there is disparity in a variety of issues and the reality on the ground suggests a stark divide of views. The results of a survey conducted by secondary sources

suggest about 52% of readers believe Salik has made situation worse and 35% are of the opinion that Salik has made no difference while only 13% agree that Salik has eased the traffic situation (Ahmed, 2007). This correlates to the notion reviewed in the literature that majority of the change approach tend to fail with a low rate of success. Furthermore the ineffectiveness of change management approach as researchers note is rooted in certain weaknesses ensuing from the change approach deployed by organizations. The disparity and dichotomy will be the focus of the following sections.

4.7 Dichotomy of views (Theory E/O)

In the interview Eng Salah made it clear that based on long term studies and evaluation the toll system was introduced, because the agency wanted to shift the 'unnecessary traffic' from within the city to the exterior highways. The primary objective of the solution is to reduce the traffic congestion which was clogging the arteries of the road network. Even the brand name 'Salik' emphasizes this fact; a praxis so to say.

However, this initiative faces heightened criticism and pessimism from the road users. The underlying principle is blurry and the doubt whether this change is for revenue generation or an actual attempt at solving the traffic problems is actually prevalent. Even though; the authority, has over a period of time defended the objectives of the system despite the revenue generation angle. The details provided by Eng Salah also make a good case for introducing the toll; for example the change appraisal grid clearly shows that various factors were taken into consideration. But nonetheless, there exists a dichotomy and disparity in change management approach adopted by the organization and the predominant opinion of the consumers as well as the events that unfolded during

the course of this change. This dissection is carried forward from two angles: the traffic reduction notion and revenue generation angle.

As a point of direct observation, the traffic congestion problem in Dubai is one that takes time and is a source of nuisance for commuters. The consequences are not only social but also economical. According to the authority, the traffic problem on an approximate costs the economy about Dh4.5 Billion annually; whereas the safety concern (i.e. accidents) costs up to Dh400 Million per annum. The extent of the traffic situation in Dubai is of a grave one wherein the commuters face bumper to bumper traffic thru out the day. The justification provided by the project manager wherein he mentioned that while analyzing the results of the long term study with international practices it was deemed feasible to shift the traffic from within the city to the exterior roads. This goes back to the SZR factor mentioned previously and the notion of economic developments taking place on that particular stretch.

On the flip side; the revenue to be generated from this change approach is also immense and this is the crux of the revenue outlook. Each tag is sold at hundred Dirhams each (more than six hundred thousand tags have been sold). Furthermore, each toll gate deducts four Dirhams from the tag each way; so a round trip from toll gate one to toll gate two and back would cost sixteen Dirhams. However, there is a maximum cap of twenty four Dirhams daily. These numbers if calculated appropriately do end up with a lucrative amount for RTA. This point was raised (indirectly by the researcher) when the project manager was explaining the implementation steps that there is a lot of coverage in the media regarding to revenue which would be generated from this project; to this the

project manager avoided providing a direct answer except that *"they write whatever they want to write"*; providing no further details as to how the funds generated will be utilized.

Disparity between strategy and change

From the discourse above it is evident that there is a clear lack of alignment between the change approach and the strategy. Firstly, because the current transport culture of Dubai is one which is dominated by private vehicles. The extent of the public vehicles is dominated by taxis and a meager number of buses. With the lack of appropriate public transport services; private vehicle movement will be high. Secondly, from operational aspect; Salik is open round the clock and commuters are charged the same amount irrespective of passage time thru out the day at both peak and off peak times. This gives a vague impression of the objectives behind the system. A prominent question which arises from this deduction is that, "If reducing traffic congestion is the reason; why are commuters being charged during off peak time?" and more so "why on the weekends?" This shows that there is a clear disparity between the strategy devised by the organization and the change.

Interestingly; on a similar note; Floating Bridge (one of the alternates) is closed to traffic from 10 pm to 6 am everyday. This also reflects the lack of alignment between strategy and change, because if the alternate routes are closed to traffic during off peak time; then the toll should follow suit and the strategy should reflect the need for change.

Thirdly, the businesses operating from SZR face the brunt of an increased daily expenditure. For example, the hospitality industry which is predominantly located on

SZR, incurs a cost of Dh4 each time a company car passes thru the gate. This is to say if the business is located between gate one and two. However, if the business is located after gate two; one way cost goes up to Dh8. For employees commuting to and fro; an added cost of Dh16 daily is incurred. For guests transiting to and fro the hotel; the same scenario applies and for the suppliers; service vehicles supplying food and beverages etc; their costs surges as well because of the toll.

Lastly, utilization of the revenue generated from this change is vague and unclear. However, RTA does hold the premise that the funds will be utilized in reforming the transport network; but without specifics of how and where. Nonetheless, apparent from the contradictions and observations presented; the premise that there is a lack of alignment between change and strategy holds strong. Furthermore, from this deduction; it can be safely argued; that owing to this aura of uncertainty and vagueness; the effectiveness of this change effort is questionable even though Eng Salah talking on behalf of the organization says the change is a success.

Similarly another issue witnessed in the change management approach of the organization is that the change activities implemented were not appropriately timed. Certain support activities which should have been introduced pre implementation of the project were instigated post implementation and this also caused severe difficulties for the customers. This notion if presented in the following section.

4.8 Change activities – Prioritization

A key issue in the implementation stage of the change is that of prioritization of the change activities. Even though the organization as pointed out by the project manager did undertake necessary steps in ensuring that proper contingencies are planned for and yet despite these efforts, the reality is quite different. There were quite a few support service issues that surfaced during the post implementation stage of the project. The subsequent fallouts noted by the media reflect the various difficulties consumers faced during the change initiative and initial operational stages of the project. Interestingly however, when the project manager was asked about fallouts, Eng Salah did recognize these issues but his view was different; he blamed majority of the issues on the customers; *"We received registrations from more than a couple of hundred thousand people, in just 2 days. Not even the telecom operators receive this kind of request in such a short period of time."*

The director further noted that the tags went on sale long before the launch date but the customers did not register for Salik. Arguably so, the director provides strong rationale, but the researcher argues that from the project instigators' perspective the problem is due to lack of appropriate prioritization planning. The purpose of the support services which the organization introduced; is to allow a smooth transition and get the customers acclimatized to the change. However, it is pertinent that to serve their purpose the support services need to be introduced prior to the implementation. However, evidently the reality is contrary and the support services have been introduced after the change is implemented. This is similar to the concept noted in the literature that the effectiveness of the change management approach of organizations comes under jeopardy when the

change activities are not properly time and prioritized. For example, the timing of the implementation of IVR system (Interactive Voice Recognition system) is questionable and same goes for the project website and online payment facility; all of these were introduced after the project was implemented.

In the pre-implementation stage of the project the only support service the organization introduced was the call center which had approximately 250 agents with trilingual expertise- working round the clock. But in comparison, the number of cards distributed to the point of sales was more than a couple of hundred thousand; hence the ratio is extremely unbalanced and out of proportion. Even though, the organization now has reduced the number of call center support agents to 96 (according to Eng Salah), with the introduction of the various support services, the customers; as Eng Salah notes can; *"log on to the website or use the IVR or even call."* Even though, at present customers are able to utilize these services; but during the implementation these were not prevalent.

On a similar note, the time allotted to each activity is also very limited. Upon closer scrutiny of the implemented activities, it is clear that duration of each activity is short and this has impacted negatively on the customers. From operational point of view, to introduce a change of such a magnitude requires the campaigns (even though these were utilized by RTA) to extend for a longer period of time. However in this particular instance these campaigns were short and the date of instigation was just about five months prior to its implementation. The project launch was set for July 1st 2007 and the awareness campaign started in February of 2007.

Furthermore, it is important to note that the actual audio-video and print awareness campaign started at the end of March. The launch of the call center nonetheless was almost a month afterwards, in late April. This raises the question of the effectiveness of the change activities because there were unplanned events that took place despite having "backup plans" for everything as noted by the director; "*Everything had backup, from the sales of tag (Point of sales) to the power (electricity for the system) had backup, the entire project had a backup. We even made backup power arrangements from DEWA."*

It is evident from the annotations made by the director that the organization relied immensely on fallback plans. This increased presence of fallback or backup plans in actuality has contributed positively to the change management approach because these were utilized on various occasions. However, having a 'back up plan for everything' ensues from the fact that the organization recognizes the existence of 'unexpected variables' but the magnitude of these variables is unknown. And the fact that the change is innovative is the most powerful explanation of this phenomenon.

In spite of having backup (contingency) plans for everything the director did note that unexpected behavior was witnessed; *"We had seen unexpected behavior from the public. Some people did not have tags; some placed their tags on the wrong position…"* This observation reflects actual events because of the limited time allotted to the campaigns. Similarly, a related issue also gets raised pertaining to the final stage of the implementation strategy, which is: monitoring and feedback.

4.9 Monitoring and Feedback Mechanism

The final step in the implementation strategy is the progress monitoring and feedback. Monitoring progress is imperative to the change process as it indicates project advancement; whereas the feedback mechanism assists in indicating customer response and resolving outstanding issues ensuing from the change so that amendments to the system can be ensured. As part of the progress monitoring methodology; the agency deployed survey teams to directly measure and assess various initiatives implemented. Surveys were conducted at both the pre and post implementation stage of the project. While describing the monitoring technique deployed by RTA, Eng Salah said; *"We conducted surveys at every stage, we conducted surveys of awareness of the toll system. We also conducted surveys on the registration of Salik to see if people are facing any difficulty."* The purpose of this activity was to ensure that the responses are measured and if need be, amendments are made accordingly.

In order to receive feedback from the commuters, RTA has implemented an active feedback mechanism to gather the responses. The feedback received from the commuters is then handled accordingly by RTA. Eng Salah while explaining this mechanism said, *"We have the call center as the best feedback method. People call our center and let us know. We also look at the media reports for feedback."* The call center also acts as an intermediary between the authorities and the commuters whereby any complaints regarding Salik accounts or Salik related technical issues are also lodged. The monitoring and feedback mechanism assisted the agency in trouble shooting the technical errors and difficulties faced post implementation. The agency also initiated a 'mystery shopper'

program; wherein the quality of the POS is assessed by 'survey teams' as noted by Eng Salah; *"we initiated a mystery shopper program. In this program we sent people at various locations of point of sales not only in Dubai but other emirates also, to check the type of service being offered by the staff towards Salik customers and if they are following instructions. These people posed as customer and conducted assessments accordingly."* This reflects the legitimacy of organizations' activities and their efforts in facilitating the consumers towards the toll system.

Despite these efforts, unexpected behavior was witnessed during the initial time frame post implementation; as Eng Salah noted; 'customer passing the toll gates without tags' and 'irregular positioning of tags'. From this observation two important arguments can be made: that campaigns were not properly executed in terms of both the time allotted to each activity and the content; while at the same time the monitoring and feedback mechanism is questionable.

Interestingly however, another issue which was observed was that the commuters evaded paying the toll during the initial stages of the project. Over the entire course of the change, a critical issue which was observed was that the commuters tried as much as possible to avoid passing thru the toll despite using the tolled roads. This was observed initially when the toll gates went 'online'; that commuters would dodge the gates by using alternate routes; in so doing bypassing the gates and returning back onto the tolled roads using these alternate routes. However, this has been reduced now because the organization made changes on the roads by barricading certain entry and exit points. Initially when this activity was witnessed it resulted in major clogging of the small roads.

This is true for toll gate number one at Al Garhoud Bridge where all the entry and exit points as barricaded save for smaller roads and if the commuters intend to utilize the smaller roads to avoid the first toll gate; they have to pass thru the internal roads but this of course wastes excessive time especially during the day time rush hours.

However, once the tolled road merges with SZR, it is not the case. Because the SZR being a motorway / highway is overlaid with intersections; therefore to avoid toll gate number two, commuters exit a couple of kilometers prior to the gate, pass thru the service roads and into the smaller roads by taking a long detour and returning back onto SZR hence bypassing the second gate. The problem with this of course is that, again it wastes time; especially during the day. Nonetheless at present this behavior has been limited to fewer cars than before because the time factor weighs in quite heftily. And this points to the conditional response to the toll, that is, if time is of the essence then the customers will utilize the toll otherwise they will keep on avoiding it where possible.

From the perspective of the organization, it reflects that initially the implementation was not appropriately carried out and the 'right message was not sent across' and secondly the ensuing commuter behavior was not as expected by the organization. The former notion is evident from the various change management issues noted above, but the latter issue also holds strong and in reality both are prevalent. However, Eng Salah blames the commuters for not appreciating and utilizing the changes the organization is bringing about. For example the director notes that when the 'Business Bay crossing' was instigated only 25% of the commuters utilized it and as soon as Salik was introduced the usage surged to 150%. *"When the Business Bay crossing was introduced, there was only*

25% usage. On a 7 lane road, 25% usage is nothing. People did not use it at all, but when we introduced 'Salik'; the usage went up to 150%."

Nonetheless, the change approach entails amendments as noted form the discourse to increase its overall effectiveness. Having said this, it also imperative that organizations when implementing change and managing change encompassing a large scale impact need to be 'open' to the social setting and contextual forces that are surrounding the change and where necessary make amendments instantly.

Chapter 5 – Recommendation and Conclusion

5.1 Recommendation

The study findings and analysis highlight aspects of the change management approach which need to be improved. Evidently, the entire change management methodology reflects impulsiveness, that is to say that everything was conducted extremely quickly. This consequently has negatively affected the change process. A large scale change as researchers note, in a forward moving society is complex and cannot be seen as a simple linear process or as a magic jump from one state to another but as a very dynamic process of social re-construction of reality (Manning and DelaCerda, 2003). However, the change does manifest efforts to solve congestion problems but on the other hand it also manifests a lack of understanding or reluctance of the organization to realize that a change of such a magnitude cannot be conducted over a period of few months. The organization is shifting the culture of the transport network as noted where the existing system is predominantly based on private vehicles to a culture more dominated by mass transit. Therefore the events need time to 'settle in' and the commuters need time to get acclimatized. However, this is not how the events unfolded and everything rather underwent a fast track mode.

The main reason for introducing Salik, as noted by the director was to shift the traffic from within the city to the exterior roads so that the congestion can be reduced on gridlocked freeways. Even though the evaluation procedure justifies the efforts of the organization as authentic; yet the implementation strategy and the events that took place reflect that the organization neglected the 'social' impact without estimating the

probability of events unfolding adversely. The researcher argues that this issue is imperative for organizations intending to implement change. Even though the social impact was 'mistakenly not assessed' or 'purposely not assessed' from the organizations' perspective, social impact has to be considered and taken into account during the change appraisal. In the change appraisal the director noted that four factors were considered; impact on road, technology, policy issues and lastly mass transit and EMS. Though the impact of the change on the existing road network was assessed; but the social impact was not considered and this should not be neglected.

As noted earlier, the issue of 'hastiness' is predominant in the entire change process and reflects a sense of 'quick fix' to the problem. This obviously has been detrimental to the change effort and hence has hampered the progress of the change. From the change activity implementation that the organization carried out, it is evident that the prioritization of the activities was not appropriately pursued and this is another important area of improvement. Upon closer scrutiny, it is evident that the post launch activities, for example IVR, website, online payment services; cumulatively labeled as 'support services' should have been implemented prior to the launch and not post launch. Similarly the call center, which is the only support service instigated in the pre launch, is also questionable. Because logically there is a need to have a variety of supplementary information sources for commuters seeking to get answers to queries regarding the change and not just one. The supplementary support services need to coincide with the launch of the awareness campaign or even prior to it. Launching the call center approximately a month after the awareness campaign should be avoided. Similarly the post launch 'support services' should also be implemented in the pre launch stage along

with the call center, in order to provide the commuters with a proper range of facilities to get acclimatized with the change.

Another point to consider is the utilization of advertising campaigns in an effective manner to get the desired results. Popular with media and advertisement business is the utilization of 'teaser campaigns'. These campaigns do not 'speak out' the actual message but rather are used to attract consumer attention. Once enough time has passed, a survey or a poll is conducted to assess the reaction of the target market post instigation of teaser campaigns. This is a popular methodology in the media business used in pre launch stages of products or services to entice and even to assess consumer acceptability. Important to note; that time, in this methodology is of the essence. Enough time needs to be committed to the 'teaser' campaigns to create a 'buzz'. Even though the organization did utilize the teaser campaigns, the time duration was very limited. On February 14th the service was branded as 'Salik' and the awareness campaign was launched on 29th of March; clearly only a few weeks were allotted to the campaigns and this does not assist in the acceptability of the change by the customers.

A common practice is to allocate enough time to the teaser campaigns, that once the surveys are conducted the desired outcome is achieved. If not then, the campaign is continued until such a time when the desired results are accomplished. This assists in getting the customers on board the change efforts and aids in 'educating' the customers. Allocating proper time to change activities is highly critical for a successful transformation. But the issue evident from the way the organization conducted the implementation is that the entire change was put on fast track. Furthermore, because not

enough time has been committed to pass the 'appropriate' message across during the awareness campaign; various unplanned changes have been witnessed. Therefore, it is imperative that proper time is allocated to change activities so that the desired results are achieved.

On the other hand however, it is pertinent that for a successful execution enough resources are also allocated during the pre launch stages as mentioned above. In this case study, majority of the issues witnessed during the launch and afterwards were because the support services were not present and this created havoc. The Integrated Voice Recognition (IVR) system, web payment services, launch of a dedicated website are support services which should have been initiated pre launch. In order to facilitate the transformation process is it pertinent that the potential customers are provided as much services as plausible to adapt to the change. In order to aide the transformation process it is suggested that a carefully selected pool of individuals be taken from the population at regular intervals. These individuals should represent both masses; general as well as businesses and accordingly surveys' should be conducted to measure the effectiveness of the campaign and the acceptability of the change by the customers. This allows the organization to assess the change efforts from the consumers' perspective and aides the organization in improving change effort by making necessary amendments where necessary.

Another related area of improvement is the monitoring and feedback mechanism of change approach. It is directly related to the various change activities that the organization implemented, because the monitoring and feedback mechanism is utilized to

gauge the progress of the project and alerts the organization about the 'pulse' the project. From the case it is evident that the organization utilized 'survey teams' and instigated the 'mystery shopper program' to monitor and gather feedback at every step of the implementation procedure. However, the utilization approach and efficacy of the monitoring and feedback techniques is questionable. It is noted in the case study that unexpected behavior did take place for example, commuters passing thru the toll gates without tags or commuters placing the tags on wrongful positions. This directly reflects that the monitoring and feedback mechanism was not conducted properly. It is therefore recommended that the organization utilize workshops for commuters similar to the 'workshop for businesses' that the organization conducted. This will assist the organization in two ways: get the customers on board with the change effort and secondly this will assist in toning down level of unexpected behavior by 'educating' the commuters. Once this is undertaken, random surveys should then be conducted to ensure that the commuters are up to date regarding necessary instructions.

Another recommendation is to utilize the feedback mechanism to gather 'real time' data. The idea is to operate on a real time basis for the registration so that the support staff is aware of the potential number of registrants before they are flooded with registration requests. Currently however, this is not the case and this was revealed by the registration staff working at the point of sales. Presently all registrations and card recharges are sent to the organization after every eight hour interval without any intimation of the actual number of customer accounts to the organization. So there is no way the organization is aware of the exact figure of registrants or recharge applicants until it receives the copy from the POS. This has a potential to create major havoc and hamper operations if

numerous registration requests are received by the organization at one point, as was the case during post launch. The purpose of having a 'read time feedback' is to create an integrated process to ensure smooth transactions take place without causing major technical or customer services related issues, this can be undertaken by providing feedback on an hourly basis to the organization. Thereby allowing the support staff to update the system accordingly, rather than having piles of requests pending the next morning or the evening before. This also creates a sense of ease in the mind of the customers because they can rest assure that their requests are processed and messages are sent as their requests get processed.

Lastly is the issue of disparity between change and the strategy implemented to undertake the change. It is clear from the case that there exists a clear dichotomy of views between the customers and the organization. This arises because the customers are not taken into confidence regarding the change effort and how the change will benefit the entire system in reducing the congestion. This is the crux of the issue and despite various initiatives the organization implemented to assist in the transition, customer adversity still surfaced. It is recommended that the organization take into consideration that commuters need to be on board for the change to be successful. It is not only about the percentage reduction of traffic from roads but the fact that commuters take the initiatives themselves to propagate change. This can only be achieved by having an open discussion about the change and remove the misconceptions. The organization also needs to clearly stipulate the utilization of funds gathered from this change effort. This is a critical issue with change efforts which is viewed as a 'revenue generator'; because the customers always believe that despite the efforts of the organization to solve the problems it is still costing them

money and this creates a sense of mistrust between both parties. It is pertinent that the organization be transparent is regards to the utilization of funds and provide details as to how these are being channeled and with what results. All the while, the organization has held the premise that the funds generated will be utilized to improve the public transport system but without any specifics. If the customers are provided details on timely basis then this reduces the mistrust and also allows for a successful change effort.

5.2 Conclusion

Being an innovate project which deploys advanced traffic management solutions from regional standpoint; the project and the initiative highlight important issues in regards to the effectiveness of change management approach of organizations. Thereby providing an insight into how the entity in question (being a public sector organization) is managing change. Because the nature of the project is innovative, the organization tends to utilize as many resources are possible and undergo internal change accordingly. For example, to accommodate for the change, the ITS department was formulated. Previously, the department was non existent and operated only as a section. But in order to instigate the project and bring all its activities under ‘one roof’; a department was formulated with Eng Salah as its director and the project manager.

This case study sought to address the efficacy of public sector organizations in regards to managing change and its improvement. This was undertaken by appraisal and analysis of the change effort, its implementation and its implications on road network in Dubai. The factors considered are as follows:

- Detailed insight into the change appraisal and methodology.
- Implementation strategy and its mapping on planned change model.
- Altering contextual factors surrounding the change and change complexity.
- Evaluating the prioritization of change activities
- Assessing the time allocated to the awareness campaigns and change activities.
- Review of feedback and monitoring methodology and its effectiveness
- Assessment of the overall strategy and change alignment.

Polarized view of change

Findings from this study reflect a polarized aura to this change. Two schools of thought are prevalent from the entire study. The first being revenue generation and the second being an attempt to manage the traffic problem. Whilst both the thoughts are ubiquitous; it is evident that an integrated approach has been taken. The authority does recognize and acknowledge the revenue earned from the change; yet despite this notion; no further details as to how the funds will be utilized it available. Moreover, from the implications point of view the initiative is also the apparent cause of supplementary traffic congestion caused by the surge in vehicles on alternate routes by those evading the toll. The other school of thought believes that this change is successful, has achieved the stated objectives and its purpose of implementation.

These two views represent the classical theories on motivation of change, i.e. Theory E and Theory O; reviewed in literature. Theory E represents the economic pressures to change whereas Theory O symbolizes internal reforms to the organization and its services. Both theories are instigated pertinent to varying management beliefs, however,

experts do note that an integration of these strategies does pose a big payoff for organizations. But all too often, private companies operating in a competitive market facing the brunt of globalization, ubiquity of global information flow and leaps in technological advancements tend to nominate Theory E. Implementation of change initiatives is prescribed by the impulse to survive and reap gains. Public sector organizations; as the subject of this study; also tend to operate on a similar tone, wherein change at the national context is essential for competitiveness of states but not the organizations themselves. However, the inclination to reap direct economic rewards from change initiatives is less likely for public sector organizations; rather it is to assist in economic achievements by providing appropriate infrastructure. Hence the public entities need to be transparent whilst undertaking changes which tend to entail a revenue generation angle. Even though RTA holds the premise that the funds will be utilized to reform public transport; it is unclear how and where the funds will be utilized.

Economic growth; traffic congestion and altering contextual forces

Study findings illustrate that owing to rapid growth and economic expansion, existing transport infrastructure of the state is placed under pressure due to the high rate of utilization of private vehicles and lack of appropriate and effective public transport; annual double digit leap in private vehicle registration and an ever augmenting influx of the workforce. Furthermore, lack of appropriate mass transit also exerts supplementary pressure on the infrastructure. Economic losses arising from the traffic congestion amount to Dh4.5 billion approximately. Whereas the economic loss resulting from

accidents amount to Dh400 million; thus providing an insight into the magnitude of traffic problems of Dubai.

However to reduce the losses, foster economic growth and reduce traffic congestion, an integrated approach to traffic management is undertaken by a nominated entity. This entity has mandates and stipulations from the executive office and national growth plan. The approach of Roads and Traffic Authority (RTA) is stipulated for it by the executive office; wherein the organization has to integrate the entire road and transport network. This integrated system, is to be founded on international standards and practices keeping in mind local perspectives, demand on the infrastructure and the contextual factors. The policy also calls for a reduction in use of private vehicles and an increase in public transport services. The authority's impulse to bring forth changes are necessitated by the growth factor and therefore is consistent with the theoretical concept that "as the pendulum swings back to growth; change will be on top of the corporate agenda" (Karp, 2005). Even though there is varying rationale behind change and change management; an organization will bring forth changes in light of the altering contextual forces. Those operating at a national policy level view change and the motivation to change differently from those operating at the commercial level.

Change highlights increased utilization and reliance on ICT in public entities

The occurrence of this change also highlights another essential feature and that is the utilization of ICT. Also evident from the case study and consistent with theoretical concepts is the increased utilization of technology in change initiatives. The technology induced change effort further signifies the type of advanced technology deployed,

because the technological features complement the requirements of the change i.e. to provide smooth passage. Absence of this technology would be counter productive to the congestion reduction strategy. The nature of the project being innovative also suggests a surge in reliance on advanced technology in this region to manage change and therefore serves as a good case study.

From state of flux to state of equilibrium: Conditional response to change

The decrease in cacophony in the media accounts during the ongoing sixth month after execution, points to two distinct ensuing notions; that after major chaos and chain of events ensuing from the change; the state of flux has transformed into a normalized state of affairs due to delayed positive outcomes and secondly, that the citizens have become accustomed to the system irrespective of their views. The former logic is the belief of the management and those commuters who view it as a positive change. Therefore this school of thought believes the change is successful.

Expanding on the latter notion, adherence to the toll and its utilization is also by those who do not prefer the change. Citizens disgruntled by the change or deem it to have made no difference, are either using alternate routes or have capitulated to the change and are using the toll. Moving forward with the assumption that the citizens have succumbed to the toll; this would mean the change effort has failed, because the end user is simply following the system with discontent. According to these people, the change has failed.

This change therefore, forms three basic categories of users; i.e. satisfied users or positive change, dissatisfied user or negative change and those who are neutral. The satisfied

users are in agreement with the authority's perception of successful change. Though after myriad of factors affecting the change, the users and the authority believe the change was a practical option irrespective of pre launch pessimism. Therefore these users do not attach any prejudice to the system.

The second and third category together view the change as either derogative or do not opine to the success or failure of the system. Yet despite the ubiquity of negative sentiment, the belief is irrelevant, as the change is here to stay, thus signifying the notion of adherence and the eventual utilization of the toll by the commuters. This attitude towards utilization of the toll is conditional and follows the "If Then Else" logic i.e. **If** time is of the essence **then** use the toll **else** use alternative routes. The conditional "If" can have any number of variables, for example congestion on alternate routes or time. Thereby implying, that where necessary use the system and where possible avoid it.

Reactive approach to change

The change effort in its totality radiates a reactive approach undertaken by the organization instead of a proactive approach. This is evident from the pace of the implementation and the time allotted to the change activities. There are two issues that stem from the reactive approach of organizations. Firstly, the change approach tends to be premature especially when organizations are unable to ascertain the impact of the change. Secondly and importantly, ensuing from the ambiguity surrounding the impact of the change; an increased attention and reliance of organizations on contingencies / back up plans in evident. This premise holds true when organizations embark on innovative projects; as the case with the entity in question.

Nonetheless, it is evident from the case that future projects of similar nature are in the pipeline as noted by the project manager. It is imperative that organizations intending to implement similar approaches to change take a detailed in sight into the change and learn from the errors and issues highlighted. For an effective change management approach especially those encompassing large scale impact it is not only imperative that change efforts be managed with a deep insight of the environment and complexities but also proactively. This also requires organizations to be more receptive to the customer feedback, appreciate and recognize social impact of the change, have an egalitarian attitude towards the transparency of funds utilization and create an aura of cooperation from both sides that is customers and administrative bodies so that the change can be effective.

5.3 Implications for further research and studies

The change initiative, change management techniques, utilization of technology, social consequences and technical fallout relevant to this case study; all provide a regional perspective. This perspective indicates advent of a trend in the region; that is, to foster economic growth and internal transformation and improvement, large scale ICT induced change reforms will be utilized. In regards to this project following research areas are recommended:

- A detailed study expanding a sizeable number of months post implementation needs to be carried out in order to develop post project review.
- Post-implementation; assessment of implementation strategy and planning needs to be conducted.

- Once the phase down of the project is complete a comprehensive consumer survey and a consumer centered research needs to be conducted.
- In terms of policy review and propositions of public sector guidelines; a generalized framework of public works projects needs to be conducted.
- From operational point of view; comparison of this project to similar projects undertaken by other cities needs to be conducted to better understand, how the change is implemented.

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Appendix A – Interview Questions

1. What were the stated goals for the toll system that the RTA has implemented?
    a. Internal organizational goals
    b. External consumer oriented goals
2. In your opinion, has the toll system been a successful change effort? Has it met its objectives?
3. What other processes of organizational change is the RTA taking action on?
    a. Internal change (departmental, introduction of IT)
    b. External change (vis a vis customers – i.e. Dubai road users)
4. Apart from the call centre, what other support systems did the RTA have to set up for the road toll?
5. How did the RTA decide on the change process (i.e. the process followed) when the toll system was implemented?
    a. Who was consulted?
    b. What sort of timeline was followed?
6. Were there hesitation / pessimism from stakeholders to adapt to this change? How was this tackled?
7. What was the analysis procedure that was followed for the toll system?
8. How was this change (toll system) implemented (the steps)?
9. How did the RTA change internally to accommodate the toll system's functions?
10. What resources were mobilized to facilitate implementation of this change?
11. Pre implementation how was the project progress monitored? (Any benchmarks / key performance indicators). Post implementation how is it monitored?

12. How does RTA evaluate the impact of this change? (surveys, polls, road information gathering devices)
13. Is there any feedback mechanism?
14. Was there a specific reason to have toll gates at Al Garhoud and Barsha? (e.g. major traffic clog etc)
15. Will the toll system be expanded in the future?
16. What mechanisms does the RTA follow to manage the process of internal change?
17. Did the Salik system throw up any unexpected behavior from consumers?
18. Were there are any unplanned changes that occurred when RTA implemented Salik?
19. What contingencies did the RTA change effort have to deal with these unplanned consequences?
20. Were any technical issues faced post implementation?

Appendix B – Press releases

- RTA's Dubai toll system is branded as 'Salik'
  - February 14, 2007
- RTA launches Public Awareness Campaign for 'Salik'
  - March 29, 2007
- RTA launches toll-free call center for Dubai toll
  - April 23, 2007
- RTA to hold workshop for fleet owners and operators
  - April 25, 2007
- 180 EMARAT petrol Stations to offer SALIK tags
  - May 04, 2007
- RTA Expands Selling of SALIK Tags through 37 Branches of DIB
  - May 09, 2007
- RTA Signs an Agreement for Selling SALIK Cards in 70 EPCO & ENOC Stations
  - May 12, 2007
- New alternative roads to open prior to Salik, RTA assures on the system's importance in reducing traffic
  - May 20, 2007
- RTA continues preparations to activate Salik on July 1st
  - June 03, 2007
- RTA selling Salik tags in petrol stations and banks in preparation for official launch July 1
  - June 04, 2007
- RTA distributes 400,000 Salik tags to the point of sales
  - July 02, 2007
- RTA develops Salik web services and IVR system
  - August 03, 2007
- RTA asks motorists to give correct information while recharging and applying for Salik
  - August 14, 2007
- RTA Launches Salik On-line recharge service
  - September 19, 2007
- Salik On-line recharge facility records strong response
  - September 30, 2007
- RTA urges motorists to follow right procedures before subscribing to or recharging Salik
  - October 21, 2007
- RTA strengthens Salik support services
  - October 23, 2007