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Organisational Receptivity for Change: A Multilevel Approach

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June 2017

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Aston University

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ABSTRACT

The main theoretical contribution of this thesis is in the development and advancing of the organisational receptivity for change (ORC) theory adopting a multilevel perspective. Organisational change is a multilevel, multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation (Pettigrew et al., 1987; Butler, 2003). The ORC theory has been around for a decade, still, there is not much development on the original model (Bennett and Ferlie 1994; Butler 2003). Butler and Allen (2008) argue that receptivity factors are 'higher order capabilities' that organisations use to achieve intended strategic agendas. According to them higher the receptivity to change, the more flexible the organisation is to adapt to the environmental pressures.

Emerging economies and high pace changing industrial sector provide best opportunities for advancing the theory and research on organisational change (Meyer and Gelbuda, 2006). Therefore, the research context of this thesis is the renewable energy sector in India.

This study adopts a cross-sectional multilevel research design, and quantitative methods of analysis for the survey based primary data, to assess how organisational receptivity for change affects performance outcomes at different levels within an organisation.

The three key findings of this thesis are: (1) ORC factors as higher order dynamic capability interact across the levels and have potential to affect performance outcomes at individual perception and behavior towards change (e.g., resistance to change), project and organisational level. (2) ORC as higher order dynamic capability acts as an antecedent, influences, and foster ambidexterity by enabling a firm to alter its capability based by negotiating the fit between existing and new organisational practices. (3) the key moderators/factors (HR power and competence, social climate and daily work context) act as a process, practices, activities and/or mechanism at various unit levels within an organisation that works effectively along with ORC factors to impact performance outcome variables (including employees response to change).

Keywords: Organisational Receptivity for Change (ORC), Organisational Ambidexterity, HR Power and Competence, Social Climate, Daily Work Context, Renewable Energy Sector, India, Hierarchical Linear Modelling.

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CHAPTER 1:

INTRODUCTION

1.1 Introduction

Organisational receptivity for change (ORC) has been accepted as a necessity to survive and achieve competitive advantage in the current continuously evolving business environment (Luecke, 2003; Okumus and Hemmington, 1998). Against a backdrop of increasing unpredictable dynamic environment comprising of political, social, technological, new emerging trends of the workforce and new demographic trends, the leading and managing receptivity of an organisation has become primary challenge for management today.

Organisational change cannot be separated from organisational strategy and its operation (Burnes, 2004; Rieley and Clarkson, 2001). The ORC, which has been traditionally used as a strategic solution at the organisational level, search for a multifactor explanation of organisational change and it explains the change as an interaction between and within different levels. ORC provides an explanation about the organisational context that affects the rate and pace of change within a single organisational unit. However, how ORC affects performance outcomes (at same level and lower level outcomes) has never

been explored. Herein lie the key challenge and the contribution of this thesis as it asks: (1) what resources as mechanisms, practices or processes contribute to the organisational receptivity in the context of change. (2) how receptivity context as dynamic capabilities linked with each mechanism and resources at the different level of analysis.

Hence, the main aim is to understand and advancing ORC theory through multilevel perspective.

It was Pettigrew and his team who first coined the term and developed ORC theory (1991 and 1992) in order to understand 'why' some organisations are more successful than others despite having similar conditions and they identified factors called 'receptive' and 'non-receptive' contexts. They defined 'receptive context' as a 'set of feature that seems to be favorably associated with forwarding movements (including management action) and 'non-receptive context' as 'configuration of features which may be associated with blocks on change' (Pettigrew et al., 1992, p.268). The role of receptivity factors as dynamic capability varies in the different arrangement of the environment that is characterised as 'moderately-dynamic market' and 'high-velocity markets (Eisenhardt and Martin, 2000: 1115). Such dynamic environment forces firms to enhance their receptivity capability to adapt quickly to sustain success. These organisations with high receptivity for change capability/context have shown that they utilise their resources and capabilities to manage change and increase organisational performance.

Researchers in this area have claimed that the ORC theory has potential beyond just as providing 'diagnostic checklist' but also 'offers scope for interpretation and explanatory analysis (Newton et al., 2003, p151). ORC theory and framework is relevant in explaining the variability in rate and pace of change among organisation (Pettigrew et al., 1992). Mostly all ORC studies (refer, Pettigrew et al., 1992; Butler, 2003, Newton et al., 2003; Butler and Allen, 2003; Taha, 2014) have demonstrated the implementation and association of ORC factors with organisational performance in the context of change. According to them higher the receptivity for change, the more flexible the organisation is to adapt to the environmental pressures. ORC factors are higher-order capabilities which benefit organisations to renew its resources and capabilities to increase its flexibility to change in the unsettled business environment (Butler and Allen, 2008). Resource based view theory supports and explains the role of resources, capabilities and core competencies that are the cause of heterogeneity among organisations and economic performance of the particular organisation (Selznick, 1957; Penrose, 1958; Barney, 1991). Receptivity factors can be benefited in order to achieve intended strategic agendas due to their interrelated and interactive nature with each other and across the levels that enable organisations to navigate successful implementation of change. The inter-connectivity between receptivity factors enable organisation's ability to negotiate the fit between existing and new organisational practices by emphasising renewal of resources and capabilities

(dynamic capabilities) to address environmental change (Butler and Allen, 2008).

However, because 'there is not a strong academic tradition of theorising about the receptive context for change' (Pettigrew et al., 1992. P 75) and 'receptivity is still an emerging but undeveloped notion' (Butler, 2003), we must be careful in proposing that receptivity is always beneficial. Previous limited number of qualitative based ORC studies creates limitations to the concept which makes it harder for the ORC concept to be applied to a wider population (Newton et al., 2003). Thus, this builds the need to conduct quantitative research to test and validate previous research findings (Straub and Carlson, 1989), permitting more generalizability to a wider population. Another challenge put forward by Butler and Allen (2008) which emphasise the complexity and challenges for managers in order to achieve organisational receptivity—"...although it may be possible to identify the variables for an optimal performance, like receptivity factors, it is not possible to predict what should be done with them to achieve the optimal performance." (p.433).The underlying explanation might be that the ORC theory has been around for a decade (since 1991), still, there is not much development of the original model (Bennett and Ferlie, 1994; Butler, 2003). Likewise, there is a lack of consensus over exactly what this term means and how it can best be achieved. This thesis has conducted the systematic and integrated literature review in order to synthesise and define the notion of ORC.

All previous studies have used ORC framework for the explanatory analysis of change and have tested at an organisational level only. Its impact on lower level outcomes (e.g., on individual resistance to change and team performance) is unclear. Nevertheless, change may be perceived differently by people at different levels of the organisation (Melchor, 2008), hence might require different mechanisms to effect change.

Organisations are integrated systems which are structured into levels and operate in hierarchies. Organisational change (OC) is multilevel, multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation (Butler, 2003). The interactive and dynamic nature of receptivity factors helps firms to obtain an explication of change in a dynamic business environment and reduce the complexity of change implementation which might lead to high performance and competitive advantage outcome (Butler, 2003; Taha, 2014). Both theory and empirical data have supported the benefits of organisational receptivity, yet a coherent understanding of the what resources needed to enable receptivity and a clear picture of how this may be achieved in practice, is lacking. This is the gap that this thesis attempt to address. Here, synthesise the current diverse body of research on receptivity into an organising framework, and the contribution is to identify the mechanisms (i.e. processes, systems, and structures) of organisational receptivity. This thesis has categorised this literature by the level of analysis (specifically at the organisational, team/group and

individual levels) and by the underlying resources that underpin those mechanisms, operationalised in terms of dynamic intellectual capital (IC) - namely organisational, social and human capital.

1.2 Background

Organisational change and its management have become very crucial and important in the current dynamic business environment (Senior, 2002; Burnes, 2004; Wetzel and Gorp, 2014). Burnes, (2004) argue that in organisational life, change is constant characteristic, both at an operational and strategic level and can be reactive, discontinuous, ad hoc and often triggered by a situation of organisational crisis (De Wit and Mayer, 2005; Lueck, 2003; Nelson, 2003; Taha, 2014). Reflecting the importance that organisational change holds in the current business environment, there is a vast and still growing body of academic research focusing on this topic (Schwarz, 2012). Researchers in this field have been studying various aspects of 'organisational entity' (Van de Ven and Poole, 1995) in order to understand change phenomena. Accordingly, the body of organisational change literature can be categorised into four major themes (refer Armenakis and Bedeian, 1999) - content of change, the context of change, the process of change and outcomes of change (in detail discussed in next chapter 2).

Although there is rich organisational change literature available (see Armenakis and Bedeian, 1999; Todnem, 2005), including

that are prescriptive in nature for practitioners (Sharma, 2007; Shrivastava, 2003), yet, there has been increasingly vocal disagreement and criticism evident among researchers regarding the missing link between literature, theory, and practice (Wetzel and Gorp, 2013). Supporting this reproach, reports also suggest very low success rate (only 20-30%) in change implementation program in organisations (Kotter, 2008; Senturia et al., 2008; Balogun and Hailey, 2004; CIPD, 2015). A potential cause of the failure in implementing successful change program is blamed on available literature having a lack of valid framework and failure to provide insight into the mechanisms and processes of how to implement and manage change (Burnes, 2004; Mentzberg and Waters, 1990). The study has identified relevant mechanisms, processes, activities, and resources at different levels (including individual, group and organisational) and empirically tested its association with ORC and performance outcomes at the various level of analysis.

Researchers have been studying organisational change to answer the reasons why some organisations are easily adaptive (receptive) to change and some are not (non-receptive), some used the term “organisational flexibility” (Palanisamy and Sushil, 2003; Hatum and Pettigrew, 2004), “employee readiness for change” (Holt et al., 2007), “organisational learning” (Moilanen, 2005), some focusing on “organisational receptivity for change” (Taha, 2014; Butler, 2003; Butler and Allen, 2008; Newton et al., 2003; Pettigrew, 1992), and others, focusing on employees psychological experiences underlying change process (Oreg,

2006; Stanley et al., 2005; Miller et al., 1994; Wanberg and Banas, 2000).

Organisational receptivity for change theory and framework is very relevant in explaining the variability in rate and pace of change among organisations (Pettigrew et al., 1992) and the receptivity factors affect both at an operational and strategic level in a situation of organisational crisis. In respect to the above-mentioned criticism (regarding the lack of valid framework), researchers in this area as remarked early in this chapter, have claimed that ORC theory has potential beyond just providing 'diagnostic checklist' but also 'offers scope for interpretation and explanatory analysis' (Newton et al., 2003, P151; Melchor, 2008).

It was Pettigrew and his team who first coined the term and developed ORC theory (1991 and 1992) in order to understand 'why' some organisations are more successful than others despite having similar conditions and they identified factors called 'receptive' and 'non-receptive' contexts. They defined 'receptive context' as a 'set of feature that seems to be favorably associated with forwarding movements (including management action) and 'non-receptive context' as 'configuration of features which may be associated with blocks on change' (Pettigrew et al., 1992, p.268). Later many subsequent studies by Newton et al., (2003), Butler (2003), Butler and Allen (2008), and Taha (2014) have contributed significantly to the development of ORC theory and demonstrated its implementation and association with organisational performance in the context of change.

According to them higher the receptivity to change, the more flexible the organisation is to adapt to the environmental pressures.

ORC theory which draws from both Neo-institutional theory and resource bases view (RBV) offers more advantage over other existing similar constructs and concept in organisational change such as – organisational flexibility' (Palanisamy and Sushil, 2003; p 84; Hatum and Pettigrew, 2004) and organisational change capacity (Judge and Douglas, 2009). For example, ORC theory is based on two sound theories, institutional and RBV theory, where it conjoins organisational contexts and capabilities in one framework. Taha (2014) conceptualised organisational receptivity for change (ORC) as a multi-dimensional construct consists of both organisational context and organisational resources/capabilities. The fully developed ORC construct is based on robust systematic scale development procedure (Taha, 2014). Whereas other available constructs or concepts are either not based on any theoretical framework, or, not followed any robust procedure to develop scale and they lack cohesiveness- failed to capture the broader spectrum of organisational context (Judge and Douglas, 2009).

Both theories, Institutional Theory and Resource Based view theory (RBV), have been used in the literature separately to explain the organisational change. However, each stresses different assumptions and aspects of change. RBV explains the role of resources, capabilities, and core competencies are the cause of heterogeneity among organisations and economic

performance of the particular organisation (Selznick, 1957; Penrose, 1958; Barney, 1991). Butler and Allen (2008) claims that ORC factors are higher-order capabilities which allow organisations to renew its resources and capabilities to increase its flexibility to change in the unsettled business environment. On the other continuum, Institutional theory defines institutional sectors as those “characterised by the elaboration of rules and requirements to which individual organisations must conform if they are to receive support and legitimacy from the environment” (Meyer, 1992; p.140). According to Greenwood and Hinnings, (1996), the role of these institutional pressures on organisational change provide insights on how they constrain or expedite change within organisations, thus creating a homogenised industry. Taha, (2014) positioned ORC theory as a theory to conjoin Institutional and RBV theory in the context of change. She demonstrated that ORC theory which combines organisational context and capabilities explains organisation’s competitive advantage in a better way. There are three frameworks in ORC theory-1) Pettigrew et al., (1991) eight-factor framework, 2) Butler and Allen’s (2008) five-factor framework and 3) Taha’s (2014) four-factor framework. This thesis adopting Taha’s framework to further advancing ORC theory. Previous all ORC research has utilised ORC factor in explaining organisational performance and its sustainable competitive advantage.

Organisations are integrated systems which are structured into levels and operate in hierarchies (Figure 1) and organisational change (OC) is a multilevel multifaceted and complex

phenomena which require cohesiveness of all levels for effective change implementation. According to Butler 2003, receptivity factors are interconnected and interact across the levels which helps firms to obtain an explication of change in a dynamic business environment and reduce the complexity of change implementation which might lead to high performance and competitive advantage outcome (Taha, 2014). Acknowledging the multilevel aspect of OC, Pettigrew (1987) emphasised the importance of micro, as well as the macro context in change management studies and he, encouraged to deliberate them in the research to better understand change. However, none of the ORC research has reflected micro as well as the macro context within an organisation, the majority of studies focused on either individual or organisational level (Pettigrew et al., 1992, Butler, 2003, Taha, 2014). Butler and Allen (2008), argue that receptivity factors are 'higher order capabilities' that organisations use to achieve intended strategic agendas. Receptivity factors are interrelated and interact with each other and across the levels that enable organisations to navigate successful implementation of change. For example, one of the dimensions of ORC, ideological vision explains how strategic context/ decisions are established in the organisation's vision, it needs to be shared, accepted and understood by all.

This leads to the first research question: Is ORC theory a multilevel theory?

Related to the above main research question, other connected questions are - Are ORC factors as higher order capability at

organisational level impacts lower level outcomes (e.g., individual or team level outcomes? How ORC handle team level dynamics? Are ORC factors enable to impacts team level performance and 'how'?

Regarding this research question all previous ORC frameworks were tested at an organisational level only. Their impact on lower level outcome (e.g., on individual resistance to change or team performance) is unclear. The need to further developing ORC theory in a multilevel perspective can be justified with the Pettigrew et al., (1992) claim that OC research needs to delve into the integration of content, context and the process of change to understand how institutional factors play an important role in change implementation. 'Context is not just stimulus environment but a nested arrangement of structures and processes where the subjective interpretations of actors perceiving, comprehending, learning and remembering help shape process' (Pettigrew, 1990, p.270). Therefore, to better understand the phenomena of organisational change, the multilevel approach is appropriate to explore how nested phenomena shape unit or organisational members of the firm (Ingram and Roberts, 2000).

Butler (2003), recognised that receptivity factors at each level often has its own properties, description, processes and relationship, its own momentum and that while phenomena at one level are not reducible to or cannot be inferred from another level. This requires understanding the mechanisms and

processes that are effective at the level of the actor, at the level of working teams and at the system level. However, none of the ORC literature explores the underlying mechanism and processes that explain how ORC has an impact on performance outcomes in the context of change.

The above argument is related to the second research question: what are these mechanisms or processes- 'How' ORC impact performance outcome at different levels within and organisation and competitive advantage of an organisation?

Reflecting on the importance of understanding causal mechanisms and process, Butler and Allen (2008) emphasised –“...although it may be possible to identify the variables for an optimal performance, like receptivity factors, it is not possible to predict what should be done with them to achieve the optimal performance.” (p.433).

Organisational change scholars have called for the necessity of cultivating ambidexterity within the firm (Gibson and Birkinshaw, 2004; Lubatkin et al., 2006) and claimed the long term success requires an organisational balance between continuity and change (Probst and Raisch, 2005). The majority of ambidexterity studies in change management focused on continuity and change (Probst and Raisch, 2005); exploitation and exploration (Tushman and Romanelli, 1985); need to implementing change and maintaining daily operations (Meyer and Stensaker, 2006); controllability and responsiveness (Graetz and Smith, 2005).

The underlying argument is that too many change action could create organisational chaos if continuity is not taken into account, whereas the opposite could lead to inertia (Huy, 2000). Volberda (1998) argue that dynamic capability is the antecedent requirement which acts as a building block of organisational ambidexterity. This research posits that ORC as higher order dynamic capability acts as antecedents and influences ambidexterity by fostering congruence and enable a firm to alter its capability base (Benner and Tushman, 2003) by negotiating the fit between existing and new organisational practices.

Higher order dynamic capabilities are the capabilities organisations used to achieve intended strategic agendas (Taha, 2014). The inter-connectivity between receptivity factors enables organisation's ability to negotiate the fit between existing and new organisational practices by emphasising renewal of resources and capabilities (dynamic capabilities) to address environmental change (Butler and Allen, 2008). This suggests that receptivity factors act as dynamic capabilities at higher organisational level. This negotiation activities involves- integration, adaptation, reconfiguration adding and eliminating resources (Butler and Allen, 2008).

Taha's (2014) four-dimension ORC framework consists of 1) ideological vision- describes as 'to establish the change imperative' (p.46). This address the strategic agenda that arise from the interest of a definite group within an organisation, 2) Implementation capacity- meant 'to implement change in

practice' (p. 46). This involves mechanisms used by leading change to influence strategy/policy implementation and behaviors of stakeholders, 3) Institutional politics- 'to affect formal and informal decision- making' (p. 46). Cooperative organisational network (formal and informal) and, 4) Leading change- 'to drive change throughout the organisation' (p. 46). Location of the decision-making and analyses of actions of the decision maker; creativity in the organisational process. (Butler, 2012). The above ORC framework by Taha (2014) ignores the role of HR in change. A literature review of ORC also suggests that the dynamic role of HR has never been studied before in previous ORC literature.

Leads to the third research question: What is the role of HR as dynamic capability in the context of ORC?

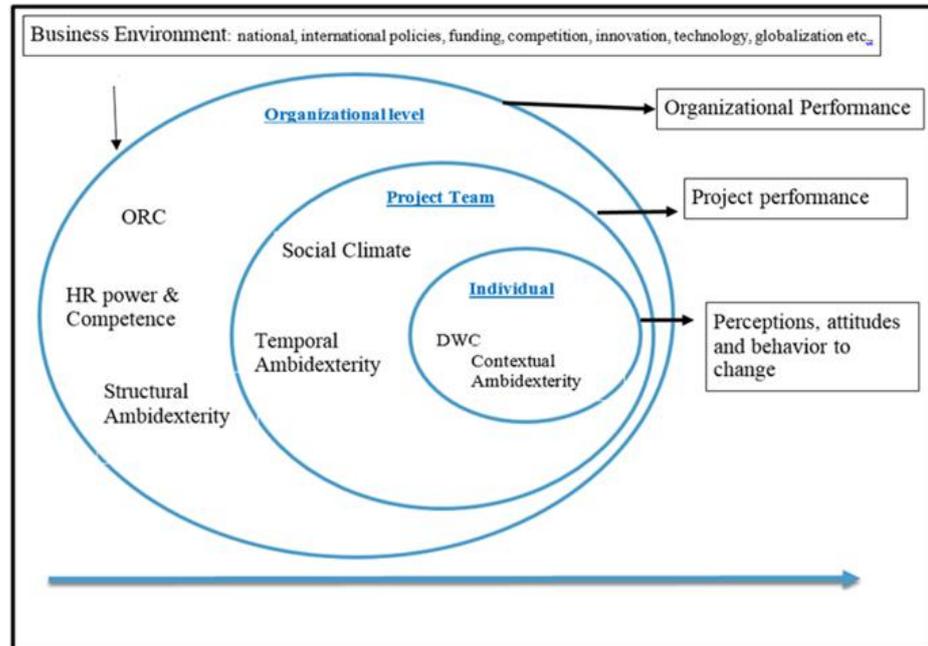
In recent years, human resource management (HRM) has been acknowledged to play a strategic role to make firms more adaptable to the rapidly changing and highly dynamic business environment (Shipton et al., 2016; 2012). The HR literature also acknowledges the increasing role of the HR specialists in managing and facilitating change in organisations (e.g., Marmenout and Schmitt, 2014; Beer, 1997; Brockbank, 1997; Ulrich, 1997). In this regard, Doorewaard and Benschop (2003) comment that organisational change success or failure is dependent on the "unique contributions of HR" (p.274). The literature also highlights the changing emphasis of the HR function over the years and accordingly the roles it has been playing over the decades such as personal management (a

reactive role) to strategic HR (a proactive and strategic role) and as 'change agent' (Crawshaw and Hatch, 2014; Hendry and Pettigrew, 1990). One of the driving forces of the 'change agent' role and its contribution towards the change process is the emergence of 'projected organisation' and 'project based organisation' (PBOs) such as the famous examples of AstraZeneca and Volvo. Also, the evolving new forms of flexible and project-based organisations are in a way pursued to respond rapidly and effectively to change (Guest, 1987). The project-based context then creates a complex and dynamic environment, which affects the organisation and change management process (Bresnen et al., 2005).

This research argues that HR involvement through its power and dynamic capability makes a difference in the context of organisational receptivity for change and will affect ORC-performance link at different levels within a firm.

Figure 1 represents the operational model of this present thesis which highlights the key linkages between the independent and dependent variables. It shows the impact of the dynamic business environment in organisations. The turbulent environment as antecedent promotes high receptivity which makes organisations adapt to change (Taha, 2014). It represents the nested structure and multilevel nature of the study and the relative location of the various variables which operate more effectively at the particular unit level within an organisation. Based on this model, this thesis has further developed conceptual framework and hypotheses which are discussed in chapter 4.

Figure 1: An operational model of the current research study.



In summary, the present research study is an attempt to address and fill the knowledge gap in four ways:

First, by adopting a multilevel approach to understanding the ORC phenomena, the interest, therefore, is in the development of multilevel ORC theory. An attempt will be made to formulate models of higher-level factors and processes, lower-level factors and processes, and the manner in which they interact.

Second, the change receptivity studies have ignored collective responses to change and create a need for group level analyses and quantitative approaches to providing deeper insight. None of the research (Pettigrew et al., 1992; Butler, 2003; Newton et al., 2003; Butler and Allen, 2008) has taken project level analyses to study organisational change.

Third, ORC literature is not sufficient in explaining the mechanisms and processes that lead ORC to organisational performance in the context of change.

Fourth, current framework of ORC (Taha, 2014), which identifies 4 receptivity factors - Ideological vision; Leading change; Institutional politics; Change orientation, ignores acknowledging the role of HR as a dynamic capability.

Additionally, ORC provides an indicator if the industry is more prone towards homogeneity or heterogeneity. According to Taha, 2014, the dynamic turbulent business environment is the antecedent condition for ORC. When such environment demands higher levels of receptivity, organisations tend to be more heterogeneous. Higher levels of receptivity indicate high organisational change and adaptability to attain competitive advantage. On the other hand, lower levels of receptivity indicate that the industry is stable, thus allowing organisations to move towards a homogeneous industry.

1.3 Research Context:

Emerging economies and high pace changing industrial sector provide best opportunities for advancing the theory and research on organisational change (Meyer and Gelbuda, 2006). Emerging economies can be described as a “high velocity” environment of rapid political, economic and institutional changes that is accompanied by underdeveloped factors and product markets (Wright et al., 2005).

India is one of the fastest growing developing economies today (India energy outlook, 2014; Budhwar et al., 2012). Considering continuous increasing demand for oil, renewable energy has the potential to improve energy security and reduce dependence on imported fuels and electricity while striving to meet those goals. Forming the world's first ministry committed to renewable energy in 1992, the government of India is driving structural changes in the industry on new technologies and business models which are evident in recent India's climate pledge in Paris submit (2015), facilitating research, design, and development of new and renewable energy through national and state level committed institutes and policies. In India, renewable energy sector displayed the fastest expansion rate for investment in 2011, with a 62% increase to \$ 12 billion and will continue to grow (Sieminski, 2014; Arora, 2010).

This sector in India his currently undergoing radical organisational changes (Government report, 2015), however, the crisis in the world economy, the turbulence in the global finance industry, public debts of global financial industry, public debts of modern welfare status and new potent global competitors from emerging economies are changing the game. It is very limited and inadequate OC literature available on the decentralised, market-based economies like India (Bhatnagar et al., 2010; Kazmi, 2008). OC in such economics is much more profound and comprehensive in many aspects (e.g., religion, culture etc.) but complicated. Researchers have also raised doubts on the generalisability of the research based on developed economies (Barney, 1997; Flamholtz and Hua,

2003). Therefore, conducting OC research on the dynamic renewable energy sector in the Indian context is very crucial (Liuto, 2001).

The section of renewable energy sector in India is based on this industry's vulnerability to the highly dynamic external environment. Renewable energy sector needs to adapt quickly in order to be a competitive advantage. These conditions (business environment and developing economy) will allow this research to understand how organisations adapt and the role of receptivity factors in renewable energy organisation's adaptation to change.

1.4 Research aims and objectives:

The literature review helps identifies and refine the aims and research objectives. This research study has two main aims:

- a) Empirically understand and advancing ORC (Organisational Receptivity for Change) theory as multilevel theory.
- b) Understanding the role of HR as a dynamic capability in the context of organisation's receptivity for change (ORC).

The research endeavor is broken down into main five key objectives.

1. To empirically investigate if key people working at different hierarchies within an organisation differ in their experience and perception of ORC.

2. To determine the relationship between ORC and performance outcomes at the individual, project, and organisational level by adopting multilevel approach-direct multilevel relationship.
3. To identify, investigate and determine the mechanisms and processes through which ORC impact performance outcomes at different levels within an organisation -indirect multilevel relationship through mediators and moderators.
4. To establish reliability and validity of ORC scale in the Indian context.
5. To determine if this sector is receptive to change- to what extend renewable energy sector is undergoing change.

1.5 Contributions: Justification and importance of the research.

The present study is contributing in three key ways: theoretically, methodologically and practically. The next few sections will discuss each contribution separately.

1.5.1 Theoretical contributions:

The main contribution of this study is able to understand and advance the ORC theory as multilevel phenomena. Pettigrew, 1987, highlighted concerns on organisational change literature and emphasised the need to do research which is contextualist and processual in character by considering micro context as well as the macro context within a firm. Although Butler (2003), acknowledged that change is an iterative multilevel process-complex, multifaceted phenomenon, majority of the ORC studies have conducted research at the organisational level, identifying

factors interacting at institutional and environmental level (Pettigrew and Whipp, 1991; Butler, 2003).

Reflecting on the above concern, this is the first study in the ORC literature to address this issue by adopting multilevel perspective and empirically tested the ORC – Performance outcome link at different levels within an organisation. The findings have revealed that ORC factors interact across the levels and has potential to affect performance outcomes at individual perception and behavior towards change (e.g., resistance to change), project and organisational performance. This supports the view that receptivity factors dynamically interact with each other and across the levels that enable organisations to navigate successful implementation of change (Butler, 2012) by affecting individual and team level outcomes. For example, ideological vision explains that the established strategic context and decisions need to be shared, accepted and understood by all. This sharing process involves other stakeholders within an organisation to participate in the change procedure.

Adding to the above contribution is another finding that key units that are non-managerial employees, project managers, and top senior managers, functioning at different hierarchies within an organisation differ in their perceptions of reality, exposure, and relationship, in this case, ORC. Results have demonstrated that receptivity factors bring proximity and inclusion among different key stakeholders within an organisation- top senior managers, project managers and non-managerial employees. The dynamic nature of receptivity factors promotes informal and formal

network structures that are dynamic and flexible to change in which the main mechanism of change relates closely to the personnel change.

The second contribution in advancing the ORC theory is understanding 'How' question in ORC-performance link. Pettigrew (1987), criticised and urged to provide data on the mechanisms and processes through which changes are created. Although receptivity theory has been around for a decade, still there is not much development happened (Bennett and Ferlie, 1994)... 'An emerging, undeveloped notion' (Butler, 2003). So far, ORC empirical studies have demonstrated its association with organisational performance and competitive advantage (Pettigrew et al., 1991; Butler, 2003; Newton et al., 2003; Taha, 2014), but none of the studies have explored how (mechanism and processes) ORC makes an impact on performance outcomes. This study identified mediators (ambidexterity) and moderators (HR power and competence, social context and daily work context) which influence this link at different levels within an organisation.

Final major theoretical contribution in ORC literature is investigating the role of HR as dynamic capability in the context of ORC. The current ORC framework and previous studies have ignored the role of HR. HR literature is full of acknowledgment that the unique role and contribution of HR specialist will make a difference in a success or failure of OC implementation (Shipton et al., 2012; Doorewaard and Benschop, 2003). This thesis has demonstrated that HR involvement in terms of its power and competence can enormously contribute in the business by being

a strategic partner and equally involved in daily operations in the changing context.

1.5.2 Methodological contributions

There are two major methodological contributions of this thesis: 1) this is the first multilevel study in ORC literature; 2) This is the first quantitative study to test and validate previous research findings.

Butler (2003), acknowledged that change is an iterative multi-level, complex process. However, the majority of the organisational receptivity for change (ORC) studies have conducted research at the organisational level, identifying factors interacting at institutional and environmental level (Pettigrew and Whipp, 1991; Pettigrew et al., 1992; Butler, 2003; Butler and Allen, 2008; Taha, 2014). Reflecting on the above concern this is the first pioneer study in the ORC literature to address this issue by adopting multilevel perspective and have empirically tested the ORC – outcome link at different levels within an organisation. This allowed the researcher to understand the dynamics and complexity of organisational change within an organisation. Additionally, previous studies (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003) on ORC used qualitative methods with a limited number of cases. This has created limitations to the concept which makes it harder for the ORC concept to be applied to a wider population (Newton et al., 2003). This research has conducted quantitative survey research to test and validate previous research findings

(Straub and Carlson, 1989), permitting more generalisability to a wider population.

1.5.3 Practical contributions

The current ORC scale by Taha's (2014) was developed and tested in the hospitality industry in Malaysia. This research is borrowing this ORC scale and utilizing in a new context, which is renewable energy sector in India. This is crucial because poor scale brings to doubt the reliability and validity of the research and its results (Hinkin et al., 1997). Establishing reliability and validity of ORC scale in Indian context would enable practitioners to use this scale as the diagnostic checklist to uncover the internal context that acts as a barrier to change and manage change better. Researchers have claimed and demonstrated that receptivity factors can be used as a diagnostic checklist to assist organisations in their change effort. Newton et al., (2003) asserted that ORC framework identifies a range of discrete facets of organisational change situations and enables analyses to typify individual cases (or context) against an ideal'. Additionally, the academic audience can also use this scale for future research in another similar context.

1.6 Outlines of the thesis:

This thesis is divided into 7 chapters. Below is the briefly described structure and the content of the chapters:

Chapter 1: Introduction. This offers an overview of the research study and briefly describes the background framework and

context of the research. The chapter provides the justification for the research and highlights the contributions building in knowledge advancing, including theoretical, methodological and practical contributions for managers, change agents and policy makers.

Chapter 2: Major Themes. This chapter aims to provide a review of the literature on the key themes- renewable energy sector in India, organisational change, organisational receptivity for change (ORC) and HR. The goal is to identify the knowledge gap in the literature. This chapter has explained how this research study fits in the broad areas of interest which are organisational change and renewable energy sector in India.

Chapter 3: ORC: Conceptual understanding and development. This chapter has presented the systematic literature review on ORC theory. The existing three ORC frameworks are discussed in detail highlighting the similarities and differences between frameworks. These frameworks are- Pettigrew, et al's (1992) eight-factor ORC framework, Butler's (2003) five-factor ORC framework and Taha's (2014) four-factor ORC framework.

Chapter 4: ORC: Multilevel Perspective. This chapter discusses the proposed conceptual model which explains the multilevel nature of ORC theory. Furthermore, it presents the underlying theories explains the developed conceptual model.

Chapter 5: Methodology: This chapter includes the philosophical underpinning of the research methodology adopted to achieve the research objectives. The strengths and issues in cross-sectional, multilevel research design are outlined. Also, adopted paradigm and its implementation in research design are

discussed. Next, the research design, multistage data sampling method, and procedure explained. Data analytical strategy, the use of ANOVA, HLM and process software is justified in the discussion.

Chapter 6. Results and Findings: This chapter presents the results of the data analytic technique aims to examine the hypothesis. The results are presented in a systematic manner. First, reliability and validity of the measure are established. Next, results and its interpretations are presented.

Chapter 7. Discussion: Executive summary of the results is presented. This chapter links the results with the underpinning theories. This includes the discussion of the developed hypotheses. This chapter also explains theoretical and practical contributions are enlightened. Finally, limitations and recommendations for future research provided.

CHAPTER 2:

MAJOR THEMES

Justifying the research questions, aims, and objectives in chapter 1, this chapter presenting the broad context of the research. The aim is to understand where this research thesis fits in the broad areas of interest which are organisational change and renewable energy sector in India. The structure of the chapter begins with justifying the choice of the research context, renewable energy sector in India. Highlighting how this sector will be benefited with this research. Following, organisational change literature and its development have been reviewed in the Indian context. Finally, ORC theory is discussed in the existing organisational change literature.

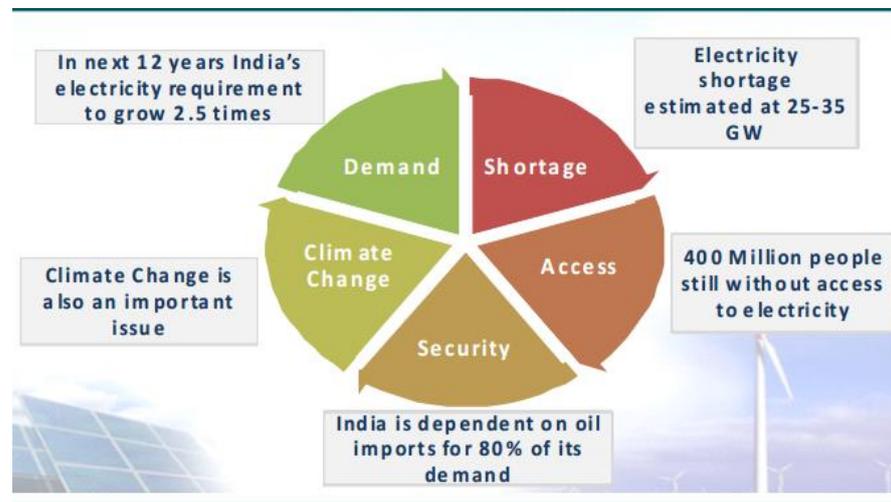
2.1 Renewable energy sector in India

Dynamic business environment demands dynamic capabilities within an organisation to be successful and to be a competitive advantage. The role of dynamic capability varies in the different arrangement of the environment that is characterised as 'moderately-dynamic market' and 'high-velocity markets (Eisenhardt and Martin, 2000: 1115). Organisational receptivity as higher order dynamic capability creates high energy within an organisation during high velocity and demanding markets, such as renewable energy sector in India. Firms have to enforce

themselves to enhance their receptivity capability to adapt quickly to sustain success.

India is one of the fastest growing developing economies today (India energy outlook, 2014; Budhwar et al., 2012). This third largest economy has achieved rapid economic growth in the past several decades after having “liberalised” its economy to foreign capital in 1990. Since then, the Indian economy has experienced tremendous growth. However, for the Indian economy to continue this trajectory, India needs to address its energy challenges (see Figure 2), which cross all sectors and impact all citizens. In the immediate past few years, India is focusing more attention on the potential of the green sector for two key reasons- first, its commitment to be growing role for low-carbon sources of energy, led by solar and wind power, which was evident in recent India’s climate pledge in Paris submit, 2015. Second, closing the electricity demand and supply gap is critical for India to achieve its growth targets.

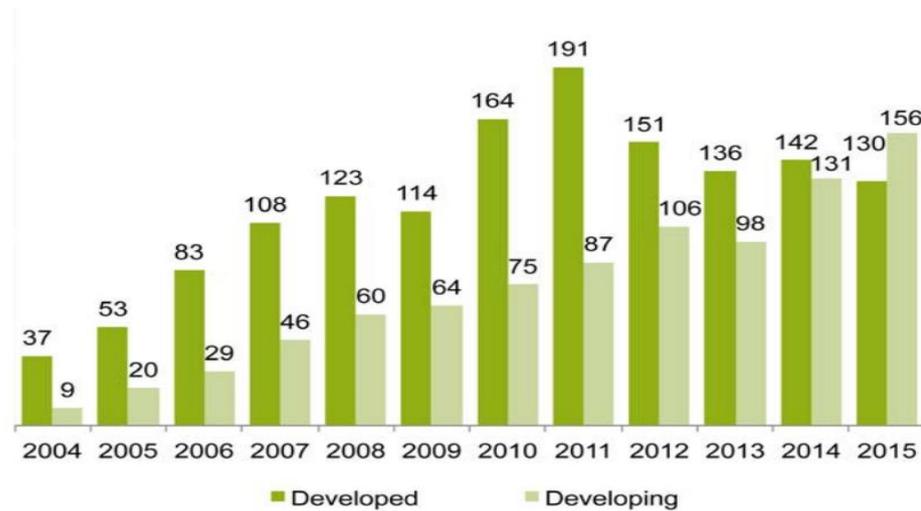
Figure 2: Energy challenge in India; Source: DIREC, 2010 report.



In order to achieve the above goals, the government of India established (in 1992) the world's first ministry committed to renewable energy – Ministry of new and Renewable Energy (MNRE). MNRE is dedicated to expanding contributions of renewable energy in all of India's end-use sectors and undertakes policy and planning activities to that end. In response, MNRE has taken many initiatives which involve structural changes in the industry, on new technologies and business models, and giving encouragement and facilitation of different programs. For example, it supervises national level renewable energy institutes to facilitate research, design, and development of new and renewable energy, for instance, Solar Energy Centre and the Centre for Wind Energy Technology. The Government of India has enacted several policies to support the expansion of renewable energy, some of them are- Electricity

Act 2003, National Electricity Policy 2005, National Tariff Policy 2006, Rajiv Gandhi Grameen Vidyutikaran Yojana 2005, 12th and 13th Plan 2016-2022. These programs broadly seek to supplement conventional fossil-fuel-based power through harnessing the wind, small hydro and biopower; reach renewable energy to remote rural areas for lighting, cooking and motive power; use renewable energy in urban, industrial and commercial applications; and develop alternate fuels and applications for stationary, portable and transport uses apart from supporting research, design and development of new and renewable energy technologies, products and services. As of September 2010, there were over 500 registered CDM (Clean Development Mechanism) projects in India, and these are dominated by renewable energy projects. Developing economies (see, Figure 3) made up 35% of the global total investment in the renewable energy sector, compared to 65% for developed economies. However, India displayed the fastest expansion rate for investment of any large renewable market in the world in 2011, with a 62% increase to \$ 12 billion. In recent 12th and 13th plan the demand for generation capacity is estimated to be at peak for 2016-17, 78 percent and 76 percent up to 2021 -22 and 75,000 MW capacity is proposed to be added which needs an investment of 450,000 Crore Rupees. The above initiative creates the very favourable business environment.

Figure 3: Global Investment in Renewable Energy -Developed Vs Developing Countries.
Source: UNEP, Bloomberg New Energy Finance.



Additionally, electricity –both in terms of quality and access- is a key challenge (Ren, 2015, India energy outlook, 2014). The quality of the current electricity supply is impeding India’s economic growth. Quality in terms of issues such as voltage fluctuation, frequency variation, spikes, blackouts, and other disruptions impact industrial, commercial and residential consumers (please refer to Figure 2). Considering the high demand for electricity, renewable energy has the potential to improve energy security and reduce dependence on imported fuels and electricity while striving to meet those goals. India’s demand for oil in 2040 is expected to be 10 Mb/d almost 150% higher than 2007- being needed primarily to feed a growing transportation sector (Sieminski, 2014).

In reference to the India's high potential to accelerate the use of its endowed renewable resources to power its growing economy with secure and affordable energy supply and current supporting environment, there are also some upcoming challenges (Indian Government report, 2015). For example, providing access to electricity through distribution sector in a sustainable, effective and efficient manner. Moreover, the crisis in the world economy, the turbulence in the global finance industry, public debts of the global finance industry, public debts of modern welfare status and new potent global competitors from emerging economies are changing the game (Budhwar, et al., 2012). However, due to the demand and encouraging environment, the renewable energy sector will continue to grow.

In summary, there are some vital issue in India- 1) the high demand and need for cheapest energy- to less dependent on traditional fuel and its import; 2) in order to fulfil the gap India have to rely on renewable source of energy; 3) Government rigorously emphasising and encouraging research on capacity building. Additionally, due to globalisation, rapid technical innovation, growing knowledge workforce, shifting social and demographic trends current business environment is very dynamic and unpredictable (Indian Government report, 2015). Hence, this needs theories and practices that help organisations in this sector to growth and adapt to the change quickly. Accordingly, organisational change and its management have become very crucial in the current dynamic business

environment. The cost of change failure could be much more than just economical – for example, it can affect organisation's market position, its competitive advantage, and its sustainability.

However, there is limited organisational change (OC) literature in the new Indian economic context (Bhatnagar et al., 2010) and inadequate literature on strategic change regarding procedural and project implementation in the Indian context (Kazmi, 2008). Many doubts have been raised on the generalisability of the research based on developed economies (e.g. Flamholtz and Hua, 2003) to economies transitioning from a centrally planned economy to a decentralised, market-based economy (Judge et al., 2009), like India. The importance of research on organisational change in developing economies was stated by Liuto, (2001):

“Although transition economies do not require their own microeconomic theories, it should be stressed that organisational change in transition economies is much more profound and comprehensive than in West, in so far as almost the entire enterprise population and even the whole society are transforming” (pp. 15-16).

The selection of renewable energy sector in India is based on this industry's vulnerability to the highly dynamic external environment - the best opportunities for advancing theory and research on organisational change may lie in the study of organisations operating within transition economies (Meyer and

Gelbuda, 2006; Meyer and Peng, 2005). Firms operating in this sector needs to adapt quickly and be receptive in order to be a competitive advantage. These conditions (business environment and developing economy) will allow this research to understand how organisations adapt; the role of receptivity factors in enhancing organisational receptivity and in turn adaptation to change process. Next section highlights the OC literature in the Indian context.

2.2 Organisational change in India

The research literature on OC in India suggests that terms such as Organisational Change, change management, organisation development (OD), corporate transformation (Singh and Bhandarker, 1990, 2002; Bhankarker, 2003) and organisational transformation (Apte, 1998) have been used interchangeably for 'change management'. OC interventions have been practicing by Indian-based firms over the past few decades, but it is the recent global business environment that has created an urgency in firms to enhance their receptive capacity in order to survive and be a competitive advantage.

OC in such economies, like India, is much more profound and comprehensive in many aspects (e.g., religion, culture) but complicated. Indian business environment which is complicated by its unique socio-cultural surrounding, its legal, political and economic set up (Bhatnagar et al., 2010) offers challenges for OC academics and managers. Diversity (in terms of culture, region, languages etc.) creates more complexity in understanding the organisational change in Indian context which

is evident in many studies. For example, Ahuja and Khamba, 2008, mentioned that the difficulty of the implementation of OC in the Indian context is not by the substance of the change itself but by the existence of organisational cultural and behavioural barriers. Amba-Rao et al., (2000), recommended that it is necessary to appreciate the broader socio-economic and cultural environments that shape them, while also recognising the growing diversity of subcultural influences- to better understand the diversity of OC practices in India. Researchers (Child, 1981; Golembiewski, 2000), also highlight that the role of economy, the position of the state, the ways of doing business and the national culture influences the effectiveness of organisational change intervention. In line with the above argument and evidence that in rich Indian cultural context, it is challenging to characterise a common Indian cultural pattern because of its heterogeneous demographics, some generic attributes are identified (Sinha, 1990). According to him, some predominant among these are- submissiveness, fatalism, power consciousness, possessiveness towards subordinates, fear of independent decision-making, and resistance to change (Sparrow and Budhwar, 1997).

However, a number of scholars have prescribed different mechanisms that can facilitate OC in Indian organisations (Blythe et al., 1997; Daniel and Benjamin, 1992; Prasad and Sayeed, 2006; Sharma, 2007; Singh and Bhandarder, 1990; Srivastava, 2003). For example, Ramnarayan (2003), found that psychological and leadership related impediments that affect the change effort in his analysis of OC in several Indian Government

Organisations. Other studies focus on effective leadership at the top (Page and Pearson, 2004; Irani, 2004) and sensitisation of the top-level executives (Singh and Bhandarder, 2002; Bandyopadhyay, 1998) in successful change management. Garg and Singh, 2005, identified two efforts as an essential process when attempting to bring about change – institutionalising and internalising. Institutionalisation means making the change a permanent part of an organisation; Internalisation of change means stabilisation of change (Pareek, 1987). However, this study has been criticised due to lack of empirical evidence.

Another major issue which has been identified that, although many Indian firms have been using OC interventions to bring about changes, very few cases have been well documented in the existing literature (Bandyopadhyay, 1988). The majority of them are only the successful experiences, however, some failures have been highlighted (Bandyopadhyay, 1988). This evidence suggests that there is a lack of well thought out strategy of OC intervention as evolving from the Indian OC literature, except few studies by Rao, 1988; Nilakant and Ramnarayan, 1998; Rao and Vijaalakshmi, 2000. Some researchers (see Kazmi, 2008) have criticised the available inadequate literature on change, particularly, procedural and project implementation in the Indian context. Whereas, others (refer, Bezboruah, 2008; Sparrow and Budhwar, 1997) strongly emphasised the need to develop action strategies and interventions that enable Indian firms to attain successful change programs through affecting organisational level outcomes (i.e.

quality improvement, cost efficiency) as well as individual level outcomes (i.e. employee motivation, resistance to change).

Further, keeping in mind the contextual and cultural differences across nations (Hofstede, 2001), it is imperative to conduct both country-specific literature analyses and in-depth research investigation to obtain a clear scenario of OC interventions (Metcalfe and Rees, 2005). There is an outward need for firms to develop integrated organisational change cultures that permit a focus on sustainable organisational performance (Ranganathan and Kuruvilla, 2008; Sparrow and Budhwar, 1997; Amba-Rao et al., 2000).

Organisational receptivity is multilevel multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation (Pettigrew and Whipp, 1991; Pettigrew et al., 1992). The inter-connectivity between receptivity factors enable organisation's ability to negotiate and affect lower level performance outcomes. Recent quantitative work of Taha (2014) which was conducted in one of the developing countries, Malaysia, have unlocked the research possibilities in a new direction and avenues which were previously unavailable. This developed ORC scale allows this present research study to quantify, test and explore ORC theory in the new alternative context and avenues - that is renewable energy sector in India as well as to empirically conduct analysis linking organisational level factors affecting lower level performance outcomes in the context of change.

In summary, there is very limited and inadequate OC literature available on the decentralised, market-based economies like India (Budhwar et al., 2012). And applying such multilevel organisational receptivity framework in such developing and dynamic environment would help to advance the ORC theory as well as help firms to grow fast and adapt quickly to change. In the next section, organisational receptivity is discussed in the wide-ranging OC literature.

2.3 Organisational change and development:

Organisational change is a complex phenomenon and organisations ability to identify its desired future position and clear organisational strategy of how to manage change to get it is very crucial. Change can be defined as 'the process of continually renewing an organisation's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers' (Moran and Brightman, 2001: 111). Researchers conjointly agreed on the significance of pace of change and that change comes in all shapes, forms and sizes (Balogun and Hailey, 2004; Burnes, 2004; Carnall, 2003; Luecke, 2003, Senior, 2002). Burnes, 2004, believes that in organisational life, change is constant characteristic that affects both at an operational and strategic level and can be reactive, discontinuous, ad hoc and often triggered by a situation of organisational crisis (Burnes, 2004; De Wit and Meyer, 2005; Luecke, 2003; Nelson, 2003).

For decades organisational change has been studied under four major themes (Armenakis and Bedeian, 1999): (1) content issues, which largely focus on the substance of contemporary organisational changes (see Burke-Litwin, 1992; Vollman, 1996); (2) contextual issues, which principally focus on forces or conditions existing in an organisation's external and internal environments (Meyer, 1992; Kelly and Amburgey, 1991; Haveman, 1992; Fox-Wolfgramm et al., 1998; Damanpour, 1991; Sastry, 1997); (3) process issues, which address actions undertaken during the enactment of an intended change (Lewin, 1947; Judson, 1991; Kotter, 1995; Galpin, 1996; Armenakis and Bedeian, 1999; Isabella, 1990; Jaffe et al., 1994), and (4) criterion issues, which deal with outcomes commonly assessed in organisational change efforts (Clarke et al., 1996; Kanter, 1991; Becker, 1992; Becker et al., 1996; Meyer and Allen, 1997; Dean et al., 1998; Schabracq and Cooper, 1998; Golembiewski et al., 1976). However, recently, Todnem (2005) categorised OC literature based on three characteristics of change- (a) by the rate of occurrence (Balongun and Hailey, 2004; Burnes, 2004; Grundy, 1993; Luecke, 2003; Senior, 2002), (b) how it comes about (Burnes, 1996; Dunphy and Stace, 1993; Senior, 2002) and (c) by scale (Dunphy and Stace, 1993; Nelson, 2003; Senior, 2002). The ORC theory's comprehensive multilevel approach falls under three of Armenakis and Bedeian's (1999) categories, which are content, context, and process.

Contrary to the huge acknowledgement of successful management of change by academics and practitioners (since

1998) of business and management, surprisingly, reports demonstrated that approximately 70 percent of all change programmes initiated failed and less than 60% of reorganisations met their stated objectives, which are usually bottom line improvement (Kotter, 2008; Senturia et al., 2008; Balogun and Hailey, 2004; CIPD, 2015).

“From years of study, I estimate today more than 70 per cent of needed change either fails to be launched, even though some people clearly see the need, fails to be completed even though some people exhaust themselves trying or finishes over budget, late and with initial aspirations unmet.” (Kotter, 2008, P 12/13).

“People have been writing about change management for decades and still the statistics haven’t improved. With each survey, 70 per cent of change initiatives still fail – and the world is getting more complicated”. (Senturia et al., 2008, P 1)

In reference to the above reports, there is evidence of disagreement between researchers on a fundamental structure for organisational change management and responsible reasons for the implementing change failure (Wetzel and Gorp, 2013). For example, Burnes (2004) claimed that the evidence of high level of failure in successfully implementing organisational change may indicate a lack of a valid framework of how to implement and manage organisational change; existing practice and theory are mostly supported by unchallenged assumptions about the nature of contemporary organisational change

management (Doyle, 2002), and can also attribute to employees resistance to organisational change -human factor (Jennifer and Kerry, 2007, Maurer, 1996; Spiker and Lesser, 1995; Waldersee and Griffiths, 1997; CIPD, 2014). Guimaraes and Armstrong (1998) argue that most personal and superficial analyses have been published in the area of change management, and also Edmonstone (1995: 16) supports stating 'many of the change processes over the last 25 years have been subject to fundamental flaws, preventing the successful management of change'.

Pettigrew, 1987, criticised the organisational change literature for being ahistorical, aprocessual, and acontextual in character, which failed to provide data on the mechanisms and processes through which changes are created. Further, he suggested to do research which is contextualist and processual in character- 'the need to empirically demonstrate through careful research the what, why and how of translating executive intentions into realised change' (Pettigrew, 1987: p 649). Here, context refers to the antecedent conditions of change, the internal structure, cultural, and political context within which change occurs, as well as broad features of the outer context of the firm from which much of the legitimacy for change is derived. Contextualist analyses of the process such as change draw on phenomena at vertical and horizontal levels of analysis and the interconnections between those levels through time. Most of the studies on organisational change failed to provide data on the mechanisms and processes through which changes are created (Pettigrew, 1987). This is due to the tendency to fall into the

same methodological trap regarding the decision event or episode as the unit of analysis (Mintzberg et al., 1990), rather than the holistic and dynamic analysis of changing. Following the above argument, this research has taken a multilevel approach in understanding 'how' organisational receptivity affects organisational performance in the context of change.

Researchers have been studying organisational change to answer the reasons why some organisations are receptive to change process easily and some are non-receptive. Many terms have been used such as, 'organisational flexibility' (Palanisamy and Sushil, 2003; Hatum and Pettigrew, 2004), 'employee readiness for change' (Holt et al., 2007), 'organisational learning' (Moilanen, 2005), 'organisational receptivity for change' (ORC), 'organisational capacity for change' (OCC), and others, focusing on employees psychological experiences underlying change process (Oreg, 2006; Stanley et al, 2005; Miller et al., 1994; Wanberg and Banas, 2000). The above literature indicates that authors have either taken an organisational level or individual level factors and concepts to study organisational adaptability for change. None of the above research has taken team-based analyses, particularly project level, to study organisational change.

The present study is adopting organisational receptivity for change concept which is originally used by Pettigrew (1992) offers more advantage over other above mentioned existing similar constructs and concept in an organisational change such as -'organisational flexibility' and organisational change capacity. Moreover, in the area of scale development in

organisational change, there are several tangentially related concepts and measures, but none of them quite captures the essence of organisational change context in a reliable and valid way. Nevertheless, ORC theory is based on two theories, institutional and RBV theory, which allows it to conjoin organisational contexts and capabilities in one framework and also the fully developed ORC construct is based on robust systematic scale development procedure (Taha, 2014). Whereas, other available constructs are neither based on any theoretical framework nor followed any robust procedure to develop scale and they lack cohesiveness- failed to capture the broader spectrum of organisational context (Judge and Douglas, 2009). For example, organisational flexibility is defined as “the capacity to respond to environmental change” (Palanisamy and Sushil, 2003; p.84). There are two major concerns here- it is too broad and general to be meaningful and it is not rooted in a theoretical framework (Judge and Douglas, 2009). Also, the development of measures for this construct was not thorough and it was not based on a theoretical framework (Judge and Douglas, 2009). Some of the drawback of this scale that Palanisamy and Sushil (2003) operationalised on organisational flexibility is that they used it as a mono-dimensional construct using only four items. Also, this study was based on only one organisation; the respondents were primarily frontline and middle-level managers who have limited perspectives on the overall organisation; and their study reported a rather low response rate of 21 percent but did not test for response bias. As such, the theoretical and methodological development of this

construct is suspect. Another study conducted by Hatum and Pettigrew (2004) was based on qualitative methods and there was no mention in regards to the development of measures for any of the construct. Hatum and Pettigrew (2004, p.239) investigated organisational flexibility, which they defined as “A combination of a repertoire of organisational and managerial capabilities that allow organisations to adapt quickly to environmental shifts”. Because this definition was derived from the dynamic capabilities literature and much more precise, it is close to the concept OCC (organisational change capability) but it was operationalised organisational flexibility as a two-dimensional construct- degree of internationalisation and the degree of product-market diversification. Furthermore, they only studied two organisations with a single industry and there was no discussion about the psychometric properties of their construct of their measure.

Some scholars have tried to measure organisational learning. Moilanen (2005, p.71) defines this construct as “a consciously managed organisation with ‘learning’ as a vital component in its values, visions, and goals as well as in its everyday operations and assessment” and he operationalised it as five inter-related dimensions. This definition is tautological in nature and while the author did survey multiple members within an organisation, no senior-level management surveys were included in the study and the vast majority of respondents reported being frontline employees. Also, no attempt was made to validate the measure because “there is no agreement on the concept itself or its measurement” (p.78).

Similarly, Holt et al., (2007) systematically developed a scale for 'employees' readiness for change' which they defined as the extent to which an individual or individuals are cognitively and emotionally inclined to accept, embrace, and adapt a particular plan to purposefully alter the status quo. Employing Hinkin's (1998) well-regarded scale development approach, they were able to develop a reliable and valid 25-item, a four-dimensional measure of this important attitudinal construct. But, they examined this construct only within two organisations and also, this construct is substantially focused at the individual level and hence different from organisational receptivity for change (ORC) construct.

Another most similar concept to ORC is "organisational change capacity". Judge and Douglas, (2009 p. 635), defined OCC as "a combination of managerial and organisational capabilities that allows an enterprise to adapt more quickly and effectively than its competition to changing situation". They systematically developed a reliable and valid measure of an organisation's capacity for change (OCC). This construct is based on recourse-based view and hence took a different perspective to change and does not capture the institutional factors in the changing context. OCC describes how several managerial and organisational capabilities allow certain organisations to adapt quickly and effectively to environmental pressures (Judge and Douglas, 2009). Although there are some similarities between the OCC dimensions and some receptivity factors, OCC focuses more on organisational resources and capabilities and does not cover the broader spectrum of organisational context. Also, the

development of OCC dimensions was not based on the theoretical framework.

Previous empirical studies on organisational receptivity for change were either qualitative (except Taha, 2014) and mostly on hospitals. Using comparative case studies, Butler examined two public services agencies –one, which was receptive to change, and one which was not receptive to change- and attempted to discern what the difference between the two agencies was. While the insights were fascinating, there was no attempt to precisely measure organisational receptivity to change due to the qualitative nature of the study. Taha (2014), employed Hinkin's (1995) three phase scale development process to established a robust, reliable and valid organisational receptivity for change (ORC) scale, which was conducted and tested in the hospitality industry in Malaysia. Hence, the selection of the concept and construct of ORC developed by Taha (2014) is justified.

The current study aims to understand how organisational receptivity factors which comprise of institutional factors and organisational capabilities affect performance outcomes at multiple levels within an organisation. Arguing the importance of holistic approach, Pettigrew et al., (1992), claim that strategic change is 'highly contextually sensitive' and that standard 'off the shelf' solution and individual competencies only have limited and partial impact (p. 27). In this line of research, originally several institutional factors were identified as receptivity factors and then, organisational capabilities had been incorporated in the later studies. These factors are described as higher-order

capabilities that allow organisations to integrate and reconfigure their existing resources and capabilities in order to create a highly flexible and adaptive organisation (Butler and Allen, 2008). This development of the ORC theory is presented and discussed in the next chapter.

Table 1: Literature Review Summary of Major Themes-Emerging Gaps

Key Themes	Strengths/ key features	Emerging Gaps
Renewable Energy Sector, India	<ul style="list-style-type: none"> -High Demand & growth for RE. -Affect all sectors & citizens. -Challenges-closing demand-supply gap. -Drivers of change: dedicated ministry MNRC, new upcoming technologies, competitive price, R&D, funding, policies etc. -High expansion rate for investment (62% increase since 2011). -Sector undergoing change-influencing organisational change. -Provide best opportunities for advancing OC theory & research. 	<ul style="list-style-type: none"> -Capability to adapt quickly (rate and pace) to current changing environment. -Is this sector receptive to change?
OC in India	<ul style="list-style-type: none"> -OC has been using for decades by various industries. -Terms, such as change management, OD, corporate transformation & organisational transformation, have been used interchangeably. 	<ul style="list-style-type: none"> -Limited & inadequate literature on OC. -Limited literature on procedural & project implementation. -Need to conduct research on OC in developing economies (Liuto, 2001)-generalisability issue (Flamholtz & Hua, 2003); more complexity-region, culture, industries, language etc. -The limited success rate of OC intervention adapted from western. -The inability of firms to develop integrated organisational system. (Ranganathan & Kuruvilla, 2008).
OC existing approaches	<ul style="list-style-type: none"> -Acknowledgment of significance of rate and pace of change in current business environment. -Four themes of OC-1) content issues, 2) contextual issues, 3) process issues, 4) criterion issues. Or 1) by the rate of occurrence, 2) How to comes about, 3) by scale. 	<ul style="list-style-type: none"> -The low success rate of change program (20-30% only). -Comprehensive multilevel theories & research missing (Pettigrew, 1987). -Lack of valid framework (Burnes, 2004). -Lack of focus on human factors (resistance). -Lack of data on mechanisms & processes through which changes are created. -The majority of literature is ahistorical, aprocessual & acontextual.

2.4 Summary:

In summary, this chapter justified that the selection of renewable energy sector in India is based on this industry's vulnerability to the highly dynamic external environment - the best opportunities for advancing theory and research on organisational change may lie in the study of organisations operating within transition economies. However, there is very limited and inadequate OC literature available on the decentralised, market-based economies like India (Budhwar, et al., 2012). And applying such multilevel organisational receptivity framework in such developing and dynamic environment would help to advance the ORC theory as well as help firms to grow fast and adapt quickly to change. Finally, ORC theory is presented in the broad existing organisational change literature, identifying the emerging knowledge gaps in the field. Next chapter covers the systematic literature review on ORC theory.

CHAPTER 3:

ORC: CONCEPTUAL UNDERSTANDING AND DEVELOPMENT

In order to achieve a comprehensive understanding of a new phenomenon, 'Organisational Receptivity for Change' (ORC) as well as organising new framework, systematic and integrated literature review methods were adopted. Because ORC is 'an undeveloped and emerging' concept, holistic conceptualisation and synthesis of the literature to date would benefit in addressing the importance and development of the theory and proposing future research agenda in the subject. The aim of this chapter is to synthesise, 'challenge and extend existing knowledge', on organisational receptivity, 'not simply to rewrite it' (Whetten, 1989, p. 491). Due to the lack of clarity of the notion (Taha, 2014), the purpose of the systematic literature review has two fold –

1. Define the organisational receptivity notion
2. Review of the literature and evidence to understand the development of ORC theory.

A systematic review is a method of review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyse data from the studies that are included in the review (Petticrew and Roberts, 2006). With regard to the data location, in addition to ancestry

searching and journal hand searching, the computerised databases have been used, which are ABI/Inform proquest and EBSCO.

The structure of this chapter presented the evolution of ORC theory and discussed all three existing ORC frameworks, which are Pettigrew et al.'s in 1997, Butler's in 2003 and Butler and Allen's in 2008 and Taha's in 2014. Furthermore, key knowledge gaps and issues in the ORC theory is discussed and explaining how this research study addressing these issues. Finally, this chapter argues that ORC theory is a multilevel phenomenon and hence in order to understand it, the researcher needs to adopt the holistic multilevel approach.

3.1 Development of organisational receptivity for change (ORC) theory

The literature that has used the term 'receptivity' can be divided into two categories by the level of analysis. These studies have either conducted at organisational (for example, Pettigrew et al., 1992; Butler, 2003, Newton, et al., 2003; Butler and Allen, 2003; Taha, 2014) or individual level (for example, Zmud, 1984; Devos et al., 2002; Beugre et al., 2006). This thesis aims to address the conceptualisation of organisational receptivity only and its theoretical development in change literature and not individual receptivity. The literature on ORC focuses on explaining organisational contexts that affect the rate and pace of change. Initial studies were more focused towards explaining organisational adaptation and diffusion specifically focusing on institutional contexts and then moved on incorporating resources

within an organisation and its impact on organisational performance.

The Pettigrew and Whipp (1991) study was the pioneer in the emergence of the receptivity concept. The study has provided huge insight on 'why' some organisations are more successful than others despite having similar conditions (e.g., similar industry, country, product markets etc.). The comparative longitudinal analysis of the characteristics of high and lesser performing organisation from four industries in private sector over thirty years enable them to identify five interrelated factors in the overall process of competitiveness and change: 1) Environmental Assessment, 2) Led change, 3) Managed strategic and operational change, 4) Treated their human resource as assets or liabilities, and 5) Managed coherence.

It was in 1992 when the theory of organisational receptivity was first coined and explained by Andrew Pettigrew. Further exploration in the private sector, Pettigrew and team (1992) used and explained the term 'receptive' and 'non-receptive' contexts for change within the organisation. They concluded that the variation in rate and pace of change (different degree of receptivity) depends on the interaction of eight key factors. These factors include, 1) quality and coherent policy, 2) simplicity and clarity of goals and priorities, 3) key people leading the change, 4) supportive organisational culture, 5) long-term environmental pressure, 6) cooperative inter-organisation networks, 7) the fit between change agenda and its locale, and 8) effective managerial clinical relations.

The above two studies become the foundation for the rest of studies in the field of ORC. Newton et al., 2003, replicated and applied the above ORC framework to evaluate the level of change in general medical practice in implementing a Personal Medical Services (PMS) Pilot between 1998 and 2001. They claimed that ORC model has potential beyond just providing 'diagnostic checklist' but also 'offers scope for interpretation and explanatory analysis' (p. 151). ORC model guided them to identify a range of distinct dimensions of the organisational change process and enable them to typify individual cases (or context) against an ideal.

Further next interview-based qualitative studies by Butler, (2003) and Butler and Allen, (2008) was significant on the ORC theory development as it was an attempt to develop ORC model further as a management theory and to generate explanatory categories for change. Butler, (2003) used the original ORC model by Pettigrew and applied it to explain the success of two contrasting English local government outsourcing strategies. Butler, (2003) reduced original eight receptivity factors (Pettigrew, 1992) to five interconnected receptivity factors to make them more applicable to other industries. For example, the original receptivity factor 'Environmental Assessment' moved out of the new ORC framework (Butler, 2003) and called it a factor at 'Environment level' as the motor of change for public service. The five identified factors are- ideological vision, leading change, institutional politics, and implementation capacity. Further, adopting Butler's model of ORC, Taha (2014), developed a

measurable scale for ORC in the private hospitality sector and come up with four dimensions of the ORC scale.

The ORC framework has been developed and applied in many public and private sector companies including- automobile industry, book publishing industry, merchant banking industry, life assurance industry, NHS, District Health authorities, Hospitality industry, personal medical services (PMS) and at the country level. The following section will discuss the key ORC frameworks in the ORC theory development which will highlight the similarities and differences between the frameworks. This will allow a comprehensive understanding of the concepts and its applicability. This will further provide direction for this thesis to progress the development of ORC theory and identify future research agenda. In the literature of ORC theory, there are three frameworks exist. The pioneering ORC framework by Pettigrew et al., (1992), ORC framework by Butler, (2003) and recent ORC framework by Taha, (2014).

3.1.1 Pettigrew et al.'s (1992) ORC framework:

The pioneer eight factor ORC framework by Pettigrew et al., (1992) was based on institutional theory. They called it receptivity factors which were the explanation for the variability in the rate and pace of change in organisations. Adopting 'contextualist' approach this framework acknowledge that the mobilisation and activation of resources are dependent on context to realise the outcomes (Newton et al., 2003). The

theoretically distinct receptivity factors are interrelated and dynamic in nature.

The first factor in this framework, 'quality and coherent policy' represents the clear conceptual thinking that are the antecedent conditions for organisations to negotiate the change. This is critical at a strategic and operational level in order to facilitate change implementation. The broad vision at strategic levels enable firms to involve various stakeholders and build commitments (Pettigrew et al., 1992) and hence incompatibility of vision with decision-making structure can be reduced (Newton et al., 2003).

Second receptivity factor, which is related to the first factor is 'simplicity and clarity of goals and priorities' (Pettigrew et al., 1992). This represents action plan derived from the broad set vision and key priorities (Newton et al., 2003). Pettigrew et al., (1992) emphasised the importance of the role and ability of manager in the successful change implementation process, particularly, making internal changes to meet conflicting institutional demands and constraints (Oliver, 1997).

Third receptivity factor is 'key people leading change'. This factor looks at leadership which not necessarily related to one person, but can be a group of individuals who shape and enforce institutional rules and beliefs (Oliver, 1997). Firms use these formal and informal leaders to influence change implementation. Collectively team provides interwoven skills that allow the greater combination of planning and opportunism (Pettigrew et al., 1992).

Next receptivity factor in this framework is supportive organisation culture. According to Pettigrew et al., (1992) those organisations who have a culture that focuses on challenging beliefs about success and change and how to achieve it are more receptive towards change. Newton et al., (2003) explained supportive organisational culture as having the set of value and behavior that contribute to achieving change goals.

Fifth receptivity factor in Pettigrew et al.'s (1992) ORC framework is 'long-term environmental pressures'. This factor represents the crucial interactions between external business environment and firms. Organisations who are receptive are more aware of the external pressures that driving change within organisations than non-receptive organisations (Pettigrew et al., 1992; Newton et al., 2003). Pettigrew et al., (1992) described how manager's business decision based on expected institutional norms could be an obstacle to the change initiatives. Local context such as levels of employment, trade union issues, and societal conditions affects manager's decisions in organisations (Pettigrew et al., 1992).

Sixth receptivity factor is 'fit between change agenda and its locale'. This is related to fifth receptivity factor in Pettigrew et al.'s (1992) ORC framework. Where 'long-term environmental pressure emphasised the manager's awareness of local context, this factor explains the rationale of decision making despite beyond the manager's control. Higher tiers of external environment shape organisation's change strategies and implementation (Pettigrew et al., 1992).

Seventh and eighth receptivity factors are 'co-operative inter-organisational networks' and 'effective managerial/clinical relations'. Both factors emphasised the co-operation and network of strong relationship outside and within an organisation. Pettigrew et al., (1992) identified a number of features, such as a system of financial incentives, clear referral and communication points, shared ideologies or history and the existence of boundary spanners who crossed agency dividers that enrich organisation's network of relationship with other organisations in its external environment. However, the nature of the relationship between the stakeholders within an organisation is equally crucial in change implementation. Greenwood and Hinings, (1996) argue that various conflicts of interest or protection of vested interests between groups can affect the change process.

Newton et al., (2003) borrowed Pettigrew (1992) ORC framework to analyse its applicability, particularly to evaluate the level of change in a general medical practice called Personal Medical Services (PMS) between 1998 and 2001. He further refined some of the receptivity factors. For example, he explained the applicability of the factor, 'key people leading change', to determine the nature of leadership, the continuity of leadership and the leadership capacity. Moreover, 'supportive organisational culture' factor was used to explain employee's propensity to change, the sub-cultures that exist in the organisation and supportive actions demonstrated by various individuals in an organisation (Taha 2014). In 2003, Butler used Pettigrew's et al., (1992) ORC framework to explain the

variability in success in strategy implementation in the local housing authority and suggested 4 factor ORC framework.

3.1.2 Butler's (2003) ORC framework:

Butler (2003) applied ORC theory to another public sector, housing authority, to identify the impact of receptivity factors and explain the success of two English local government. He integrated eight receptivity factors in Pettigrew et al.'s (1992) framework into four factors in his ORC framework, which are- Ideological vision, leading change, institutional politics, and implementation capacity.

Ideological Vision: Butler (2012: 46), describes Ideological vision is 'to establish the change imperative'. This two facets term has been used in literature widely -ideology and vision. Ideology refers to the 'set of ideas which arise from a given set of material interests or, more broadly, from a definite class or group' (S52). This makes Ideology more complex and vast phenomena, which also represents the cultural aspect of change. Moreover, 'Vision' suggests that there are quality and coherence of policy (Pettigrew et al., 1992). A well-developed strategic agenda usually consist of clear direction and guidance for an action plan, including existing problem, the desired goal, linking risks, threats and opportunities (Leach, 1996). In other words, Ideological vision refers to the 'being a strategic agenda,...that may arise from the interests of a definite group and further shaped by a synthesis of managerial ideologies within an organisation'

(Butler, 2003: S52). Butler (2003) incorporated three receptivity factors of Pettigrew et al.'s (1992) ORC framework in this factor, which are – the quality and coherence of policy, simplicity, and clarity of goals and, supportive organisational culture. The rationale for integration was that all three factors represent the key role of vision and management ideologies that influence the direction of strategic change implementation (Butler, 2003).

Leading Change: Leading change meant to drive change throughout the organisation (Butler, 2012: 46). This considers the critical role of leaders in change process across the organisation. These leaders can be individuals or small groups from any hierarchical level or from any department within an organisation. (Pettigrew et al., 1992). Organisations, which appoint change leaders throughout the organisation, which works in a collaborate manner sharing good practice among different departments, are high receptive and high change organisations. Overall, leading change refers to the individuals or small groups (leaders) and their actions taken to implement change (Pettigrew et al., 1992). Hence, for key decision maker's selection of leaders and their skills to lead change is very crucial for managing change. This factor is based on Pettigrew et al.'s (1992) receptivity factor, however, he further explained that decision making can be located either at top-down or otherwise. This factor identifies the 'key people leading change', their actions, its location with an organisation and staff involvement in the decision-making process (Butler and Allen, 2008)

Institutional Politics: Institutional politics means to affect formal and informal decision-making (Butler, 2012: 46). This recognised the location of decision making in any organisation in any sector. Emphasising the importance of the co-operative organisational network, Pettigrew et al., (1992), discusses intra-organisational networks and inter-organisational networks in the NHS, for instance, network between local councilors, staff. Organisations utilise these formal and informal network structures to build commitment and minimise resistance through forming various committees and using management style. Further, Sabatier, (1991) claims that these networks work together involving different levels of governance until change is consolidated and the 'new rules of the game' are embedded in the culture of government. This factor is similar to Pettigrew et al., (1992) receptivity factors 'co-operative inter-organisational network'. Butler (2003) further refined this factor by including internal politics between groups and acknowledge the formal and informal structures and relations that affect change implementation (DiMaggio and Powell, 1983). Key influential and powerful individuals or groups exercise normative pressures to protect their self-interest which contributes to institutional discourse that frames the decisions regarding change (Taha, 2014).

Implementation Capacity: Implementation capacity means to implement change in practice (Butler, 2012: 46). Butler, (2003) compared implementation capacity to the similar concept 'capacity for action' by Greenwood and Hinings (1996). Both

concepts acknowledge the availability and mobilisation of the required skills and resources (knowledge, finance, time, and skilled staff) within the organisation in the process of change by multiple change agents. The aspect that makes them differ from each other is that 'capacity for action' emphasises leadership whilst implementation capacity highlights the crucial role of all members of staff in change: leading change. This also suggests that local and contextual factors and activities may contribute to successfully implementing change (Pettigrew et al., 1992). Hence, Butler, (2003: S52) suggested, "Implementation capacity refers to the mechanisms used by those leading change to shape and influence strategy or policy implementation and to the behavior of other stakeholders in the organisational network". This factor is similar to Pettigrew et al.'s (1992) receptivity factors –fit between change agenda and its locale' and Greenwood and Hinning's (1996) notion of 'capacity for change'. This explains how institutional context and resource/capabilities enable firms to mobilise these resources in order to implement change. Three key elements has been highlighted (Taha, 2014, Butler, 2003) in this factor: first, the role of local actors or leader influencing change implementation; Second, the actions and 'how' local change leaders mobilise their available skills and resources to influence change and; Third, the involvement of staff members in the change process.

Possibility Space: In 2008, Butler and Allen discovered fifth receptivity factor after reanalysing the data from Butler, (2003) study. This factor, possibility space, based on complexity

perspective, which assumes that organisation and change are associated with the biological process such as an evolutionary view of structure and organisation (Allen, 1997).

The receptivity factor possibility space represents four dimensions of complexity perspective: 1) path dependency, 2) there are no universal best practice, 3) Choice and, 4) Organisational space. The first dimension of possibility space is 'path dependency' which combines two concepts path dependency and constituency due to similarities in ideas (Butler, 2003). Path dependency described as the interaction of new innovative practices with existing practices to produce emergent attributes and capabilities. Whereas, constituency stresses on individual practices, capabilities, and performance that influence the success of the innovative practice.

No universal best practice refers to the idea that there may be no simple single recipe for improving organisations as they differ in their resources, capabilities, and receptivity. Firms need to analyse the context that is presented and considers infinite possibilities for patterns of interactions between practices.

The fourth dimension, organisational space acknowledge the role of knowledge, learning and capability building which are associated with organisational flexibility and adaptability (Mohrman et al., 1995; Taha, 2014). One main source of economic rent is the speed in which new capabilities are embedded and frequencies of them being re-evaluated and re-aligned (Oliver, 1997) which is achieved by learning from the past (path dependency) and anticipating the future (choice) (Butler and Allen, 2008). Butler and Allen (2008), claimed that

possibility space is a dynamic capability which allows organisations to achieve ease of innovation and stay ahead of competitors. Butler's (2003) and Butler and Allen's (2008) studies became the foundation for Taha's (2014) work on organisational receptivity conducted in the hospitality industry in Malaysia.

3.1.3 Taha's ORC framework (2014)

Taha (2014) adopted ORC framework by Butler (2003) and its extended version by Butler and Allen (2008) in her study. She used this framework for developing psychometrically rigor scale to measure receptivity factors and further applied to the hospitality industry to explain how hotels achieve competitive advantage through the enhancement of the receptivity factors. Her study provided insight on how organisations adapt and achieve the right balance between conformity and profit optimisation. Taha (2014) developed 4 factor ORC framework and demonstrated that receptivity factors as first-order constructs which represented a second higher-order construct.

Ideological Vision: Butler's ideological vision has three sub-dimensions which are based on Pettigrew et al., (1992) receptivity factors, being; 1) quality and coherence of policy, 2) simplicity and clarity of goals and, 3) supportive organisational culture. Regarding this receptivity factor, there are some similarities between Butler (2003) and Taha's (2014) conceptualisation. In both framework 'coherence and quality of

vision' explains how organisations respond to environmental opportunities and threats which set the need as well as the pace of change implementation. Butler (2003) discussed the strategic agenda development process involved in the two housing authorities to achieve organisational change. Taha (2014) demonstrated that firms used their visions to accommodate external business environment. Firms continuously evaluate and re-evaluate their visions and objectives which set their direction for future (Taha, 2014).

However, the differences between Taha's (2014) and Butler's (2003) frameworks revolves around the use of vision to broadcast change. There was no association between managerial ideologies and development of vision. In reference to 'supportive organisational culture, Taha (2014) claimed that culture is related to change implementation rather than vision. A proactive culture inspires organisation members to adopt to internal and external organisational change. These findings are different from the Butler (2003) and Pettigrew et al., (1992) perspective that vision and culture are closely associated and that the role of vision is crucial in creating the right culture. Taha's (2014) ideological vision factor does not reflect Butler's (2003) view on 'ideology' and how the strategic agenda (vision) from the interest of key stakeholders in the organisation.

Leading Change: The definition and discussion of leading change is similar to Butler's (2008) and Pettigrew, et al., (1992) ORC framework and have found four sub-dimensions: 1) the location of decision making, 2) change leaders or agents in the

organisation, 3) The actions of the change leaders and, 4) the continuity of change leadership (Taha, 2014; Butler, 2003). Leading change factor relates to actions of the decision makers, how they plan, create opportunities and type of interventions involved (Taha, 2014; Butler, 2003; Pettigrew, et al., 1992).

Decisions regarding change are usually decided at the top (Taha, 2014). Firms often appoint a team which plays a key role in instigating and implementing change. Higher the involvement of employees in the decision making, more committed individual will be towards change (Newton, et al., 2003; Pettigrew, et al., 1992; Butler, 2003). Particularly, the commitment of the heads of department is crucial in expediting change implementation (Taha, 2014).

Taha (2014) emphasised the leader's knowledge, capabilities, authority, and power are important tools for leading change. This is consistent with the Butler (2003) study which demonstrated the actions of two directors of the local housing authority in implementing strategic change noting how their actions affected the rate and pace of change (Taha, 2014).

Institutional Politics: This receptivity factor refers to the importance of network structures and how it affects the rate and pace of change. In the Butler's ORC framework, institutional politics has two sub-dimensions; 1) inter-organisational network and, 2) the dynamic of these networks. Taha (2014) identified two sub-dimensions-1) stakeholder's power, which is related to the discussion on the type of network and power relations (Butler, 2003); 2) 'coalition' is about the support of the networks

and political skills. The first sub-division, 'stakeholder's power' forces on the role of different stakeholders asserting their influence to either expedite or slow down the change implementation process. The second sub-division, 'coalition' focuses on the change leader's political skills to gain support from key stakeholders.

Institutional politics suggest that the ability to manage the various stakeholders is vital in the change process. Firms used both formal and informal network to create change (Taha, 2014) which is consistent with Butler's (2003) and Pettigrew et al.'s (1992) framework view that support and commitment of various stakeholders in the organisation can foster positive alliance that creates high energy around change. Moreover, change leaders use formal and informal power positions to form strong relationships with employees to help expedite the change (Newton et al., 2003; Butler, 2003). Taha (2014) found that majority of the change leader, such as hotel owners, tend to use formal power to implement change. Leaders use the internal network more than external network by organising meetings and conducting discussions for employee's involvement and commitment to change (Taha, 2014).

Change Orientation: Taha (2014) combined two receptivity factors from Butler's (2003) and Butler and Allen's (2008) ORC frameworks and named it 'change orientation'. Change orientation comprises factors 'implementation capacity' and 'possibility space'. The theoretical reasoning for the merger is that both factors are related to the types of mechanisms that

increase the organisation's capacity to implement changes (Taha, 2014). This receptivity factor includes various organisational routines, processes, and culture which facilitate change and transformation (Taha, 2014). Butler (2003) identified four elements in implementation capacity, which are: 1) change mechanism and strategies, 2) speed of implementation, 3) stakeholder's involvement, and 4) strategies for managing change. These sub-dimensions are related to how the organisation creates a mechanism that increases the level of support from the employee. Taha (2014) claimed that mechanisms, such as openness of discussion, clear communication and continuous support for employees, enables firms to generate the right mindset around change that allows the organisation to adapt faster to environmental pressures (Oliver, 1997). However, 'possibility space' assumes that organisational change is associated with the evolutionary perspective of organisational structure (Allen, 1997). Taha (2014) found that low level of government pressure creates low environmental pressures for firms which allow hotels to maintain the best practice approach to managing hotels. This related with isomorphism approach in the institutional theory (Taha, 2014). Isomorphic Pressures (coercive, mimetic or normative) leads to standardisation in the industry (DiMaggio and Powell, 1983). Possibility space is also related to the learning and flexibility which is part of organisational culture. Those firms that promote learning and cross-functional training amongst employees have greater flexibility and responsive human resources (Taha, 2014). Such promotion makes employees motivated to learn multiple

skills, new job functions, and different systems within the firm and makes them more flexible and adaptive workforce (Taha, 2014).

Taha's (2014) study combined the above discussed two receptivity factors from Butler's (2003) and Butler and Allen's (2008) ORC framework into one. Hence, new receptivity factor 'change orientation is the combination of implementation capacity and possibility space. The merger and creating new receptivity factor change orientation was not only based on statistical analysis, but also on theory (Taha, 2014).

3.2 ORC Issues and knowledge gaps

Overview of the above literature identified some issues and knowledge gaps in the organisational receptivity for change (ORC) theory –

3.2.1 ORC theory is still an emerging, undeveloped notion:

Although receptivity theory has been around for a decade, still there is not much development of the original model (Butler, 2003). Bennet and Ferlie (1994) argue that 'most of the original features of receptivity were found to be present' (p. 167), but add no further precision or attempt at measurement (except Taha, 2013); still 'an emerging, undeveloped notion' (Butler, 2003).

3.2.2 There is a limited quantitative study in ORC literature:

Most of the insights were reliant on interview-based qualitative case studies (except Taha, 2012) conducted in Public sector

(except Pettigrew and Whipp, 1991). 'Our observations may be limited... (By)...our sample' (Pettigrew et al., 1992), more quantitative studies in various industries in the Private and Public sector would contribute significantly in developing ORC management theory and will generate explanatory categories for change.

3.2.3 There is a variation in receptivity factors in different studies:

It appears that there are variations in receptivity factors in the literature. For instance, Pettigrew and Whipp (1991) proposed five receptivity factors that contributed the way successful firms manage change. Whilst, Pettigrew et al., (1992) suggested eight interactive receptivity factors that justify different degree and pace of organisational change. Whereas, Butler, (2003) and Butler and Allen (2008) recommended five receptivity factors affecting how local housing authorities manage their strategic change. In reference to the above variations, Taha (2014) argued the possibility that the receptivity factors are industry or sector specific. However, the majority of the studies have conducted their studies in the public sector (except Pettigrew and Whipp, (1991) and Taha, (2014). Nevertheless, the variations in the number of receptivity factors in the ORC literature can be justified under methodological explanation. Majorities of studies have undertaken different unit and level of analysis in an attempt to study change. For example, Pettigrew and Whipp (1991) study had very top three levels for analysis: Global economy, the industrial sector in question, and the

individual firm, whereas, Butler (2003) used firm-level analysis in his study. He reduced and merged some of the original eight receptivity factors in order to enhance the applicability of the factors into another research context outside the healthcare industry.

3.2.4 There is no clear definition of ORC in the literature:

In the ORC literature, there is no clear definition of the notion 'Organisational Receptivity for change' found. Oxford dictionary defines receptivity as "the quality of being willing to listen to or to accept new ideas or suggestions". The theory of 'Organisational Receptivity' was first used by Andrew Pettigrew in his book in 1992. Since then, many researchers have defined the term. For example:

'Receptive context' as a 'set of features that seems to be favorable associated with forward movements (including management action)' They further defined 'non-reactivity context' as 'configuration of features which may be associated with blocks on change' (Pettigrew et al., 1992, p. 268).

"It is considered a measure of how receptive a person, group or organisation is to change" (Frahm and Brown, 2007, p 374).

" ..an emerging, but an undeveloped notion which attempts to reveal the factors which contribute to organisations being either low change context or high change context" (Butler, 2003, p. S48).

3.2.5 ORC frameworks lack HR role as a dynamic capability.

The recent Taha's (2014) ORC framework and previous studies have ignored the role of HR. HR literature is full of acknowledgment that the unique role and contribution of HR specialist will make a difference in a success or failure of OC implementation (Shipton et al., 2016, 2012; Doorewaard and Benschop, 2003). This thesis proposes that HR involvement in terms of its power and competence can enormously contribute in the business by being strategic partner and equally involved in daily operations in the change context.

In recent years, human resource management (HRM) has been acknowledged to play a strategic role to make firms more adaptable to the rapidly changing and highly dynamic business environment (Shipton et al., 2016; 2012). The HR literature also acknowledges the increasing role of the HR specialists in managing and facilitating change in organisations (e.g., Marmenout and Schmitt, 2014; Beer, 1997; Brockbank, 1997; Ulrich, 1997). In this regard, Doorewaard and Benschop (2003) comment that organisational change success or failure is dependent on the "unique contributions of HR" (p.274). The evolving new forms of flexible and project-based organisations are in a way pursued to respond rapidly and effectively to change (Guest, 1987). The project or team based context then creates a complex and dynamic environment, which affects the organisation and change management process (Bresnen et al., 2005). Except few studies (e.g. Giangreco and Peccei, 2005; Zhu, 2005; Antila, 2006), there is little knowledge about how

human systems and resources can be configured and how to approach this-to enhance organisational change processes and outcome from a strategic human resource perspective (Judge et al., 2009).

For organisations attempting to deal with increasing competition and environmental uncertainty, the employees must possess the knowledge, skills, and abilities in order to contribute successfully to organisational change go far beyond the technical skills for which most employees are recruited and hired. For example, Write and Snell (1998), stress the importance of flexibility of the workforce that is achieved through employee skill and ability development when attempting organisational change. The role of HR therefore becomes especially critical in terms of finding ways of how organisation can capitalise on their employees' knowledge and skills (Boxall and Purcell, 2000) in change context. In general, HR systems are utilised to influence the behaviour and organisation of employees (Bowen and Ostroff, 2004). HRM practices that are internally consistent across different functions and compatible with firm strategy, implementing HR should better facilitate the process by which employees develop problem solving and interpersonal skills that enhance flexibility among employees fitting the organisation's strategic goals.

3.2.6 There is no study available in ORC literature which adopted multilevel approach.

Organisational change is the complex, multilevel and multifaceted phenomenon. None of the above studies conducted

or analysed at multilevel within the organisation. The body of literature on ORC could be categorised in either organisational (Pettigrew et al., 1992; Butler, 2003; Newton et al., 2003; Butler and Allen 2003) or individual level (Zmud, 1984; Devos et al, 2002; Bevgre et al., 2006). The current ORC approach ignores collective responses to change and creates a need for group level and quantitative approaches to provide deeper insight.

In the context of an organisation consisting of teams of knowledge workers, understanding firm's performance involves examining team performance, since the organisation's output is created through the execution of project teams (Huckman and Staats, 2011). Acknowledging the importance of conducting multilevel studies in understanding organisational change, Pettigrew (1987) argued that failed to provide data on the mechanisms and processes through which changes are created. This was due to the tendency to fall into the same methodological trap regarding the decision event or episode as the unit of analysis (Mintzberg and Waters, 1990), rather than the holistic and dynamic analysis of organisational change. This thesis have taken multilevel approach in order to develop conceptual model and data analysis using hierarchical linear modeling. This will allow to test how the identified mechanisms makes the ORC and outcomes performance link possible at different level of analysis. The developed conceptual model and related hypotheses is discussed in detail in the next chapter.

Table 2: Key studies contributing the development of ORC Theory

Key Studies	Unit/s and Level/s of analyses	Methodology used	Theoretical perspective	Sector	Contribution
Pettigrew & Whipp, 1991	Global , Industrial, and firm level	Interview based, longitudinal, Qualitative	'Contextualist' approach, Institutional theory	Private sector	Suggested a model composed of 5 interrelated factors: Environmental assessment, leading change, linking strategic and operational change, Human resources as assets and liabilities, Coherence
Pettigrew, Ferlie and McKee, 1992	Organisational Level	Interview based, longitudinal, Qualitative	'Contextualist' approach, Institutional theory	Public (medical)	8 interrelated receptivity factors proposed: Quality and coherent policy, Simplicity and clarity of goals and priorities, Key people leading the change, Supportive organisational culture, long term environmental pressure, Cooperative inter-organisation networks, The fit between change agenda and its locale and Effective managerial clinical relations.
Newton, Graham, McLoughlin and Moore, 2003.	Organisational Level	Observational data & interview based longitudinal qualitative	ORC model by Pettigrew	Public (Medical)	Applied ORC model to sought comprehensive organisational changes in a large general medical practice.
Butler 2003; Butler & Allen 2008	Organisational Level	Qualitative: comparative, longitudinal case study	ORC model by Pettigrew	Public (English local government)	Applied ORC model to explain the success of two contrasting English local government outsourcing strategies and Identified five receptivity factors- Ideological vision, Leading change, Institutional politics, Implementation capacity, Possibility space
Taha, 2014	Organisational Level	Qualitative and quantitative study	ORC model by Butler	Private (Hospitality)	Developed a measurable scale for ORC

Table 3: ORC factors overtime changes and definition

Pettigrew et al., 1992	Butler (2003) and Butler and Allen (2008)	Taha, 2014	Definition
Quality & coherent policy	Ideological vision	Ideological vision	Strategic agenda that arise from interest of a definite group within an organisation.
Supportive organisational culture			
Simplicity and clarity of goals & priorities			
Cooperative inter-organisation	Institutional politics	Institutional politics	Cooperative organisational network (formal and informal)
Effective managerial clinical relations	Leading change	Leading change	Location of the decision making and analyses of actions of the decision maker; creativity in organisational process.
Key people leading the change			
Long term environment	Possibility space	Change orientation	Mechanisms used by leading change to influence strategy/policy implementation and behaviours of stakeholders.
The fit between change agenda and its locale	Implementation capacity		

3.3 Organisational Receptivity: defining the concept

The notion of organisational receptivity and the ORC frameworks have been taken by scholars and practitioners for interpretation and explanatory analysis of change. However, there is no clear consensus on definition of the term organisational receptivity in the change literature found. This section has synthesise the organisational receptivity notions used in the literature and interpreted them by encompassing them all. Oxford dictionary define receptivity as-

“The quality of being willing to, listen to or to accept new ideas or suggestions”.

The theory of ‘Organisational Receptivity’ was first used by Andrew Pettigrew in his book in 1992. Since then, many researchers have defined the term in various ways-

“Receptive context’ as a ‘set of features that seems to be favorable associated with forward movements (including management action)’ They further defined ‘non reactivity context’ as ‘configuration of features which may be associated with blocks on change’ (Pettigrew et al., 1992, p. 268).

“It is considered a measure of how receptive a person, group or organisation is to change” (Frahm and Brown, 2007, p 374).

“..an emerging, but undeveloped notion which attempts to reveal the factors which contribute to organisations being either low change context or high change context” (Butler, 2003, p. S48).

The above range of varied definitions precludes a comprehensive meaning of the notion that usefully encompasses them all. Based on a synthesis of the receptivity literature in OC, organisational receptivity can be interpreted as: Organisational receptivity can be defined as a collection of dynamic, multilevel and multifaceted factors (including managerial decision or actions) which interact to make the

organisation either high -change, receptive context or low-change, non-receptive context.

The above definition of organisational receptivity for change (ORC) has several key properties and features:-

- a) These factors 'represent a pattern of association rather than a simple line of causation' (Pettigrew et al., 1992, p. 275).
- b) The factors 'provide a diagnostic checklist which can be used to assess the likely reception of a particular intervention in a specific locale'.
- c) It is dynamic in nature: a receptive context can become non-receptive and vice versa. This acknowledges that organisational members capability and huge scope to mobilise and activate resources and contexts to realise the outcomes that are important to them (Newton et al., 2003). The features of receptiveness could be temporally ordered: some can be seen as present during the whole of the change process, while others only came on stream later on' (Bennet and Ferlie, 1994).
- d) Some of the receptivity factors could be seen as historical givens: 'part of the contextual inheritance', as opposed to factors 'that are more related to action and choice' (Bennet and Ferlie, 1994, p. 166).
- e) The receptivity model identifies a range of discrete facets of organisational change situations and enables analysts to typify individual cases (or 'contexts') against an ideal.

Organisational receptivity is at initial stage of emerging as a research paradigm in the OC area. Paradigm is described as a

theoretical framework of a scientific school or discipline within which theories, generalisations, and the methods to test them are formulated (Turner et al., 2013). Butler, (2003, p58) argued that “receptivity provides an approach and a discourse for revealing describing and analysing the factors which contributes OR” and attempted to develop as management theory.

3.4 Summary:

In summary, this chapter defined organisational receptivity for change (ORC) notion as a collection of dynamic, multilevel and multifaceted factors (including managerial decision or actions) which interact to make the organisation either high -change, receptive context or low-change, non-receptive context. Also, systematically reviewed the ORC literature and evidence to understand the development of ORC theory and have discussed 3 existing ORC frameworks in the area: 1) Pettigrew et al.’s (1992) ORC framework; 2) Butler’s (2003) ORC framework; 3) Taha’s ORC framework (2014). This chapter argue the importance of conducting multilevel studies in understanding organisational change, particularly ORC is a multilevel multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation. Next chapter deliberates ORC theory through multilevel perspective.

CHAPTER 4:

ORC: MULTILEVEL PERSPECTIVE

Any change event is seen as ‘an iterative, multilevel process...by the interests and commitments of individuals and groups. This thesis attempts to formulate a model of higher-level receptivity factors, lower level receptivity factors and processes and the manner in which they interact. It is recognised that receptivity factors at each level often has its own properties, description, processes and relationships and has its own momentum; and that, while phenomena at one level are not reducible to or cannot be inferred from those at another level (Butler, 2003). Previous many studies have demonstrated the positive association of ORC factors and organisational performance (please refer to Taha, 2014; Butler 2003; and Pettigrew et al., 1992). However, previous studies did not provide an explanation on how ORC affects performance outcomes. This study aims to advance understanding and further development of ORC theory adopting multilevel perspective. This is achieved by synthesis clear description or definition of the mechanisms and processes under examination. In other words, it is crucial to understand ‘what’ and ‘how’ identified mechanisms at the level of the actor, at the level of working teams/project and, at the system level effects ORC – performance outcome link.

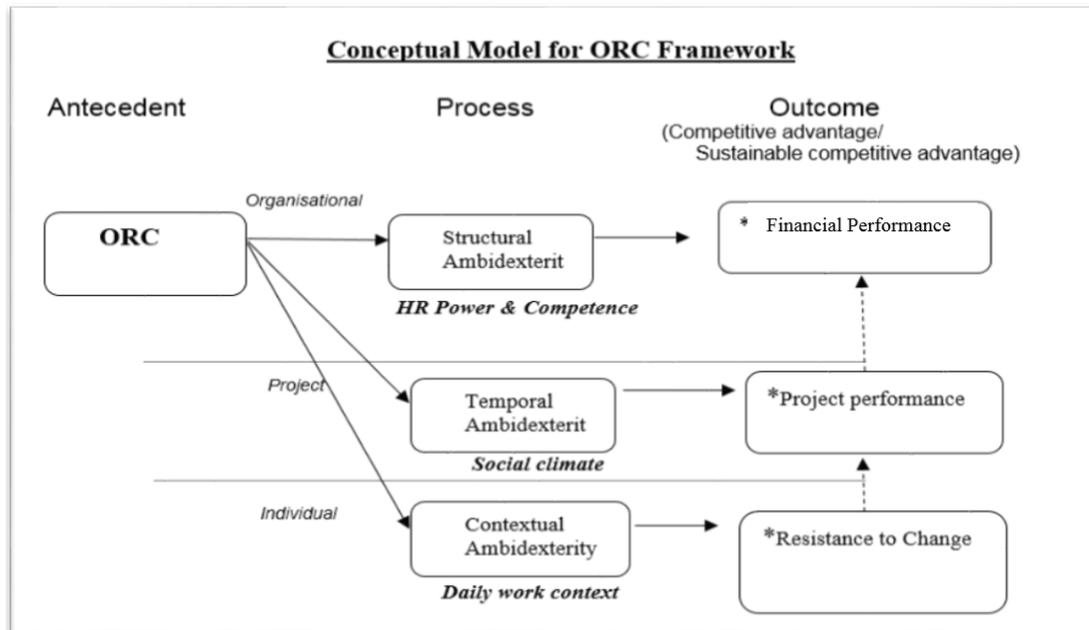
In order to identify what are the mechanisms for achieving receptivity at multiple levels within an organisation, integrated literature review method was adopted. ORC is still an undeveloped and emerging concept (Butler, 2003) and, challenging and extending existing knowledge would require an integration that generates new knowledge in the development of ORC theory. An integrative literature review is “a form of research that reviews, critiques and synthesises the representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated” (Torraco, 2005, p.356). This chapter of the thesis has linked ORC theory with a dynamic intellectual capital theory to identify and understand the mechanism and processes that lead ORC to organisational performance. This will allow the identification of the unique and valuable knowledge at both individual and collective levels within an organisation. ORC theory has been explored in-depth in order to identify the underlying required resources (tangible and intangible) and linking it to the existing organisational change literature according to the level of analysis within an organisation (i.e., individual, group and organisational level).

The relevant literature consists primarily of studies examining specific factors and mechanisms associated (correlated) with organisational receptivity to change. Therefore, the pluralistic approach has been adopted in conducting integrated literature review. Well defined literature search strategies are critical for enhancing the rigor of any type of review to avoid inadequate

database and therefore inaccurate results (Cooper, 1998, Conn et al., 2003 a). Involving pluralistic approaches to searching the literature included- computerised database, including ABI/Inform ProQuest and EBSCO and ancestry searching (Conn et al., 2003 b). Accordingly, the relevant literature was categorised by the level of analysis and the utilised resources. A conceptual framework (Figure 4) was developed demonstrating which resource (organisational, social and human capital) operates at which level (organisational, group and individual) to enable these mechanisms to occur that affects ORC –performance link.

The proposed conceptual model of the thesis (Figure 4) exploring and highlights the relationships of antecedents (independent variable) and outcomes (dependent variable) through identified mediators and moderators. The turbulent business environment promotes high receptivity which makes organisations adapt to change (Taha, 2014). The framework represents the nested structure and multilevel nature of the study and the relative location of the various variables which operate more effectively at the particular unit level within an organisation. Further, this study argues that the dynamic nature of ORC factors which focuses towards explaining organisational adaptation and diffusion (Taha, 2014) promote/facilitate ambidexterity which in turn affects performance. Moreover, various mechanism, resources, practices, and processes such as HR power at the organisational level, social context at project team level and, daily work context at individual level moderates the ORC – performance link.

Figure 4: Conceptual model for ORC framework



4.1 ORC and organisational performance

Receptivity factors are organisational capabilities that organisations can manipulate, integrate and coordinate to enhance their ability to change. Butler and Allen, 2008, called it as “higher order capabilities”, which enables organisation’s ability to negotiate the fit between existing and new organisational practices. This suggests that receptivity factors act as dynamic capabilities at the organisational level. Pettigrew, (1992) claimed it is important for future research on organisational change to study the relationship between change contexts and capabilities with organisational performance. ORC

theory discusses how organisations can enhance organisational performance by having the right organisational contexts which allow organisations to expedite a change in response to external environmental demands (Butler, 2003; Butler and Allen, 2008).

In RBV research, the most valuable and rare organisational capabilities are known as “dynamic capabilities” (Judge and Elenkov, 2005). Unlike static organisational capabilities, it adapts to the threats and opportunities posed by the organisation’s environment. Previous RBV studies have supported the strength of dynamic capabilities in firm’s performance (Miller and Shamsie, 1996; Carpenter et al., 2001; Hitt et al., 2001; Hart, 1995; Russo and Fouts, 1997; Judge and Douglas, 1998; Christman, 2000; Klassen and Whybark, 1999). In this framework, there is a direct link between strategic resources and performance (Combs and Ketchen, 1999).

According to Newbert (2008), three measures of performance are used regularly in strategy literature: 1) subjective non-financial performance, 2) subjective financial performance, and 3) objective financial performance. Objective financial performance is usually obtained via secondary data. Judge and Douglas (1998), found that “firms possessing relatively robust strategic planning systems also tended to achieve superior financial performance”. Supporting the above argument, empirical studies have demonstrated that ORC is positively associated with organisational performance in the context of change (see, Pettigrew, 1991; Butler, 2003, Newton et al., 2003; Taha, 2014). Thus, this study proposes that higher the level of

receptivity factors towards change will lead to higher level of organisational performance.

H 1-b: - An organisation's receptivity for change (ORC) is positively related to its organisational performance.

4.2 ORC and project performance

The focus of this study projects teams in organisational settings as the unit of analysis. The choice of this focus has two reasons. First, the findings from teams performing real tasks in organisational settings can more readily be generalised to the world of work. And second, organisational features like receptivity factors which might be external to the team can be extremely important determinants of effectiveness. The range of project teams included are those that produce goods, deliver services, recommend improvements, design new products, and determine strategic direction for their organisations.

A project team is a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example, business unit or the corporation), and who manage their relationships across organisational boundaries (Cohen and Bailey, 1997). Cohen and Bailey (1997), identified four types of teams in organisations today: 1) work teams, 2) parallel teams, 3) project teams and, 4) management teams. Frequently, project teams draw their members from different

disciplines and functional units, so that specialised expertise can be applied to the project at hand.

Resource Based View (RBV) claims that an organisation develops based on their collection of resources and their utilisation (Penrose, 1959). RBV claims that competitive advantages arise from differences in resource allocations and capabilities (Peteraf, 1993). Research suggests that in project-based organisations, capability building itself evolves in several development cycles through so-called project periods (Soderlund and Tell, 2009). Killen et al., (2008a) emphasise that the components of dynamic capabilities and project capabilities that lead to effectiveness in project management outcomes.

Newton et al., 2003, claimed that the mobilisation and activation of resources are dependent on context to realise the outcomes. Dynamic nature of receptive factors allows project managers to reconfigure, integrate and coordinate existing capabilities, which affects project performance (Teece et al., 1997). In the context of the project, ORC factors create conditions providing high energy around change (Jones, 2002). Dynamic capability literature also emphasised the role of the manager in the generation of capabilities (Ambrosini and Bowman, 2009). ORC factors create internal factors and process at project level that contribute to the organisation's ability to reconfigure, integrate and coordinate existing capabilities (Eisenhardt and Martin, 2000).

In other words, at project level receptivity factors allows project managers to mobilise and activate resources and utilise them to affect project performance. Organisations depend on project managers to realise the project outcome and performance. In line with the above argument, Morris (2013), recognises that capabilities defined at the organisational level need to be tailored to the requirements of specific projects. ORC factor's dynamic capability enable project managers to develop and mobilise to deal with a variety of contingent conditions facing an organisation (Eisenhardt and Martin, 2000). The obtained results also relate to the receptivity factor-implementation capacity. According to Butler (2003), local actors, members of the staff at particular locale mobilise their available skills and resources to influence change. Hence, this study proposes that ORC is higher the level of receptivity factors towards change will lead to higher level of project performance.

Two hypotheses, H1-b and H4-a, that theoretically expressing the same relationship between ORC and project performance, However, shows the difference in the operational framework. The former hypotheses (H1-b) represent same-level relationship and later (H4-a) cross-level relationship.

H 1-b. An organisational receptivity for change (ORC) is positively related to its project performance.

H 4-a. An organisational receptivity for change (ORC) is positively related to its project performance.

4.3 ORC and resistance to change

One of the sources of planned organisational change failure is ignoring the employees' reaction to the change which is, resistance to organisational change (Coch and French, 1948). Resistance to change is a well-known management problem that can come from a variety of quarters, including rigid cognitive frames within the organisation (Kaplan and Henderson, 2005). Coordinated adaptation of assets and overcoming resistance to change can benefit from dynamic managerial capabilities for reconfiguration (Helfat and Peteraf, 2015).

The employee's resistance to change is related to the receptivity factor- quality and coherent policy (Pettigrew et al., 1992; Newton et al., 2003; Butler, 2003). Pettigrew et al., (1992), asserted that the quality and coherent policy factor creates a frame and the necessary conditions that allow the organisation to negotiate and implement change. Higher the clarity and vision will build higher commitment and prevent the resistance to change within an organisation (Pettigrew et al., 1992). Butler, 2003, also provide an explanation on the attitudes towards organisational change in his 5 factor ORC framework. According to him, at the strategic level, clear and coherent 'vision' (p 52) and managerial 'ideologies' (p 52) shape the norms and social values which influence the attitude towards change (Dimaggio and Powell, 1983). Hence, ORC as dynamic capability has the potential to influence employees' attitudes and behaviours toward change- resistance to change. ORC factors as dynamic capability play a strategic role at the organisational level and

operational role at the project and individual employee level (Davies and Brady, 2016). This research proposes that the dynamic and interactive nature of ORC enables it to impact individual's attitudes, respond and behaviour towards change. Thus, this research proposed the following hypothesis.

Following three hypotheses, H1-c, H4-b, and H4-c are expressing the relationship between ORC and project performance. The hypotheses, H1-c, represent same-level relationship and H4-b and H4-c represent cross-level relationship.

H1-c. An organisational receptivity for change (ORC) is negatively associated with employees' resistance to organisational change.

H4-b. An organisational receptivity for change (ORC) is negatively associated with employees' resistance to organisational change.

H4-c. An organisational receptivity for change (ORC) is negatively associated with employees' resistance to organisational change.

4.4 Organisational ambidexterity as mediator between ORC-performance associations.

This research study theorises that ORC as higher order dynamic capability acts as antecedents, influences, and foster ambidexterity by enabling a firm to alter its capability based by negotiating the fit between existing and new organisational practices.

Many organisational studies have described organisational ambidexterity as a prerequisite for organisational survival and success (Raisch and Birkinshaw, 2008). Research have also found empirical evidence that (see, Jansen et al., 2005a) firms operating in an environment characterised by high dynamism and competitiveness are more likely to simultaneously pursue key diverse business activities and thus become ambidextrous. In response to the increasingly hostile environmental conditions companies direct towards a more balanced orientation in their strategic and structural alignment (Raisch and Hotz (in press)). In line with this argument organisational ambidexterity links to dynamic capability (Eisenhardt and Martin, 2000; Teece et al., 1997). In this regard renewable energy sector in India as high-velocity market is characterised by an ambiguous industry structure, blurred boundaries, ambiguous environment, new competitors, changing and upcoming business models where change happens in an unpredictable manner (Eisenhardt and Martin, 2000; Make in India report, 2015). Thus this environment demands high receptivity and ambidexterity within an organisation to be successful.

The majority of ambidexterity research (Gibson and Birkinshaw, 2004; Gulati and Puranam 2009; Beckman 2006; Lubatkin et al. 2006; Smith and Tushman 2005) have focused on mechanisms that enable organisations to become ambidextrous. They described these 'mechanisms' as structural at the organisational level, the cultural and informal network called contextual at the unit level and leadership based mechanisms of ambidexterity at the individual level (Raisch et al., 2009: p 686). However, organisational receptivity for change (ORC) as higher order dynamic capability describes four broad 'contexts' or factors that are interrelated and interact with each other and across the levels that enable organisations to navigate successful implementation of change (Pettigrew et al., 1992: p 268). Thus, dynamic nature of ORC factors creates the context by building an environment that foster mechanisms, activities, and practices that promote ambidexterity within an organisation. Hence, ORC factors are antecedent to ambidexterity which in turn affects organisational outcomes at different levels within an organisation, including organisational performance. Hypothesis H2-a (page 82) supports this argument.

In this regard, ORC factor ideological vision (Butler, 2003) promotes structural ambidexterity at the organisational level. Ideological vision consists of three key elements- the quality and coherence of policy, simplicity, and clarity of goals and supportive organisational culture. Management ideology and clear vision at organisational level shape the direction of strategic change and change implementation to balance

continuity and change. Structural ambidexterity studies also acknowledged that few top management people need to act strategically integrating two opposite but simultaneous business activities- exploitative and explorative or continuity and change, at the organisational level (e.g., Smith and Tushman, 2005).

Whereas, contextual ambidexterity involves activities that enable individuals to conduct balance between creativity and adaptability (to accommodate strategic or technological changes and also attention to detail and quality) within a business unit. ORC literature (Pettigrew et al., 1992; Butler, 2003) suggests that through supportive organisational culture (ideological vision), informal and formal cooperative organisational network (institutional politics) and local member of staff (implementation capacity), ORC factors foster contextual ambidexterity within a unit and individual level. Hypothesis- H4-1, H2-c, H4-h and H4-i support the above argument.

H 2-a: The relationship between ORC and organisational performance is mediated by structural/strategic ambidexterity at the organisational level.

H 2-b: The relationship between ORC and project performance is mediated by temporal ambidexterity (project team's ambidexterity) at the project level. (Same level relationship)

H 2-c: The relationship between ORC and employee resistance is mediated by contextual ambidexterity at the individual level.

H-4-g: The relationship between ORC (organisational level) and project performance is mediated by temporal ambidexterity (Cross-level relationship)

H4-h: The relationship between ORC (organisational level) and employee's resistance to organisational change (Individual level) is mediated by contextual ambidexterity (individual level) - (Cross- level relationship)

H4-i: The relationship between ORC (project level) and employee's resistance to organisational change (individual level) is mediated by contextual ambidexterity (individual level) – (Cross-level relationship)

Reviewing the organisational change literature addressing the themes representing the level of analysis of the studies, this thesis identified the mechanisms (i.e. processes, systems, and structures) as moderators that interact with ORC receptivity factors to impact outcomes at different levels within an organisation- e.g., resistance to change, project performance and organisational performance. These factors are- daily work context at the individual level, social context at the project level and HR power and competence at the organisational level.

[4.5 Daily work context moderates ORC – resistance to change link at Individual level](#)

This research study argues that daily work context interacts with ORC in influencing individual level outcome which is employee's resistance to organisational change. In an earlier section, it is

explained and demonstrated that ORC has a potential to make an impact on individual's attitudes, behavior and response to organisational change. However, ORC theory does not explicate how locale or change agent influence employee's responses towards change.

Characteristics of the daily work context related to employees' resistance to change in the context of organisational change. Characteristics of the change process evolve from the daily context within which organisation function (Van et al., 2007). According to Van et al., (2007), how change is managed and employee's reaction to change is related to characteristics of their daily work situation. Organisational receptivity for change theory (ORC) acknowledged the crucial role of local actors to influence the change implementation. These local actors can be project managers or immediate supervisors or senior manager, mobilise their available skills and resources to influence change. For example, ORC receptivity factor, implementation capacity, looks at the mechanism used by those leading change to shape and influence strategy implementation, and behaviors of other stakeholders in the organisational network (Butler, 2003). Nevertheless it lack in an explanation on how locale influences employee's resistance to change or other attitudes, behaviors, and responses to change.

Daily work context is characterised as both how employees perceive the quality of the leadership (leader-member exchange) and their development climate (Van et al., 2007). Although not tested in the context of an organisational change, high-quality LMX relationship has been shown to correlate with

receptivity to change (see, Van et al., 2007; Tierney, 1999). The quality of the immediate leader-member (in this case project managers, or immediate supervisors) relationship on a day to day basis and their exchange with their employees have interacted with ORC factor to influence resistance to change in the change process (H3-c). It is crucial for individual or non-managerial employees within a firm perceive their change work climate as developmental not only for them but for the organisation also.

This shows that identified locale and their daily work context makes a difference in ORC- resistance to change the link. In other words, work context consists of quality leader-member exchange and where the daily environment is perceived as developmental for employees and organisations moderates ORC and employee's resistance to organisational change link.

H3-c: The relationship between ORC and employee outcome (resistance to change) is moderated by daily work context at the individual level. (Same level interaction effect)

[4.6 Social context moderates ORC –project Performance Link.](#)

Previous research has argued that social climate perceptions are seen as critical determinants of individual behavior affecting the relationship between objective work environment characteristics and individuals' responses (Carr et al., 2003). A climate that fosters continuous development incorporates the different ways in which the organisation, its leaders, and its

employees support, encourage and exercise organisational and individual learning and growth (Van et al., 2007).

At the project level, social climate interacts with ORC factors to influence project performance (H3-b). Project level studies (Bresnen et al., 2003) have demonstrated that the process of knowledge capture, transfer and learning considerably depends on social patterns, practices, and processes in ways which emphasise the value and importance of adopting a community-based approach to managing knowledge. ORC theory does not clearly discuss the social patterns and social ties within a group which affects the performance at organisational, departmental or project level. However, ORC factor, key people leading change (Pettigrew et al., 1992) recognises the group as an effective factor. It emphasises that each team member's skills and assets denote the collective, complementary and multifaceted nature of the team which provides interwoven skills that allow the greater combination of planning and opportunism (Pettigrew et al., 1992). This study proposes that there is an indirect relationship between ORC and project performance through a social climate of the team. It suggests that through coordination and collaboration among project team members, social aspect with ORC factors can be appropriate and exploited to achieve project goals (Nahapiet and Ghoshal, 1998).

H3-b: The relationship between ORC and project performance is moderated by Social context at the project level. (Same level interaction effect)

H4-f: The relationship between ORC and resistance to organisational change is moderated by social context (Cross level interaction effect).

[4.7 HR power and competence moderates ORC – performance link.](#)

Taha's current 4 factor ORC framework ignores the role of HR as dynamic capability in the changing context. Literature suggests that the strategic role of HR is crucial to make firms more adaptable to the rapidly changing and highly dynamic business environment (Shipton et al., 2016; 2012) and the unique role and contribution of HR makes an organisational change success and failure (Doorewaard and Benschop, 2003). ORC theory does not clearly discuss the HR role or human resource management. Nevertheless, it emphasises the support of those who shape and enforce institutional rules and beliefs and get these individuals to be committed towards the change programme (Pettigrew et al., 1992). This thesis posits that HR as dynamic capability contribute significantly at a strategic level and operational level in the context of change. This is investigated by testing interaction effect of HR power and competence on ORC – outcome link at organisational, project and individual level.

The dynamic capability of HR power and competence interact with ORC factors to influence organisational performance in the context of change. In a highly turbulent environment, dynamic capability of HR involvement allows the firm to integrate, build and reconfigure internal and external competencies to address

rapid change (Teece et al., 1997). This dynamic capability includes the HR manager's capability to utilise of business knowledge to facilitate HR issues, the ability to initiate changes, help employees to plan for changes and the capability to coordinate HR redirection corresponding to the strategic changes of the firm (Wei and Lau, 2005).

As a dynamic capability HR responses to the need for change to fit with the continuous changing environment. Firms in the renewable energy sector in India understands and are exploiting HR capabilities by involving them in key strategic business decisions (Indian Government report, 2015). The current high-velocity business market of the emerging renewable energy sector creates an ambiguous and challenging situation for the business. In response, organisations' utilising capability of HR system and practices in designing compatible strategy and facilitating the achievement of business change strategy through the management of people (Lado and Wilson, 1994; Wei, 2006). Hence, this thesis proposes that HR power and competence along with ORC receptivity factors influence organisational performance. Similarly, hypotheses H4-e, reveal that HR power and competence have potential to impact resistance to change at the individual level along with receptivity factors.

H 3-a: The relationship between ORC and Organisational performance is moderated by HR power and competence at organisational level. (Same-level relationship)

H4-d: The relationship between ORC and project performance is moderated by HR power and competence. (Cross level interaction of organisational level factor on project level relationship)

H4-e: The relationship between individual ORC and resistance to organisational change is moderated by HR power and competence (Cross-level interaction of organisational level factor on individual level relationship)

4.8 Underpinning theories- Neo-Institutional and RBV theory:

Guided by the resource based theory of the firm and neo-institutional theory, the proposed conceptual model of ORC examine how organisational receptivity for change context has an impact on outcome variable (individual, project and organisational performance). The research also investigating the role of HR as a dynamic capability within ORC framework can make the difference between successful and less successful projects outcome, which leads to the sustained competitive advantage of the organisation.

4.8.1 Neo Institutional theory

Neo institutional theory adapts the old institutional perspective to explain- why organisations are similar (Van and Halgrave, 2004). This perspective suggests that organisations conform to institutional pressures in order to achieve legitimacy. Organisational characteristics such as, its attributes, linkages

with other actors in environment and the location and status of an organisation's reference group (Scott, 2001), determines their responses to the environment- market pressures and institutional pressures like, regulatory agencies, social expectations, and actions by other leading organisations in the industry (Greenwood and Hinnings, 1996).

Neo institutional theory which possesses strong sociological origins bases its arguments on the notion that organisations are socially rewarded by legitimacy, resources, and survival based on their acceptance of coercive, normative and mimetic institutional pressure (DiMaggio and Powell, 1991; Mayer and Rowan, 1991). The neo-institutional theory is proposed as an approach that explains the creation of competitive advantage. Its strategic nature is a consequence of the institutional embeddedness of a firm, supposing that a dominant position is reached not only through the differentiation linked with heterogeneous resource but also through the management of institutional pressures associated with homogeneity (De la and Cabrera, 2006). In other words, the interaction between organisational context and action which affect the pace of change determined by 1) normative embeddedness of organisations within its institutional context, 2) differences in the structure of the sector and 3), internal organisational dynamics (Greenwood and Hinnings, 1996).

Neo institutionalism is not typical change theory, it is a valid approach with which to explain not only the similarity of isomorphism and stability in the organisation field but also

organisational behaviour, heterogeneity, and the creation of competitive position as a response to dynamic and turbulent environment (Greenwood and Hinings, 1996; Park and Krishnan, 2003). Hence, it is different from the other economic and strategic frameworks in a way that institutional theory explains organisational behaviours as “complicated, habitual, unreflective and socially defined” (Oliver, 1997; P 699). Isomorphism is “a constraining process that forces one unit in the population to resemble other units” in any particular sector which make them compatible with the environment (DiMaggio and Powell, 1983; P. 149).

Zucker (1983, p.4) expresses that “the institutional environments limit an organisation, determining its internal structure, its growth, and fall, and often, its survival”. DiMaggio and Powell (1991a, pp.13-14) described institutional environments as “those which need conformity and acceptance, a fact that makes the organisations turn into ‘iron cages’, prisoners of the institutional isomorphism”, suggesting that “the actors, making rational decisions, construct around themselves an environment that constrains their ability to change further in later years” (DiMaggio and Powell, 1991b, p.148).

However, the neo-institutionalism (DiMaggio and Powell (1991a) analyse adaptation processes and suggesting that the institutional pressures are always changing and the constant interaction among institutions and organisations means that there is a process of adaptation to new institutional requirements, and also that institutional change is a

consequence of organisations' actions and dynamics (North, 1995).

Research into change has developed in the last two decades and researchers have demonstrated the ways neo institutional theory explains change, focusing especially on the sources of institutional change, the factors that influence the way organisations respond, and the processes of institutional change (Dacin et al., 2002; Seo and Creed, 2002).

In the view of radical change, accordingly, capacity for action and power dependencies are the enablers of radical change. Enabling dynamic-capacity for action – is the ability to manage the transition process from one template to another, which has three aspects. Radical change cannot occur without the organisations having understanding, skills, and competencies required to function and it's having the ability to manage how to get to that destination. Capacity for action embraces both the availability of these skills and resources within an organisation and their mobilisation (the act of leadership).

Although neo institutional theory's base is in old institutional theory the underlying different approach separates them in some manner. The old institutional approach focuses on internal dynamics of organisational change such as organisational values, organisation-environment interaction, coalition, influence and power, informal structure and conflict and interest (Selznick, 1949; Greenwood and Hinings, 1996; P. 1031). Instead, the neo-institutional approach focuses on the legitimacy, routine, scripts and schemas (Greenwood and Hinings, 1996) - explicating how institutional pressures create homogeneity in the

industry (Meyer and Rowan, 1977). According to Oliver, these institutional pressures influence the organisation's resource selection and decisions and its sustainable competitive advantage. These pressures which exist at different levels comprises of norms and values of the individual organisation, culture and politics and, public and regulatory rules and industry wide norms.

Greenwood and Hinings (1996), provided a framework for understanding the organisational change from the perspective of neo-institutional theory. The neo-institutional theory is weak in analysing the internal dynamic of organisational change. As a consequence, the theory is silent on why some organisations adopt radical change whereas others do not, despite experiencing the same institutional pressures. Greenwood and Hinings (1996), recognised that it is necessary to take seriously the internal complexity of organisations (i.e., every organisation is a mosaic of groups structured by functional tasks and employment status).

The theory explains 'why' there is homogeneity in the industry rather variability (DiMaggio and Powell, 1991; Phillip and Tracey, 2007) which increases legitimacy and standardisation (Barone et al., 2007). However, it is unable to explain the existing diversity among organisation; how and why some organisations are more receptive to change than others (Oliver, 1997); some opt for radical change whilst others do not (Greenwood and Hinings, 1996); the uniqueness of organisational culture, resistance to change and how and what organisational capabilities that makes change happen within an organisation

(Powell, 1991); interaction between institutional pressures and internal dynamics of organisation (Kostova et al., 2008). It ignores explaining the strategic behaviours and discussions adapted by the organisations (Drazin and Vandeveen, 1985).

There are other theories exist, like RBV, which allow answering these above questions and which covers the dynamic capability and resources that enable organisation to achieve competitive advantage, discussed in next paragraph.

4.8.2 Resource Based View Theory

One of the most popular and accepted theory in strategic management (Priem and Butler, 2001), resource based view theory, argues that internal firm resources can bundle together in such a way as to produce one or several firm capabilities to yield superior performance (Penrose, 1959; Wernerfelt, 1984). RBV theory explains the role of resources, capabilities, and core competencies are the cause of competitive advantage and economic performance of the organisation (Selznick, 1957; Penrose, 1958). It claims that organisations are fundamentally heterogeneous in their resources and internal competences and capabilities (Barney, 1991).

Capabilities are defined as “the socially complex routines that determine the efficiency with which organisations physically transform inputs into outputs” (Collis, 1994, p.145). Whereas dynamic capabilities are a “bundle of heterogeneous and path dependent resources, and both address the way in which

organisations are able to generate sustainable competitive advantage” (Ambrosini and Bowman, 2009; P. 31).

Resource based theory (RBT), argues that valuable and rare resources of the firm enable firm to achieve competitive advantage. The short-term competitive advantage can be sustained competitive advantage over longer time periods to the extent that the firm is able to protect against resource imitation, transfer or substitution. The firm must care for and protect resources because this can improve and sustain organisational performance (Crook et al., 2008) in a long run.

In other words, the main points of the theory are identifying the firm's potential key resources, resources must be valuable which enable a firm to employ a value-creating strategy by either out performing its competitors or reduce its own weaknesses (Barney, 1999, Amit and Schoemaker, 1993). Valuable resources that are controlled by only one firm (Barney, 1991) and if competitors are not able to duplicate this strategic asset perfectly (Peteraf, 1993, Barney, 1986) could be a source of sustainable competitive advantage. An important determinant factor of inimitability is causal ambiguity, which is a result of –if the source of firm's competitive advantage is unknown (Peteraf, 1993; Lippman and Rumelt, 1982).

If the resource in question is knowledge based or socially complex, causal ambiguity is more likely to occur, as these types of resources are more likely to be idiosyncratic to the firm in which it resides (Peteraf, 1993; Mahoney and Pandian, 1992; Barney, 1991). Equally important is the non-substitutability of the valuable resources as if competitors are able to substitute the

firm's value-creating strategy, prices are driven down to the point that the prices equal the discounted future rents (Barney, 1986; Sheikh, 1991), resulting in zero economic profits.

Barney defined resources as-

"...Firm resources include all assets, capabilities, organisational processes, firm attributes, information, knowledge; etc.; controlled by a firm that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Barney, 1999; p101).

Recent RBV research has shown that some of the most valuable and rare organisational capabilities are most valuable and rare organisational capabilities are known as "dynamic capabilities". Unlike static organisational capabilities, dynamic capabilities adapt to the threats and opportunities posed by the organisation's environment. Dynamic capabilities consist of a set of specific and identifiable processes that, although idiosyncratic to firms in their details and path dependent in their emergence, allow the organisation to generate new, value-creating strategies (Eisenhardt and Martin, 2000).

Butler and Allen (2008), explain that ORC is a higher-order capability, which allows the organisation to counter the downward pressure of the external environment by enhancing their ability to change and adapt faster. They further recognise that receptivity factors act as a mechanism to organisations utilise to achieve their strategic agenda. Dynamic capabilities are increasingly important as the pace of change outside to unfold faster and more completely within the organisation or organisational unit (Floyd and Wooldridge, 1996; Grant, 1995;

Oxtoby et al., 2002). Thus, in this proposal, ORC is an attempt to characterise the overall nature of RBV's notion of dynamic capabilities for a specific organisation or organisational unit.

More relevant to this research proposal, there is new RBV research, showing the relationship between organisational capabilities and environmental and/or financial performance (Christmann, 2000; Judge and Douglas, 1998; Hart, 1995; Russo and Fouts, 1997).

Despite the huge number of literature on RBV, the theory has been criticised for being static (Barney, 2001; Priem and Butler, 2001). Researchers claim that RBV is unable to explain how 'future valuable resources could be created and how the current stock of resources (that are valuable, rare, imitable and imperfectly substitutable) can be refreshed in changing environments' (Ambrosini and Bowman, 2009; p.29). It failed to explain how some successful organisations demonstrate 'timely responsiveness and rapid and flexible product innovation, along with management capability to effectively coordinate and redeploys internal and external competencies' (Teece and Pisano, 1994; p.537). In current rapidly changing environment organisations must have the capacity to create new resources and to renew or alter its existing mix of resources in order to attain a sustainable competitive advantage (Teece et al., 1997). RBV theory is a weak in analysing the external dynamic of organisational change.

4.8.3 Merging Institutional theory and RBV theory: ORC theory

Both theories, institutional and RBV, have been used separately to explain organisational change and its competitive advantage. These theories emphasis different assumptions and aspects of change, for example, institutional theory focuses on institutional context and explains homogeneity among organisations while resource based view theory discuss resources and capabilities and explain heterogeneity in the industry. Taha, (2014), used Oliver's framework in order to position ORC theory as a theory to conjoin institutional and RBV theories. See table 4 for comparison between combined two theories (Institutional and RBV theories) and ORC theory. Oliver (1997), proposed that the combining both theories will provide a holistic and comprehensive explanation of organisational change which encompasses the institutional context and resource capability and decisions. According to him, resources, capabilities and organisational context all are crucial and needs to consider for achieving sustainable competitive advantage- "even highly productive, inimitable resources and capabilities will be of limited value without the organisation's will or political support to deploy them".

Table 4: Underpinning theories-linking IT and RBV theory to ORC theory

Underpinning Theories of the research	
<p>Institutional Theory <u>Level of Analysis</u>: institutional field <u>Focus</u>: organisational structure; processes within the organisational field; conformity to cultural scripts and norms in the environment. <u>Argument</u>: organisations conform to institutional norms for survival. <u>Resource</u>: ‘legitimacy’ <u>Management Strategies</u>: use coercive, mimetic and normative means to become isomorphic.</p>	<p>ORC theory: merging IT theory & RBV theory <u>Level of Analysis</u>: Multilevel <u>Focus</u>: Institutional context and dynamic capabilities <u>Argument</u>: a collection of dynamic, multilevel and multifaceted factors (including managerial decision or actions) which interact to make the organisation either high -change, receptive context or low-change, non-receptive context. <u>Resource</u>: dynamic capabilities <u>Management Strategies</u>: leaders identify and manage various organisational context and dynamic capabilities in order to successfully plan and implement strategic change.</p>
<p>Resource Bases View Theory <u>The level of Analysis</u>: individual firms/organisations. <u>Focus</u>: sources of organisational competitive advantage; a collection of resources (human, physical etc.) - capabilities and dynamic capabilities. <u>Argument</u>: Valuable, rare, inimitable resources enable firms to achieve competitive advantage. <u>Resource</u>: ‘assets, capabilities, organisational processes, information & knowledge, firm attributes etc. <u>Management Strategies</u>: a strategic decision that best exploits the firm’s resources and capabilities relative to the external environment.</p>	

Recently many researchers have adopted Oliver's proposition of merging both theories in their studies with some minor changes. For example, Hoskisson et al., (2000) suggested merging key

three theories, institutional, RBV and transaction cost economics, to explain strategic formulation of enterprises in emerging economics. Barney et al., (2001) also supported the proposition to get insight on developing local firm's resources which are more attractive and valuable to the foreign counterpart.

This integration can better explain- how to manage internal resources to overcome institutional barriers (Wright et al., 2005); managerial decisions under institutional pressures (Ferbabdez-Alles and Valle-Cabreva 2006); simultaneously manage institutional and technical context (Ferbabdez-Alles and Valle-Cabreva 2006). Meyer and Peng (2005), emphasised the importance of the combining both theories in the context of emerging economies because its institutional framework differs vastly from those in developed economies.

ORC theory incorporate both theories in explaining organisational contexts and internal dynamics that affect the rate and pace of change. Taha, (2014), adopted the proposition of merging these two theories and further developed and tested the ORC framework in the Hospitality industry in Malaysia and construct a scale on ORC. According to her ORC theory is focused on explaining organisation's adaptation and diffusion, aiming at institutional theory. ORC theory also addresses on organisational capabilities and dynamic capabilities that determine the rate and pace of change. It further explains how receptivity factors which is "higher order capabilities" allow organisations to integrate and re-configure their existing

resources and capabilities in order to create a highly flexible and adaptive organisations (Butler and Allen, 2008).

4.9 Summary:

In summary, this chapter have described the multilevel ORC conceptual model and systematically presented the hypotheses. The proposed conceptual model (see, Figure 4) have highlighted the relationships of antecedents and outcomes through identified mediators and moderators. This chapter argue that he turbulent business environment promotes high receptivity which makes organisations adapt to change (Taha, 2014). The framework represents the nested structure and multilevel nature of the study and the developed hypotheses represents the relative relationship of the various variables which operate more effectively at the particular unit level within an organisation. Following hypotheses, next chapter discusses the methodology adopted to test the assumptions.

CHAPTER 5:

METHODOLOGY

5.1 Introduction:

The chapter presents the methodology used to achieve the research objectives mentioned in chapter 1. All studies in the literature of ORC have adopted a qualitative approach to understand and develop the ORC theory and framework (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003). Except, Taha's study that used mixed method approach to further developing the ORC framework and she fully developed ORC scale based on robust systematic scale development three phase procedure recommended by Hinkin (1995).

Organisations are an integrated system and organisational change is a multilevel, multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation. Acknowledging the multilevel aspect of organisational change (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003), this study adopting a multilevel quantitative approach to achieve research objectives and testing the hypothesis. Thus the aim is to statistically test and the hypotheses that have been derived from theories using the gathered data in order to falsify them. Whilst, the data stems

from large enough sample allows the generating of general laws (generalisability) (Weiss and Cropanzano, 1996; Salancik and Pfeffer, 1978).

The structure of the chapter includes the identifying the underlying research philosophy, then, the discussion on research methodology comprises the research design, sampling design and procedure implemented to conduct the study. Next, the measures used in the questionnaires and the data analytic techniques are examined. Finally, the chapter concludes after taking into consideration the ethical aspects of the research project.

5.2 Research Paradigm:

Organisational change is a central and crucial topic to organisational studies. However, there is disagreement among scholars on the meaning of organisational change and how to study it (Van de Ven and Poole, 2005). This disagreement to different ontological views that scholars hold about whether organisations consist of things or processes and different epistemologies about variance or process methods for conducting research is the fundamental issue that influence how a researcher look at change- whether we view organisations as consisting of things or processes (Tsoukas and Chia, 2002). Therefore, the researcher needs to examine these topics prior to discussing the methodological design and analysis.

Emphasising this, Guba and Lincoln (1994) argue that “questions of methods are secondary to questions of paradigm..., the basic belief system or world view that guides the investigation, not only in choices of the method but in ontologically and epistemologically fundamental ways”.

The aim of this section is to set the foundation for robust research design and prepare for the adopted research strategy. Based on key ontological views (things or processes) and epistemologies (variance and process method) exist in organisational studies research, Van de Ven and Poole (2005) develop a typology of four approaches for studying organisational change (See Figure 5). Poole et al., (2000), broadly categorised the definitions of change used in the organisational studies research: 1) “an observed difference over time in an organisational entity on selected dimensions; 2) a narrative describing a sequence of events on how development and change unfold” (see, Van de Ven and Poole, 2005).

Figure 5: A Typology of Approaches for Studying Organisational Change. Source: Van de Ven and Poole (2005).



In this section, the above typology (see, Figure 5) is used to explain the adopted approach to study the organisational change in this research study. This thesis adopts 'Approach I' to study organisational change phenomena. The implemented ontology views an organisation as being a noun, a social actor, a real entity ('thing') ...reality is independent of social actors (Saunders et al., 2012) and thus "organisations and culture are objective entities that act on individuals" (Bryman, 2008; p21). Thus, the research studies in an organisational entity (ontology) with a variance methodology (epistemology).

This approach is particularly suitable for examining the major research question of this thesis- especially, the correlations in the factors and variables in the context of change within an

organisation. This treats a change in an organisational entity as a function of independent variable (ORC) on dependent variables (resistance to change, project and organisational performance).

In accordance with objectivism, this thesis adopts the epistemology perspective of positivism and used variance method (refer Figure 5 and Table 5) to study organisational change. The implicit goal of this study is to explain and/or predict the occurrence and magnitude of change and the effects of ORC on other variables (Van de Ven and Poole, 2005); to establish the conditions necessary to bring about an outcome.

*Table 5: Positivism paradigm: underlying assumptions and methodology used;
Source: author, adopted from Van de Ven and Poole, 2005.*

Assumptions and Beliefs	Methodology	Criteria for Good Research
<p>Ontology: An organisation is represented as being a noun, a social factor, a real entity ('thing').</p> <p>Epistemology: The variance approach-</p> <ul style="list-style-type: none"> -Fixed entities with varying attributes. -Explanations based on necessary and sufficient causality. -Generality depends on uniformity across context. -Time ordering among independent variables is immaterial. -Emphasis on immediate causation. -Attributes have a single meaning over time. 	<ul style="list-style-type: none"> - Cross-sectional quantitative methods. -Survey based primary data. -Multilevel analysis. -Association testing. -Hypotheses generation and testing. 	<p>Validity: construct an external validity.</p> <p>Reliability: Cronbach's alpha.</p> <p>Generalisability: extended validity confirmed and multistage random sampling design was used.</p>

Utilising quantitative statistical method, particularly, survey research design and multiple levels of analysis, this 'approach I' (ontology- 'thing' and epistemology - 'variance method') is based on the assumptions that (1) there is a top-down aspect of change. It means organisational level factors (e.g., ORC) can affect its members, but a single member's behaviour cannot affect the organisation; and (2) that factors (causal) operate in a similar manner across cases (organisations) and on approximately the same time scale (Abbott, 1988). Though, variance studies on organisational change have some limitations, these methods offer advantages in two important respects, First, it provides a good representation of the mechanisms that drive a process and are well suited for testing hypotheses related to mechanisms. In this thesis mechanisms of interest are –ambidexterity, HR power and competence, daily work context and social climate; second, this method is useful to understand changes that run rapidly on human scales - such as changes at individual or group level (Van de Ven and Poole, 2005). Having discussed the underlying philosophy of research, the following part elaborates on the adopted methodology for the study.

5.3 Methodology:

Research methodology refers to the study of the scientific procedure that entails not only the various techniques employed but also the underlying logic that provides justification for their use (Dhawan, 2010). In this regard, next section elaborates the research design adopted in this research study, the context, sampling design and procedure is discussed justifying the rationale behind this selection.

5.3.1 Research Design:

This study adopts a cross-sectional multilevel research design, and quantitative methods of analysis for the survey based primary data, to assess how organisational receptivity for change affects performance at different levels.

The methodological fit is an important criterion which needs to be considered by a researcher in order to conduct rigorous and effective field research (Edmondson and McManus, 2007). McGrath's (1964) argument that research methodology should be primarily determined by prior knowledge; they posit that the methods adopted for a research project need to fit the state of prior theory in the specific topic. In this regard, ORC theory has been around for a decade, still, there is not much development of the original model (Bennett and Ferlie, 1994; Butler, 2003). Moreover, previous studies (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003) on ORC used qualitative methods

with a limited number of cases, except Taha's (2014) quantitative work which was focused on ORC scale development. This created limitations to the concept which makes it harder for the concept to be applied to a wider population (Newton et al., 2003). Thus, this builds the need to conduct quantitative research to test and validate previous research findings (Straub and Carlson, 1989), permitting more generalisability to a wider population. On the contrary, quantitative techniques, in general, have been criticised to present a static and artificial view of life (Bryman and Bell, 2007). Nevertheless, as mentioned before, this research adopts a positivist perspective to study the change in an organisational entity that is viewed as a real social actor with an enduring identity; examining the objective truth and the quantitative data represents life as it actually is. Accordingly, a cross-sectional quantitative research design contributes to knowledge creation since it enables comprehension of reality as it stands at this moment in time.

This research is not an event driven approach that is often associated with a 'process theory' explanation of the temporal order and sequence, in which change events occur based on a story or historical narrative (Abbott, 1988; Pentland, 1999; Poole et al., 2000; Tsoukas, 2005). Although a longitudinal design would have been preferable to explain and deal with continuity and change. Data derived from longitudinal studies allow the researcher to identify and test temporal linkages between events and also overall temporal patterns (Poole et al., 2000).

Additionally, this method can capture the multiple time scales that often occur in processes, where some events extend for years, other events that are rooted in them run for shorter periods, and some embedded event within these run for even shorter periods (Langley, 1999). Additionally, process method has its own limitations (Van de Ven and Poole, 2005) - "processes are often quite complex, so developing process explanations and discerning patterns in process data is a difficult undertaking... (thereby)... limiting confidence in the generalisability of the conclusions of process research" (p. 1385).

Thus, considering the overall aims which are to understand the world and not to explain it, the use of the quantitative method is legitimated. The survey method offers benefits as a rapid and cost-effective way of gaining a wide breadth of information from a varied range of situation and locations (Easterby-smith et al., 2005). Organisational change is a multilevel phenomenon in context and should be studied at vertical and horizontal levels of analysis along with the interconnections between those levels through time (Pettigrew, 1987). In the business and industrial sector, hierarchical levels of grouped data are a commonly occurring phenomenon (Osborne, 2000). Ployhart and Moliterno, (2011), highlight the lack of frameworks that investigate the way in which constructs are related and transformed across levels, the urge for the development of multilevel models that capture not only single-level but also cross-level effect. For example, employees are nested in projects and projects are nested in organisations. The assumptions propose that ORC

characteristics occurring at a higher level of analysis are influencing characteristics or processes at a lower level. In this case, though ORC construct is defined at the organisational level, but the hypothesised relations operate across different levels including project and individual level outcomes. Therefore there is a need to use theories and analytical techniques that are also multilevel to avoid misinterpretations occurs in single level studies such as, ecological fallacy- where relationships observed in groups are assumed to hold for individuals (Freedman, 1999), and automistic fallacy- where inferences about group are incorrectly drawn from individual level information (Hox, 2002).

The development of a multilevel paradigm, which is the integration of theoretical principles, research design and measurement and analytics, for investigating systems phenomena in organisations is an important quantitative research advance. However, there have been relatively few efforts to provide multilevel theoretical frameworks for organisational researchers (see, House et al., 1995; Klein et al., 1994; Rousseau, 1985). Subsequently, multilevel research has been criticised because the vast majority of multilevel research is focused on top-down, cross-level effects, whereas, emergence as a bottom-up process is largely neglected by quantitative investigators (Cronin et al., 2011; Kozlowski and Chao, 2012).

Nevertheless, this research posits that the nature of organisations is comprised of systems that are hierarchically nested. Therefore, it is unlikely that lower levels are uninfluenced and unaffected by another level phenomenon.

5.4 Sample:

5.4.1 Sampling design:

As mentioned in the previous section, in organisational setting employees working in a nested, hierarchical structure (Hox, 2010; Kozlowski and Klein, 2012; Raudenbush and Bryk, 2002) is common. Several quantitative methodologists have pointed out the issues that arise from studying such clustered data (Draper, 1995; Hox, 1998; Murnane and Willett, 2011; Raudenbush and Bryk, 2002). Clustered or multistage sample design has been used because the population has a hierarchical structure in the sense described above. Two-stage sampling procedures (Huang, 2016) are used where companies are first selected and then projects and observations within each project are sampled (e.g., project team members) instead of a simple random sampling design.

Total 300 wind and solar companies listed in Renewable energy directory by Confederation of Indian Industry (CII), were contacted with the research aims and required information. Out of 300, 55 private companies who responded were selected for the study. The researcher booked the appointment to visit the location/office. A one-to-one meeting was arranged with the

executive/representative and the aims of the research were explained to individual participants to ensure that they understand the study. If requested, the study material/literature was also sent through email and/or mail. The majority of data was collected primarily through hard copies during their lunch or tea breaks. Researcher allotted one day for each company. This decision to make a visit to each company personally was based on the feedback received from top managers of the company participated in the pilot study. Also, researcher's observation in the pilot study was that companies respond more positively and give appointment if researcher informed them about her visit.

Data from 40 companies who fulfilled the research requirements (see next section) was included in this study due to the adopted multilevel method. Data was observed at different levels, and as a result, produced data with variables observed at several distinct hierarchical levels. This procedure was in accordance with the argument that the receptivity factor at each level often has its own properties, description, processes and relationships –its own momentum. While phenomena at one level are not reducible to or cannot be inferred from those at another level, multilevel and multiple sources had used to collect data to capture the complexity of change in context. The data was collected from senior executives, top managers, project managers or equivalent level position in the project, and employees who were working in particular projects within a particular organisation.

5.4.2 Number of participants:

Determining the appropriate number of participants for multilevel design is one of the most important steps. Power is the probability of correctly rejecting a false null hypothesis (Scherbaum and Ferrerter, 2009). Power analysis was conducted using 'Optimal Design' to approximate the number of participants in each team and to estimate a minimum number of teams would require, and to avoid type II error. A Type II error occurs when one fails to reject the null hypothesis, even though it is false. Failing to reject a false null hypothesis means that an effect existed but was not detected by the study. Optimal Design developed by Raudenbush and colleagues (2005) estimates power using the intraclass correlation, effect size, α levels, and sample sizes for cluster-randomised design. Results showed that total 40 numbers of companies or teams with the average of 4 members in each group would require obtaining the power level of .80 using an alpha level of .05 if the size of the effect expected is large.

Data from 40 companies comprises of total 507 participants from different hierarchies within an organisation (refer table 6 and table 7). At organisational level, total number of 156 top senior managers participated in the study. The participated 'top senior managers' can be defined as the highest ranking executives within an organisation who are responsible for the entire enterprise. These top managers held positions, such as chairman/chairwomen, chief executive officer, managing

director, president, executive directors, executive vice-president, Head of Human resource department, Head of finance department etc. The top senior managers were responsible for key strategic decisions within an organisation such as, translating the policy into goals, objectives, and strategies as well as creating a shared vision of the future. Such decisions affects everyone in the organisation as well as becomes responsible for the success or failure of the business. At project level, total number of 84 project managers have participated in the study. Project Management Institute (2017) described project managers as change agents: they make project goals their own and use their skills and expertise to inspire a sense of shared purpose within the project team. Project managers cultivate the people skills needed to develop trust and communication among all of a project's stakeholders: its sponsors, those who will make use of the project's results, those who command the resources needed, and the project team members. In this study participated project managers are top leading people of the projects, including people held positions as project technical head, project team leader etc. Finally, at individual level, those employees who were working as a team in the particular project, called 'project team members' were participated in the study. The total number of employees were 267. These project team member are qualified, knowledge workers who contributes in the successful running of the project.

Table 6: Total number of Participants at 3 different Levels and unit of analysis.

Unit of Analysis	Level of Analysis	Total no of Participants
Top Senior Managers	Organisational Level	156
Project Managers	Project Level	84
Project team members	Individual Level	267

Table 7: Variables at each hierarchical level.

Hierarchical level	Unit of Analysis	Variables
Level 3 Organisational level	Top Senior Managers	Predictor: ORC (Organisational Receptivity for Change), Outcome Variable: Organisational Performance. Mediator: Structural Ambidexterity. Moderator: HR Power & Competence. Control Variables: Organisational size, age
Level 2 Project level	Project Managers	Predictor: ORC (Organisational Receptivity for Change), Outcome Variable: Project Performance. Mediator: Temporal ambidexterity Moderator: Social Context. Control Variables: Project length, project size.
Level 1 Individual level	Project team members	Predictor: ORC (Organisational Receptivity for Change), Outcome Variable: Resistance to change Mediator: Contextual ambidexterity. Moderator: Daily Work Context. Control Variables: Age, education, years of experience.

5.5 Context: Renewable energy sector in India

India, as an emerging economy, characterised as a “high velocity” environment of rapid political, economic and institutional changes which provides best opportunities for advancing theory on organisational change (Wright et al., 2005; Meyer and Gelbuda, 2006). Very limited and inadequate literature on organisational change in the developing economies accompanied by underdeveloped factors (Wright et al., 2005).

There are many reasons that driving changes in the renewable energy sector in India, For example, government encouraging schemes, funding, fast changing technologies, changing policies, competitive business environment are few to mention (India Energy Outlook, 2014; Indian Renewable Energy Status Report, 2010; Government Report, 2015). The section of renewable energy sector in India is based on this industry’s vulnerability to the highly dynamic external environment. Renewable energy sector needs to adapt quickly in order to be a competitive advantage. In this regard, this thesis will allow ORC theory to explain how an organisation in this sector are adopting to change in response to the current turbulent environment.

In India, more than 80% of the renewable capacity generation is in the states of Tamil Nadu, Maharashtra, Karnataka, Gujarat and Rajasthan (see, Figure 6). The state energy conservation funds (SECF) as mandated under the Energy Conservation act,

2001, have already been constituted in 22 states and funds have been released to 20 states during the 11th plan to operationalise the SECF for various energy efficiency initiatives. The state governments of Andhra Pradesh, Rajasthan, Chhattisgarh, Karnataka, Haryana, Gujarat and Mizoram have also contributed a matching grant to the SECF.

Figure 6: State wise potential of Renewable energy in India; source- Centre for wind energy technology (2016).



Sector wise consideration discloses that wind power concentration is more in Tamil Nadu, Gujarat and Rajasthan. The solar power would be available mainly in the states of Rajasthan and Gujarat. Under the 12th plan about 75,000 MW

capacity is proposed to be added which expected an investment of Rs. 450,000 Cr. from National Electricity Fund. As a rule of thumb, the proportion of fund requirement for Generation, Transmission, and Distribution is in the ratio of 2:1:1. Hence, the firms that participated in this research study are operating in the following states- Maharashtra, Tamilnadu, Kerala, Andhra Pradesh, Gujarat, Rajasthan, Madhya Pradesh, Haryana, Bihar, Karnataka, Delhi, Uttrakhand (see Figure 7).

Figure 7: location of participating firms operating in various states in India.



5.6 Procedure:

The study was conducted in two phases. First, a pilot study was conducted as preparation for the main study and to avoid major risk. The second phase was the main study, which is discussed in the following paragraph.

5.6.1 Pilot Study:

A pilot study is defined as a “small scale version(s), or trial run(s), done in preparation for the major study” (Polit et al., 2001; 467) as well as the specific pretesting of a particular research instrument (Baker, 1994; 182-3). This well-designed and well-conducted pilot study’s aim was twofold, first, to avoid risk and get an advance warning about where the main study could fail. The main study is cross-sectional, quantitative, survey-based data on instruments which are developed and tested in another context, for example, ORC framework and scale is developed and tested in Hospitality industry in Malaysia). Therefore, it was crucial to pre-test the instrument in the Indian context. The first phase of a pilot study involved focus groups in establishing the issues to be addressed in the main questionnaire survey. The aim was to improve the internal validity of a questionnaire (see Table 1), focusing on the working and the order of the questions or range of multiple choice questions; and to get the clear view

of the possible practical difficulties and to test the research process (e.g., best way to approach the organisations, distribution of questionnaires etc.). In this phase, total eleven (11) experts from renewable energy sector, organisational change and human resource management participated. Out of 11, six (6) were academics, two (2) were consultants, and three of them were practitioners (practising managers working in the organisations in India). They were asked to provide feedback on questions such as, is there any ambiguity or difficulty in understanding items? And any items which were not relevant to the sector etc. (for details refer to Table 1). This step was supportive in designing a research protocol which is realistic, feasible and identifies potential practical problems. For example, one of the practitioners suggested that contact is made with individual employees in their break times to avoid disturbance in their working schedule as well as to facilitate honest responses without fear of supervision. In this regard, the research procedure was effective, while the participants commented positively on the apprehension and relevance of the questionnaire. However, some changes based on feedback from focus group regarding demographic information was amended and removed from the questionnaire for the main data collection.

Table 8: Steps were taken to improve the internal validity of a questionnaire. Source: Peat et al. 2002: p123.

Pilot Study: procedures to improve the internal validity of a questionnaire.
<ul style="list-style-type: none"> • Ask the subjects for feedback to identify ambiguities and difficult questions. • Record the time taken to complete the questionnaire and decide whether it is reasonable. • Discard all unnecessary, difficult or ambiguous questions. • Assess whether each question gives an adequate range of responses. • Establish that replies can be interpreted in terms of the information that is required. • Check that all questions are answered. • Reword or re-scale any questions that are not answered as expected. • Shorten, revise and if possible, the pilot again. • Administer the questionnaire to pilot subjects in exactly the same way as it will be administered in the main study.

Translation of questionnaires: The Constitution of India designates the official language of the Government of India as standard Hindi written in the Devanagari script, as well as English (BBC, 2016).

Brislin's (1980) translation-back-translation technique was used in order to ensure that respondents would approach the items of questionnaires in a similar fashion in terms of meaning and significance. In particular, firstly, the questionnaires were translated into Hindi by the professional translators to ensure that respondents approach the items of both versions in a similar fashion in terms of meaning and significance. And thereafter, a bilingual knowledge worker was employed to translate the questionnaires back to English. The comparison yielded minor changes in a couple of items in the Hind questionnaire and

subsequently, both questionnaires were tested in a pilot study in India, as discussed above, to ensure that employees similar to the participants in the main study found the questionnaires comprehensive and relevant. Both versions of questionnaires were made available for participants.

The second phase of the pilot study was a pre-testing of a research instrument (Baker 1994; 182-3). The testing of an instrument involves establishing Cronbach's alpha reliability and validity (Confirmatory Factor Analysis).

5.6.1.1 Cronbach's alpha reliability:

Coefficient alpha is the most widely used reliability statistic (Cortina, 1993). It has been developed by Cronbach (1951) and measures the internal consistency of a scale, that is, the "correlations among the items" (Streiner, 2003; 100). Hair Jr. et al., (2014) posit that establishing the reliability of the scales used in a study is a prerequisite to validity assessment. Indeed, one first needs to ensure that the data were measured consistently across the entire sample and any measurement error was random rather than systematic before establishing that the items measured what needed to be measured. Acceptable levels of reliability usually account for values larger than .7, nevertheless, for exploratory research values between .5-.6 are considered sufficient (Kaplan and Saccuzzo, 1982; Nunnally, 1967).

5.6.1.2 Confirmatory factor analysis:

Confirmatory factor analysis (CFA) is a statistical technique used to verify the factor structure of a set of observed variables. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists.

Confirmatory factor analysis specifies priori relationships and distinctions among the scales or variables of interest (Hinkin et al., 1997). According to Schumacker and Lomax (2004), given a satisfactory ratio between the sample size and the items of the survey, CFA is preferred to EFA (exploratory factor analysis) due to the fact that the scales utilised in the research project have been previously validated.

CFA use structural equation analysis that allows assessing the goodness-of-fit of competing models: first is the null model where all items load on separate factors, then, single common factor model and final, multi-trait model with the number of factors equal to the number of constructs in the new measure (Joreskog and Sorbom, 1993). However, Harvery et al., (1985) recommended using variance-covariance matrix for conducting CFA.

There is about 30 goodness of fit indices that can be used to determine CFA analytic results (Mackenzie et al., 1991). Most popular of them is the chi-square goodness of fit statistic. Significantly smaller chi-square or non-significant chi-square is desirable because it indicates that differences between the variance-covariance matrix of the specified, which is priori

model, and the variance-covariance matrix of the observed model are small enough to be due to sampling fluctuation (Hinkin et al., 1997). The smaller the chi-square, the better the fit of the model.

However, it is recommended to use other fit indices in addition to chi-square which is sensitive to sample size (Hinkin et al., 1997). These fit indices have been classified into two different types: (1) absolute, and (2) relative fit indices (Hu and Bentler, 1995; Tanaka, 1993; Gerbing and Anderson, 1993; Bollen, 1989; Marsh et al., 1998).

An absolute fit index examines how well a priori model reproduces the sample data (Hu and Bentler, 1999) and it is derived from the fit of the observed and expected covariance matrix and the maximum likelihood (ML) minimisation function. Absolute fit indices include, but are not limited to, root mean square error of approximation (RMSEA), Goodness of Fit Index (GFI), adjusted goodness of fit index (AGFI), root mean square residual (RMR), and standardised root mean square residual (SRMR). And, relative fit indices includes a normed fit index (NFI) and comparative fit index (CFI).

Reference to the recommendation by Muliak et al., (1989), the absolute indices used in this thesis to assess the goodness-of-fit are- Chi-square, Adjusted Goodness of Fit Index, Normalised Fit Index and Tucker-Lewis Index. In addition, for relative fit indices, Comparative Fit Index is used to control for the effects of sample size. Except for chi-square, there is no statistical test of fit for above-mentioned indices. The values for each of these indices that measure the amount of variance and covariance

accounted for the model ranges from 0-1. As recommended, the value .90 or over is designated as good model fit (Widaman, 1985) and the value of less than 0.05 is considered acceptable for Root Mean Square Residual (Bagozzi et al., 1991).

5.6.2 Main Study:

The second phase is the data collection for the main study. Incorporating the feedback received in the pilot study, the researcher scheduled the visit for each company through email and phone. After obtaining the clearance from the management, the researcher visited the company in person and interacted with the various executives, representative of different levels. Individual employees were briefed regarding the research and privacy was assured. After their consent, questionnaires to be filled were distributed. The researcher also was on hand to answer any query regarding the questions. The completed questionnaires were then collected at the mutually agreed upon time on the same day.

5.7 Measures:

5.7.1 Organisational level constructs:

Organisational receptivity for Change (ORC): This scale tests 4 dimensions of organisational receptivity: Ideological Vision, Leading Change, Institutional Politics and Change Orientation. A 5 point Likert scale was used with response categories ranging from strongly disagrees (1), to strongly agree (5). The

questionnaire consisted of items such as, 'The change programme is in line with my company vision' and 'The Team usually comprises at least one senior manager'. Cronbach's alpha for this scale was .92.

Structural Ambidexterity: Structural Separation Construct ($\alpha=.73$) by Gupta and Govindarajan, (1986); Cao et al., 2009, was used. The construct takes into account the structural differentiation between processes, structures and incentives for exploration and exploitation activities as suggested by Jansen et al. (2009). The six-item scale for Structural differentiation ($\alpha=.78$) was used as it taps into the extent that organisations segment their organisational system into spatially dispersed units, each of which tends to develop a particular attribute in relation to its relevant environmental requirement (Lawrence and Lorsch, 1967). The scale for structural differentiation captures various aspects of differences across units, such as different mindsets, time orientations, functions and product/market domains (Lawrence and Lorsch, 1967, Golden and Ma, 2003).

HR Power and Competence: This will be measured in terms of its two basic aspects: External fit refers to how general HR activities are vertically integrated with the firm's strategy (Wright and McMahan, 1992). Alignment is the relationship between HR and other functions in the firm (Truss and Gratton, 1994).

The external fit will be measured using a nine-item instrument adapted from the Strategic Human resource Management Index

developed by Huselid (1995) and the Strategic Human Resource Management Scale for Chinese businesses developed by Zhao (2001). The scale included items assessing how well the firm's strategies are incorporated into various HR aspects such as recruitment, selection, training and compensation. Another three items adapted from Wei (2004) and Wei and Lau (2008) were employed to measure HR alignment. These were designed to capture the extent to which HRM staff and the department are aligned with other departments in the firm.

The senior executive management/CEO were asked to describe the extent to which their firm had adopted certain specific HPWS practices on a Five point Likert scale, ranging from 1=very little, to 5= to a very great extent. Since HRWS represents the long-term, systematic approach to managing people in a firm, the CEO, that is, the strategic leader of the firm, should be the appropriate person to respond to questions about HR Systems in the firm. These two scales showed good reliability ($\alpha=0.92$ for HR-fit; and $\alpha=0.91$ for HR alignment).

5.7.2 Project Team level constructs:

The social climate of the firm varies along three identifiable dimensions: cognitive, affective, and structural, which respectively manifests in the levels of shared cognitions, trust, and cooperative networks that exists among employees (Collins and Smith, 2006; Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998). Social climate was assessed by a 10-item scale developed by Isabel, Prieto and Pilar, 2012. An example of the scale item is, “employees have confidence in other employees’ intentions and behaviour”. The reliability (Cronbach’s alpha of the scale) is 0.91.

5.7.3 Individual level constructs:

Contextual Ambidexterity: The organisational context is identified on the basis of the construct by Birkinshaw and Gibson (2007) and measures the alignment and adaptability of company goals and objectives. This construct has two main sub-constructs – Social Support Context ($\alpha=.77$) and Performance Management Context ($\alpha=.76$).

Resistance to change: Employee’s resistance to the organisational change will be measured with an 18-item scale developed by Oreg (2006) that included cognitive, affective and behavioural reactions to change (cf. Piderit, 2000). Sample items include, “I was afraid of the change”, “I believed that the change would make my job harder” and “I protested against the change”. Cronbach’s alpha for this scale was .92.

Daily Work Context: This was measured by following two constructs –

Leader-Member Exchange. Employees were asked to rate the LMX relationship with their supervisor through the LMX7 scale (Graen and Uhl-Bien, 1995; Scandura and Graen, 1984) as recommended by Gerstner and Day (1997). An example item is, “working relationship with my leader is good”. The scale’s Cronbach’s alpha in the present study was .92.

Perceived Development Climate. Perceived development climate was assessed with Bezuijen’s (2005) 11- item scale that probed into the various development practices and facilities within the organisation, such as peer and supervisor support for development and opportunities for personal development. An example item is, “Employees are continuously developing their skills and know-how”. The scale’s Cronbach’s alpha was .87.

5.8 Data analysis strategy:

5.8.1 Differences in group: ANOVA

The primary analysis of the data aims to investigate if there is any significant differences between Top managements and executives at level 3, project managers at level 2, and employees or project team members at level 1, was tested using one-way ANOVA on factors- ORC, competitive advantage, environmental hostility and the changes happening in the organisation. The further post-doc test had conducted to find out which groups differ from the rest.

5.8.2 Hierarchical Linear Models:

HLM has been utilised to test theories in the area of work design (Torraco, 2005; Roberts, 2004). Torraco (2005) work was based on work activities that crossed more than one level within the organisation- “the systematic organisation, design, and articulation of work activities at one or more levels of the organisation” (P. 87). He demonstrated that HLM is an ideal to test multilevel theory and called for further development of multilevel theories acknowledging the nested structure. Roberts (2004), showed the potential reverse effects on fundamental findings of the study if nested structure was not been taken into account. It can also lead to aggregation bias, misestimate standard errors, and heterogeneity of regression (Raudenbush and Bryk, 2002). Hierarchical linear modelling was the obvious choice over traditional method of analyses as it allows the (a) controls for data dependence, (b) permits researchers to examine individual and group level variables simultaneously, and (c) examines the homogeneity of variable relationships across clusters (Warne et. al., 2012; Ker, 2014).

As mentioned above that researcher interested in finding out how predictors at different level have an effect on outcome variables. For example, in this study, there are outcome variables at individual, project and organisational level. However, in HLM the outcome variable of interest is always situated at the lowest level of the hierarchy (Castro, 2002). The analysis has been conducted as two-level models in three case

settings. First, organisational and individual level; Second, project and individual level and Last, organisational and project level. The researcher was aware of clustering (nested structure) nature of data because hierarchical data frequently violate the basic assumption of traditional statistical models (OLS or ANOVA) - the assumption of 'independent' or uncorrelated with one another (Agresti and Finlay, 2008). Raudenbush and Bryk, (2002), argue that people or events hierarchically structured within the same higher-level unit tend to be systematically more similar than those drawn from another higher-level unit. HLM assist as a powerful resource addressing issues of non-independence while giving opportunity for researcher to explore the relationships and effects that often can be gathered across levels (Degenholtz et al., 1999; Guo, 2005; Guo and Hussey, 1999; Nash et al, 2004; Ryan and Schuerman, 2004).

HLM is a program to estimate multilevel random coefficient models. These models evaluate relationships at multiple levels of analysis and model variance among variables at these different levels. Hierarchical Linear Modelling (HLM) is a complex form of ordinary least squares (OLS) regression that is used to analyse variance in the outcome variables when the predictor variables are at varying hierarchical levels. HLM simultaneously investigates relationships within and between hierarchical levels of grouped data, therefore, making it more efficient at accounting for variance among variables at different levels than other existing analyses (Waltman et. al., 2012). In addition to HLM's ability to assess cross-level data relationships and accurately disentangle the effects of between and within

group variance, it is also preferred method for nested data because it requires fewer assumptions to be met than other statistical methods (Raudenbush and Bryk, 2002).

Moreover, multilevel modelling allowed the researcher to assess three types of relationships of interest (Mathieu et. al., 2012). First, it allowed for tests of lower-level direct effects. Second, it allowed for tests of cross-level direct effects. Third, it allowed for tests of cross-level interaction effects (whether the nature and /or strength of the relationship between two lower level variables change as a function of a higher level variable).

5.8.2.1 Underlying assumptions of HLM: The following six assumptions were investigated and no major violations were found. Three of them regarding the error structure and other three are about the predictor variable.

Table 9: HML model assumptions.

Error structure assumptions variable assumptions	Predictor
Independent and normally distributed level 1 residuals, with a mean of 0 and common variance, σ^2 .	Level 1 predictors independent of level 1 residuals.
Independent random effects at higher levels (i.e., level 2 & level 3), multivariate normally distributed, with a mean of 0 and a common variance, τ^2 .	Higher level predictors independent of the residuals at the corresponding level.
Residuals between levels are independent (i.e., no covariance between residuals at different levels).	Predictors at each level are independent of the random effects at other levels.

5.8.2.2 Aggregation:

Researcher has chosen to aggregate the lower level attributes to the project and/or organisational level. Aggregation of data deals with the issues of hierarchical data analysis differently as it ignores lower level individual differences. Level 1 variables are raised to higher hierarchical levels (e.g., level-2 or in this case level 3) and information about individual variability is lost. In aggregated statistical models, within-group variation is ignored and individuals are treated as homogenous entities (Beaubien et al., 2001; Gill, 2003; Osborne, 2000). In this survey, organisational level (ORC, HR Power and Competence, organisational performance) and project level (ORC, social climate, daily work context, project performance) characteristics measured at the individual level was aggregated and raised to higher level (organisational or project respectively) and treated as level 2 and 3 independent or predictor variable. Although aggregation of data overcomes the problem of non-independent observations, it also discards all of the within-group information. Many researchers also argue that this process has a risk of overstating the strength of the relationship between the outcome of interest and the aggregated variables (Gelman, 2006; Piantadosi et. al., 1988).

5.8.2.3 Centering:

The choice of appropriate centering is crucial for the interpretation of the intercept and to avoid model

misspecification and unreliable results. The choices regarding the centering have thoughtful implications for- (a) the interpretation of the intercept term, (b) the variance in the intercept term across groups, and (c) the covariance of the intercept term with other parameters (see Bryk and Raudenbush, 1992). Kreft et al. (1995:17) suggested that the choice of centering “must be determined by theory. However, the centering options answer inherently different conceptual and theoretical questions (Hofmann and Gavin, 1998). In the analysis, group mean centering was adopted to represent the group level relationship between the level 2 predictor and the outcome variable of interest (e.g., resistance to change). And, grand mean centering to represent the group level relationship between the level 2 predictor and the outcome variable less the influence of the level 1 predictor.

Group Mean Centering: level 1 intercept variance is equal to the between group variance in the outcome measure.

Grand Mean Centering: the variance in the intercept term represents the between group variance in the outcome measure adjusted for the level 1 predictors.

5.8.2.4 The Statistical Models:

The HLM models were created and analysed using the computer program HLM (version 7, Scientific Software International, 2011). Data analysis has been conducted in three stages using HLM 2 programme:

1. Construction of the 'MDM file' (the multivariate data matrix);
2. Execution of analyses bases on MDM file, and;
3. Evaluation of fitted models based on a residual file.

This section starts with providing an overview of the equations used in HLM for a two-level model. And, then move to a section on model building. Anderson (2012), suggested that model building in HLM must be systematic and theoretically based. In order to avoid the complexity, the researcher has displayed the HLM models by the level of analysis. Equation 1.1 below details a basic two-level HLM model with no predictor variables, displayed by level.

$$\left\{ \begin{array}{ll} Y_{ij} = \beta_{0j} + r_{ij} & \text{(Level-1 Model)} \\ B_{0j} = \gamma_{00} + \mu_{0j} & \text{(Level-2 Model)} \end{array} \right. \quad (1.1)$$

At level 1: Y_{ij} represents the outcome y for level one unit i nested in level two unit j , and is equal to a level one intercept, β_{0j} , and residual or unexplained variance r_{ij} .

At level 2, the level 1 intercept, β_{0j} , is set as the outcome in a new regression equation with two components: the level 2 intercept, γ_{00} , and a random parameter, μ_{0j} , which is the level 2 residual variance. The effects of specific predictor variables at level 1, level 2 or both on an outcome variable (resistance to change, commitment to change, project performance and organisational performance) is also examined similarly.

Model Building:

Researcher begin with a testing Null model with no outcome variable (equation 1.1). This model is used as a basic model for two main reasons: (1) to compare other subsequent more complicated models with outcome and predictor variables and; (2) to capture the degree to which variance at level 1 depends upon group membership at level 2 using intra-class correlation coefficient (ICC), defined as

$$\rho = \frac{\tau_{00}}{(\sigma^2 + \tau_{00})} \quad (2.1)$$

ρ = the ICC,

τ_{00} = μ_{0j} = variance at level 2,

σ^2 = r_{ij} = variance at level 1.

Although some researchers (see, Lee, 2000) have suggested that the ICC should be an initial indicator of the permits of HLM, yet, other argues (Roberts, 2007) that small values should not immediately rule out the use of HLM.

Next step was to test conditional models by entering predictor variables into an HLM analyses. Predictor variables had been entered considering the prior assumptions about the relationship between variables, how they interact and the overall purpose of the analysis. The researcher had tested each predictor's effect on the outcome, independent of the other predictors in the model sequentially, examining the model fit between each subsequent

model. Further, the researcher also examined the effect of an ORC variable (predictor) after a host of demographic variables has been controlled for. This is done by testing all the demographic variables into the model, run the analysis, then enter the predictor variable of interest in the model and rerun the analysis, testing for differences in model fit between the two models.

Then, deviance statistic had been used to test the two-level models. Deviance represents “lack of fit”, with larger values indicating a poorer fitting model.

5.9 Ethical Issues Consideration:

As far as the ethical issues are concerned, the research was adjusted to Aston Business School (ABS) research ethics guidelines and processes (2012). Easterby-Smith et al., (2012), recognise two major categories of ethical issues, these that emanate when a participant observation takes place, and these that concern the collection, control and use of data. Taking into consideration that no participant observation took place, this part elaborates on the ethical issues related to the latter category. Firstly, a risk-benefits analysis is conducted for the research project. Thereupon, the informed consent and selection of participants are discussed. Further, the confidentiality and anonymity of the data are examined, as well as the way in which the data collected, its storage and analysis of the raw data were secured.

All the renewable energy companies particularly wind (approx. 130) and solar energy (approx. 346), located in different states

(e.g. Maharashtra, Tamilnadu, Andra Pradesh, Karnataka, and Gujarat) were contacted using renewable energy directory provided by Confederation of Indian Industry (CII). Companies were contacted with the summary of the research, the companies' contributions and the knowledge the company will get through taking part in this research study.

Initial contact with the companies' higher authority (chairman or/and CEO) was made by email. In order to get support from the companies, the author then arranges an initial meeting during which the research aim was explained, and also the possible contribution for the practical implication to renewable energy companies. Participant selection for questionnaire survey was based on the researcher visit to the company. Although the arrangement is done through the higher authority of the company, the voluntary nature of participation will be ensured. Each participant will be given an information sheet at the beginning with brief information about the research, confidentiality of the data, their rights, my output intentions and contact details. Verbal assurance on the same matter especially their rights and voluntary consent, where they may withdraw their consent at any time of the research (unless the data from the research has already been made public), will also be done at the beginning of the actual survey. If all that is agreeable to the participant, I will then request them to sign the consent form (Appendix 2).

Caution is taken to meet the legal requirements set by data protection act related to storage and use of personal data by respecting the participant's right to know how and why their

personal data is being stored and to whom it may be made available. All steps and care will be taken to ensure the confidential /anonymity and sensitive details (details that would allow individuals to be identified) will be secure. All the data collected was stored using a coded system and where no link can be made between the participant's information and their survey questionnaire responses. The participant's identifiable information i.e. their original identities and the assigned code or pseudonyms was stored electronically in a separate password protected a file that is only accessible by the researcher. When referring to the specific participant and quoting them, pseudonyms is used. This is to ensure confidentiality and/or anonymity for each individual involved in my research. In the event where consent is withdrawn, this data will be destroyed or deleted to ensure it will not be used. This will also be informed to all participants before the conduct of the data collection work (during the introductions).

[5.9.1 Risk Analysis](#): There was no potential for either physical or psychological harm to participants (including company's image) during or after data collection by questionnaire survey (refer Appendix).

Further, all efforts will be made to interpret the results objectively and honestly without distortion.

5.10 Summary:

The aim of this chapter was to describe the philosophical and methodological underpinnings of this research and the research design. The main purpose is to explain and provide justification for a cross-sectional quantitative multilevel approach to achieve research objectives and testing the hypothesis. The advantages of adopted research methodology are highlighted. Detail discussion on research design, sampling design and implemented a procedure to conduct this research study is provided. Finally, precautions taken by the researcher for ethical consideration is described. In the following chapter results of the hierarchical linear modelling analysis used to test the hypotheses is presented.

CHAPTER 6:

FINDINGS

Reviewing the research questions, aims and objectives (see chapter 1), this chapter presents the resulting output of the data analytic techniques. The chapter is structured in three parts – first presenting demographic profiles of the participants, then, providing details of preliminary analysis contributing to and justifying further analysis of hypotheses testing and finally, the hierarchical linear modelling results testing the established hypotheses is presented.

6.1 Demographic profiles:

It is important to consider the demographic profile of not only employees but projects and participating organisations. Research have frequently demonstrated that they can explain significant differences in the outcome of study interest –attitudes and beliefs (Cianni and Romberger, 1995, Mor Barak et al., 1998). While workforce, projects and organisations always have some degree of diversity in terms of age, skill, experience and expertise, “sensitivity to demographic effects can help provide a context to understand organisational behaviour” (Pfeffer, 1985: 74).

The demographic profile (refer table 10) of participating organisations suggests that majority of firm's key operations are in manufacturing (77%) and power generation (54%). The participating firms are the relatively large size (more than 100 employees) and are in the business from last 5- 50 years. As expected, the demographic profile of projects reveals that the majority of the projects (see Table 11) are running in the area of manufacturing (56%) and power generation (25%) and are in the middle stage of time-scale progress. Interestingly, the majority of the workforce (refer Table 12) are Male (80%), young (average age 27 yrs.), highly educated (graduate - 86%) and having average 4 years of work experience in the sector. This leads to assume that overall employees are at the beginning of their career, young and therefore highly motivated to work and learn.

Table 10: Demographic profile of participant organisations.

Organisation Age (Years)	Organisational Size	Firm's Key Operations
<5 = 5	> 10 = 3%	Manufacturing = 77%
5-10 = 18	10- 50 = 3%	Power Transmission = 23%
11-50 = 17	50-100 = 3%	Power Generation = 54%
>50 = 1	100< = 92%	Power Distribution = 10%
		Other = 3%

Table 11: Demographic profile for projects information

Project Size (no of employees)	Project Span	Project Stage	Project Area
<50 = 11	<1 year = 0	Initial = 23%	Manufacturing =56%
51- 500 = 9	1-5 years = 16	Middle = 52%	Power
501-1000= 10	6-10 Years = 12	Final = 25%	Transmission=8%
>1000 = 17	>10 years = 19		Power
			Generation=25%
			Power
			Distribution=2%
			Other = 10%

Table 12: Demographic profile for key informant information

Gender	Age	Education	Employment Length (years)- in the firm/sector
Male = 80%	<30 = 86 %	Graduate = 86%	<1 = 20 % / 11 %
Female= 20%	30 - 40 =11%	Diploma = 5%	2-5 =78 % / 69 %
	>40 = 3%	Professional Certi = 4%	6-10 = 2 % / 16 %
		Master = 5%	> 10 = 0 % / 4 %

Next section, discusses the preliminary analysis which determines renewable energy industry's evolving trend about organisational change. Although this preliminary analysis is not related to hypotheses testing, it will allow researcher in understanding the trends, market position of firms operating in renewable energy sector in India.

6.2 Preliminary analysis:

Organisational change (OC) in developing economies is much more profound and comprehensive than in West (Liuto, 2001). India as one of the fastest growing economies serves as 'high velocity' environment of rapid political, economic and

institutional changes provide best opportunities for advancing the theory on organisational change by exploring underdeveloped factors (Meyer and Gelbuda, 2006; Wright et al., 2005). Inadequate and limited organisational change literature on organisational change in new Indian economic context creates the need to conduct OC research in this context. Although Indian firms have been using organisational change interventions for decades, lack of adequate and limited literature is due to the inclination of documenting only the successful OD experiences (Bandyopadhyay, 1998; Bhatnagar et al., 2010). Hence, the selection of India for this organisational change study is legitimate.

In the context of ORC theory, Taha's (2014) recent study demonstrated that turbulent business environment acts as an important antecedent that promotes high receptivity which makes firms adapt to change. Hence, next preliminary analysis is conducted to determine and understand the business environment of the renewable energy sector in India. This is linked to the second objective of the thesis (see chapter 1)- to determine if renewable energy sector is receptive to change and the experiencing degree of change by the firms.

The initial analysis of the study reveals that the renewable energy sector is vulnerable to the highly dynamic external environment. The participant's response shows that firms are operating in a turbulent business environment. The majority of the participants in this study (See Table 13 and Figure 8) have reported that there are either major or minor changes happening within an organisation in response to the competitive business

environment. 57% of participants in the study reported major changes in the area of 'introduction to new equipment' and in the 'introduction to new technology (34%)'. One of the reasons for the recent changes in technology and equipment might be in response to the recent equipment prices have fallen dramatically, almost 80 % since 2008. The drop in equipment prices is due to the technological innovation, increased manufacturing scale and experience curve gains (make in India report 2016).

The other key areas where minor changes are reported are – changes in the way non-managerial employees do their work, task, work processes (84%), changes in the organisation's management structure (67%) and introduction to new technology (56%).

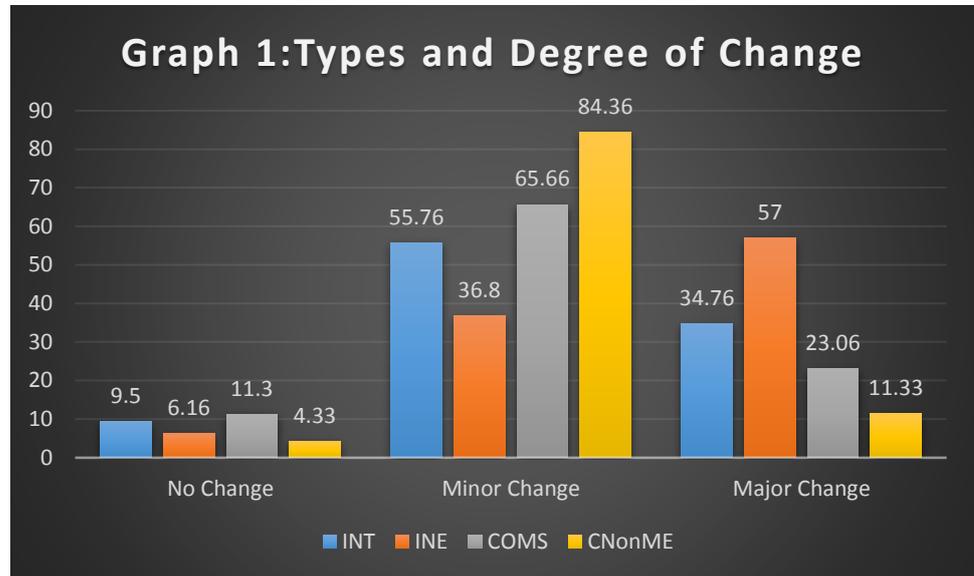
The survey report shows that firms operating in the renewable energy sector are facing organisational change and in response adjusting to the dynamic business environment.

Table 13: Types and degree of change

	Introduction to new technology	Introduction to new equipment	Changes in Management structure	Changes in NME work (CNonME)
No Change	48 (9.5 %)	31 (6.16 %)	56 (11.3 %)	22 (4.33 %)
Minor Change	278 (55.76 %)	184 (36.8 %)	328 (65.66 %)	422 (84.36 %)
Major Change	173 (34.76 %)	285 (57 %)	115 (23.06 %)	56 (11.33 %)

Note: CNonME: Changes in non-managerial employees do their work (task, work processes).

Figure 8: Types and Degree of Change.



Note: INT: Introduction to new technology; INE: Introduction to new equipment; COMS: Changes in your organisation's management structure (reshuffle of the hierarchy); CNonME: Changes in non-managerial employees do their work (task, work processes).

Next step of the primary analysis is to determine if employees (e.g., top senior managers, project managers and non-managerial employees) working at the different unit level or hierarchies within an organisation differ in their experience and perception of ORC. This is related to the third objective of the thesis (see Chapter 1). This research study posits that organisations are integrated systems which are structured into levels and operate in hierarchies. For example, in this case, employees are nested in projects which are again nested part of an organisation.

Researchers (Pettigrew, 1992; Butler, 2003, Butler and Allen, 2008) in the ORC field have acknowledged that receptivity factors are interconnected and interact across the levels that

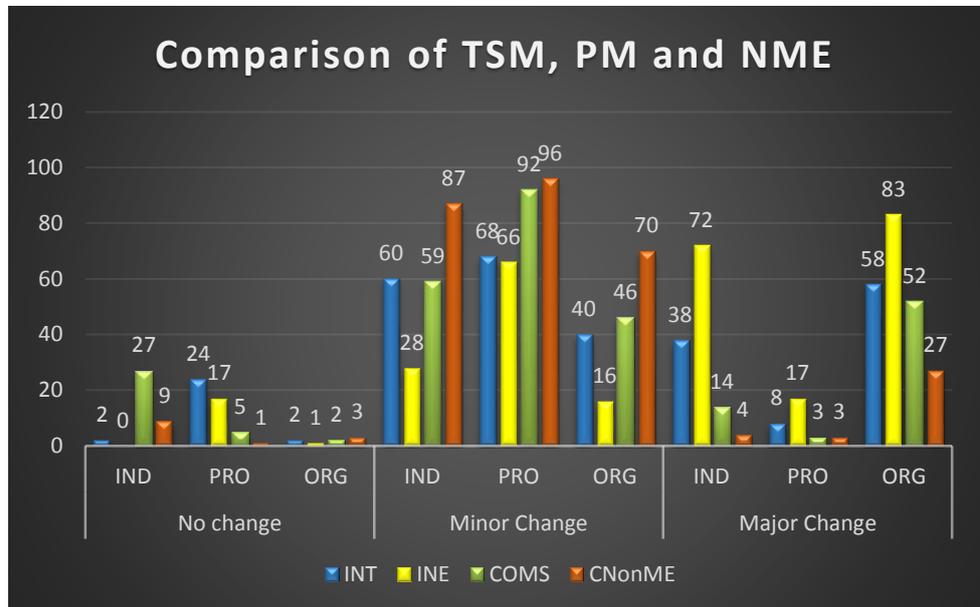
allow successful implementation of change. Dynamic nature and capability of receptivity factors promote cohesiveness of all levels within an organisation for effective change implementation. For example, one of the receptivity factor 'leading change', considers the crucial role of leaders or managers in change process across the organisation. These leaders can be individuals, groups or teams (Pettigrew et al., 1992). Hence, data is collected from three different unit levels within an organisation- top senior manager, project managers and non-managerial employees. The analysis step will provide more information on the internal dynamics of the organisations in the context of change.

Table 14: Differences in perception at different unit levels within an organisation

Change	Introduction to new technology			Introduction to new equipment			Changes in Management structure			Changes in NME work (CNonME)		
	NME	PM	TSM	NME	PM	TSM	NME	PM	TSM	NME	PM	TSM
No	2% (10)	24% (120)	2% (10)	0% (0)	17% (85)	1% (5)	27% (135)	5% (25)	2% (10)	9% (45)	1% (5)	3% (15)
Minor	60% (300)	68% (340)	40% (200)	28% (140)	66% (330)	16% (80)	59% (295)	92% (460)	46% (230)	87% (435)	96% (480)	70% (350)
Major	38% (190)	8% (40)	58% (290)	72% (360)	17% (85)	83% (415)	14% (70)	3% (15)	52% (260)	4% (20)	3% (15)	27% (135)

Note: CNonME: Changes in non-managerial employees do their work (task, work processes).
NME: non-managerial employees; PM: project managers; TSM: top senior managers.

Figure 9: Comparison of top senior managers, project managers and non-managerial employees.



Note: TSM/ORG= Top senior managers; PM/PRO= Project managers; NME/IND= Non-managerial employees.

Surprisingly, when considered the different unit levels within an organisation separately- i.e., top senior managers (TSM), project managers (PM) and non-managerial employees (NME), the researcher found a thought-provoking pattern in their responses towards change (see Figure 9). The graph shows that the three groups responded differently to the types or degree of change. However, the above mean results and resulting graphs do not provide evidence of statistical differences among them.

Therefore, researcher further investigated whether these groups at different unit levels and positions within the organisation differ significantly on their perception of the current business environment hostility, and firm's receptivity for change. SPSS

statistics 23 software used to test the statistical model Analysis of Variance (ANOVA) to analyse the differences among group means. Since ANOVA results show significant results further post hoc test was conducted. Post hoc tests are run to confirm where the differences occurred between groups, they should only be run when you have a shown an overall statistically significant difference in group means (i.e., a statistically significant one-way ANOVA result).

Table 15: One Way between Groups ANOVA

One Way Between Group ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Environmental Hostility	6.39	2	3.19	10.96	0.00
Organisational Receptivity	9.23	2	4.61	18.07	0.00

Table 16: Comparison of different unit level groups.

Multiple Comparisons: Post Hoc Test	Project Managers (Project level)	Top Senior Managers (Organisational level)
Non-Managerial Employees (individual level)	EH: 0.454 ORC: 0.114	EH: 0.00** ORC: 0.00**
Project Managers (Project level)		EH: 0.00** ORC: .024*

A one way between subjects ANOVA was conducted to compare the effects of hierarchies (position) on their perceptions on ORC (organisational receptivity for a change), Environmental hostility. This was to find out whether senior managers, project managers and non-managerial employees differ in their experiences and have different perceptions on the same construct. This is very important because if any group do not see their business environment hostile or threatening, they would not change for better or make a genuine effort on making change happen.

The results showed that there was a significant effect of hierarchies on their perceptions on ORC at the $p < .01$ level for three groups, senior managers, project managers and non-managerial employees ($F(2,504) = 18.08, P = .001$) and for EH ($F(2,504) = 10.96, P = .001$) respectively.

Post hoc comparisons using the Turkey HSD test indicated that the mean score for the non-managerial employees ($M = 2.33, SD = 0.67$) was significantly different than the senior managers ($M = 2.11, SD = 0.55$) on environmental hostility. However, the project manager's perception ($M = 2.41, SD = 0.44$) did not significantly differ from non-managerial employees.

Post hoc comparison of the perception on ORC, results showed that the mean score for senior managers ($M = 3.83, SD = 0.36$) was significantly different than the non-managerial employees ($M = 3.52, SD = 0.61$) and project managers ($M = 3.64, SD = 0.34$). Surprisingly, project managers and non-managerial employees did not significantly differ in their perceptions on ORC.

The above results reveal that the two groups at different levels of an organisation, project managers and non-managerial employees, do not differ in their experiences or perception on organisational receptivity for change and business environment hostility. Whereas, these two groups significantly differ from senior managers within the firm on organisation's receptivity and current business environment. In other words, hierarchies affect the perceptions of employees.

Next step is to investigate the impact of ORC on lower level outcomes. The aim is to test the developed hypotheses in chapter 3 using Hierarchical Linear Modelling (HLM). HLM 7 student version was used to perform the analysis which is discussed in the next session.

6.3 Hypotheses testing outcomes:

6.3.1 Hierarchical Linear Modelling analysis:

Organisations are multilevel systems due to their nested, hierarchical structure (Hox, 2010; Kozlowski and Klein, 2000; Raudenbush and Bryk, 2002). The hierarchical structure reflects nested structure of an organisation (Tuner, 2015). For example, individuals are nested within teams (in different departments or projects) and teams nested within organisations. Hierarchical linear modelling is a complex but rigorous tool and method that allow the researcher to analyse and uncover new relationships that exist across these nested structures (Klein and Kozlowski, 2000), hence, making it an ideal method for testing theory

(Ludtke et al., 2008). This research's main aim is to understand and advancing organisational receptivity for change theory (ORC) as a multilevel theory. The researcher has used HLM 7 software to determine the relationship of ORC, which is an organisational level construct, on lower level outcomes- at the individual level, resistance to organisational change and at the project level, project's performance in the context of change. This is related with objective 4 and 5 (see Chapter 1).

However, the first step is to assure that there is appropriate variance to investigate the hypothesis. In other words, whether there are any differences at the group level on the outcome variable. The unconstrained (null) model was performed and through the examination of chi-square test and intra-class correlation (ICC) results it was confirmed that HLM was necessary (see Table 17). The statistically significant results indicated that there is variance in the outcome variables- resistance ($\chi^2 (39) = 153.51, p < .001$) and project performance ($\chi^2 (39) = 65.80, p < .001$) respectively. This supports the statistical justification for running HLM analyses. ICC was also calculated to decide the exact percentage of variance in the outcome variables attributed to group membership and at the individual level. The results suggest that at the group level 30% and 25% variance existed for resistance, and project performance respectively. And, at the individual level, 70% and 25% respectively for resistance and project performance.

6.3.2 The effect of ORC (predictor variable) on the outcome variables (same level relationships).

Random Intercepts Model (Model 1) is tested to investigate the effect of ORC on same level outcome variables (i.e., organisational financial performance, project performance and resistance to organisational performance). The significant regression coefficient results (INTRCPT2, G10) would confirm the relationship between the level 1 predictor variable and the outcome variable. The table 17, 18 and 19 and figure 10 shows the resulting value and the relationships.

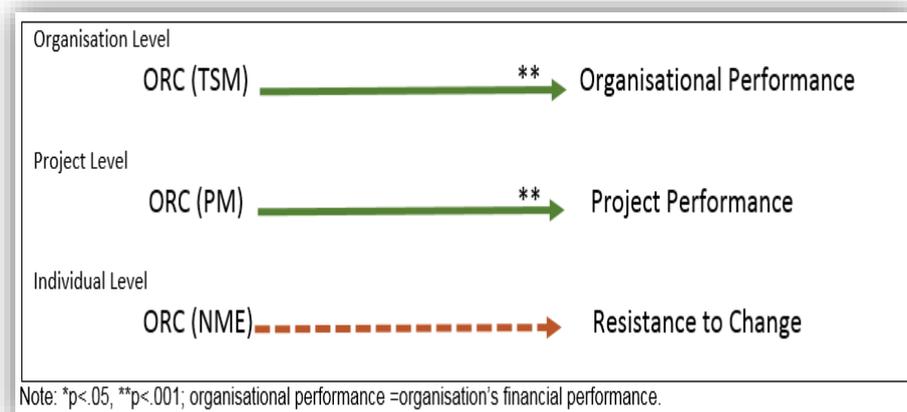
First, the relationship of ORC perceived by non-managerial employees with resistance was tested. The results of the present analysis do not support the relationship between perceived ORC at the individual level (non-managerial employees) and resistance to organisational change, $b=-0.22$, $p=0.18$ with the effect size (r^2) of 0.19. The effect size was measured by calculating the variance (r^2) explained by the level 1 predictor (ORC) variable in the outcome variable (i.e., resistance) using equation 1.

$$R^2 (\text{effect size}) = (\sigma^2_{\text{null}} - \sigma^2_{\text{random}}) \% \sigma^2_{\text{null}} \quad (\text{equation 1})$$

This result indicates that ORC at individual level explains 19% of the variance in the resistance to change in employees and 6% in the commitment to change respectively.

However, project level, ORC perceived by project managers shows significant impact on project performance ($b = 0.47$, $p < .005$) with the effect size of .022. ORC at project level explains 22 % of the variance in the project performance.

Figure 10: Relationship of ORC on outcome variables (same level relationships).



6.3.3 The effect of ORC (predictor variable) on the outcome variables (cross-level relationships).

Means as Outcome Model (Model 2) is tested to investigate the effect of ORC on cross-level outcome variables (project performance and resistance to organisational change). To test the significance and direction of the relationship between the level 2 predictor variable and the outcome variable mean as outcome model was estimated (please refer to Table 17, 18, and 19 and Figure 11).

The issue of centring at level 2 is not as important as it was at level 1 (Woltman et al., 2012) when the researcher is interested in the slopes and not the intercepts. But then, when the level 2

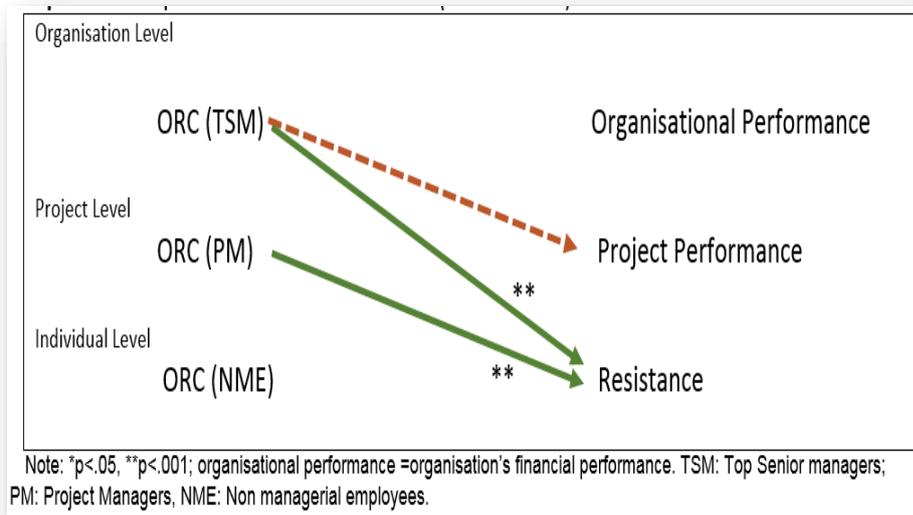
predictor variable is centred as grand mean, the level 2 intercept is equal the grand mean of the outcome variable. Hence, in this model, the grand centred option was appropriate. The results of this analyses supported that organisational ORC predicts employees' resistance to change ($b=-1.10$, $p<.001$) with the effect size (r^2) of 0.25. Note that measure of effect size, the explained variance in the outcome variable, by the level 2 predictor variable, was computed using the equation 2.

$$R^2 \text{ (effect size)} = (\tau^2_{\text{null}} - \tau^2_{\text{means}}) \% \tau^2_{\text{null}} \quad (\text{equation 2})$$

This means that high ORC at an organisational level significantly reduces the resistance to change in employees ($b=-1.10$, $p=.006$) which also explains 25 % of the between measure variance in resistance to change.

The analysis of project level ORC on resistance was tested. The results showed that ORC had significantly related to resistance ($b= -1.12$, $p<.001$) with the effect size of .42. Similarly, organisational level ORC on project performance is tested and the results showed that the ORC had no significant impact on project performance ($b=.25$, $p= 0.18$) with the effect size of .17. 17 % of the variance in project performance could be attributed to organisational ORC.

Figure 11: Relationship of ORC on outcome variables (Cross-level relationships).



6.3.4 Cross-level Interaction effect of HR power and competence, and social context.

To test the interaction between the two predictors from level 1 and level 2 on level 1 outcome variable, random intercepts and slopes model was established.

The results (figure 12) of the cross-level interaction of HR power and competence (Level 3) on ORC (Level 1) and resistance to change relationship revealed that there was significant ($b=0.66$, $p=0.08$) interaction effect. However, there was no significant cross-level interaction of HR power and competence and ORC (Level 2) on project performance ($b=0.20$, $p=.68$).

HLM results (figure 13) of the interaction of social context (Level 2) and ORC (Level 1) on resistance to organisational change,

revealed that the interaction was not significant on resistance (b=-0.69, p=0.59), providing support that there is no cross-level interaction between these two level predictors.

Figure 12: Cross-Level Interaction effect- HR Power and Competence.

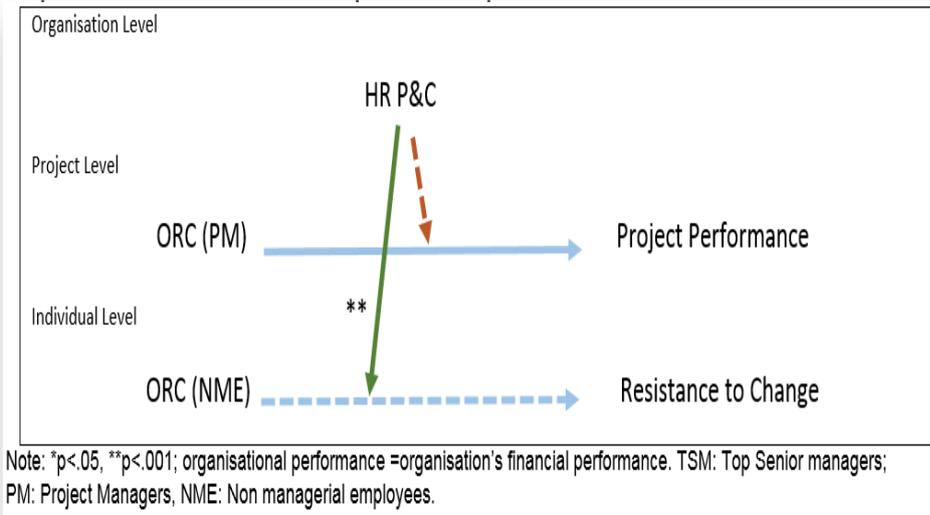
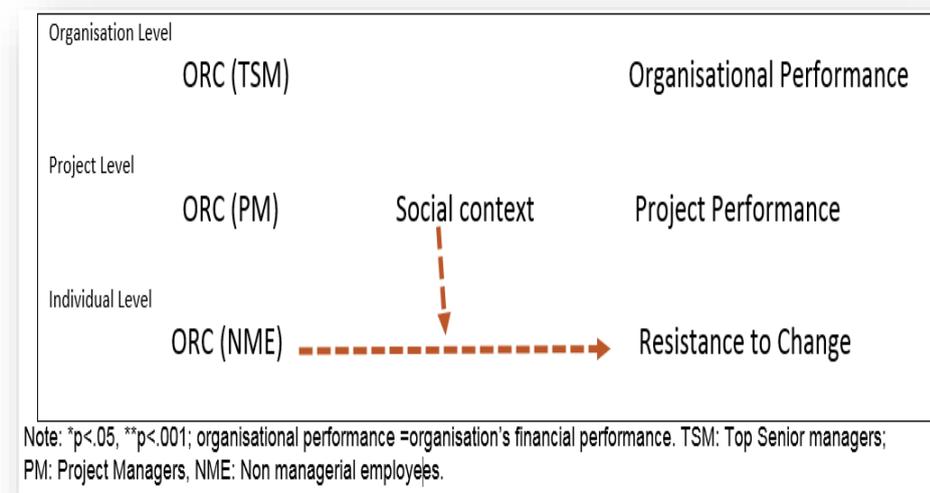


Figure 13: Cross-Level Interaction effect- Social Context.



6.3.5 Cross-level mediation effect: Temporal ambidexterity and Contextual ambidexterity.

One additional benefit of multilevel models is that they allow to empirically test research questions about multilevel mediation process that are not easily answered using conventional statistical procedures (Mathieu and Taylor, 2007). Mediators are “variables through which the influence of an antecedent variable is transferred to a criterion” (Mathieu and Taylor, 2007 p. 142). The most popular approach to assessing mediation is Baron and Kenny’s (1986) procedure which have been reformulated in multilevel setting (e.g., Krull and Mackinnon, 2001). Zhang et al., (2009), argued and demonstrated that this amended procedure may provide confounded and incorrect estimates of the mediation effect particularly if researcher interested in the level 2 relationships when they examine the 2-1-1 model. He further recommended new procedure termed the group mean centered analysis (Kreft and de Leeuw, 1998, p. 110) “centered within context” and they explored CWC (M) which is centered within the context with the reintroduction of the subtracted means at Level 2. The advantage of this procedure over conventional is that the difference in these models reduces to the fact that the within-group coefficient of level 1 mediator (contextual ambidexterity) is held equal to the between group coefficient of mediator variable in grand mean centering (Snijders and Bosker, 1999).

One of the research aims is to find out the cross-level mediation effect by examining 2-1-1 model. For example, examining the mediating role of contextual ambidexterity (L1) in the relationship between organisational ORC (L2) and employee's resistance to change respectively; and the mediating role of temporal ambidexterity (L1) in the relationship of ORC and project performance.

Because ORC (at Level 2) varies only between level 2, it cannot be associated with differences across people within organisation or projects. Therefore mediation in this situation would exist only between organisations or projects. In comparison with other available procedure, CWC (M) method estimate within the group and between group relationships separately (e.g., Kreft and Leeuw, 1998). Hence, CWC (M) was adopted using below equations 3 (see Zhang et al., 2009). To conduct multilevel mediation analysis, data was restructured by calculating group mean of level 1 mediator (contextual and temporal ambidexterity) and its subtraction from group mean of CA.

Equation 3: Zhang et al., (2009)

$$\text{Level 1: } Y_{ij} = \beta_{0j}^{(4)} + \beta_{1j}^{(4)}(M_{ij} - M_{\bullet j}) + r_{ij}^{(4)}$$

$$\text{Level 2: } \beta_{0j}^{(4)} = \gamma_{00}^{(4)} + \gamma_{01}^{(4)}X_j + \gamma_{02}^{(4)}M_{\bullet j} + u_{0j}^{(4)}$$

$$\beta_{1j}^{(4)} = \gamma_{10}^{(4)}$$

According to Freedman and Schatzkin (1992), a significant decrease in the coefficients of ORC in equation (4) as compared to equation (5) would indicate a mediation effect in the

relationship between predictor and outcome variables. Then, a t-statistic was tested to see the significance of the reduction in these two coefficients (Freedman and Schatzkin, 1992).

Equation 4: Zhang, et al., (2009)

$$\text{Level 2: } \beta_{0j}^{(4)} = \gamma_{00}^{(4)} + \gamma_{01}^{(4)} X_j + \gamma_{02}^{(4)} M_{\bullet j} + u_{0j}^{(4)}$$

Equation 5: Zhang, et al., (2009)

$$\text{Level 2: } \beta_{0j}^{(1)} = \gamma_{00}^{(1)} + \gamma_{01}^{(1)} X_j + u_{0j}^{(1)}$$

A regression analyses showed that ORC (0) was significantly associated with resistance to change ($b = -1.10$, $p = .006$) and contextual ambidexterity ($b = 0.96$, $p = .002$). The reduction in the coefficients of ORC ($1.10 - 0.85$) is statistically significant at .05 level. This suggests that contextual ambidexterity significantly mediates the relationship between ORC and employee's resistance to change.

Whereas, ORC (O) was not significantly associated with project performance ($b = 0.25$, $p = .19$), but was not with temporal ambidexterity ($b = .36$, $p = .39$). Therefore, does not fulfil the conditions to test mediation effect.

Figure 14: Cross-Level Mediation Effect: Temporal Ambidexterity and Contextual ambidexterity.

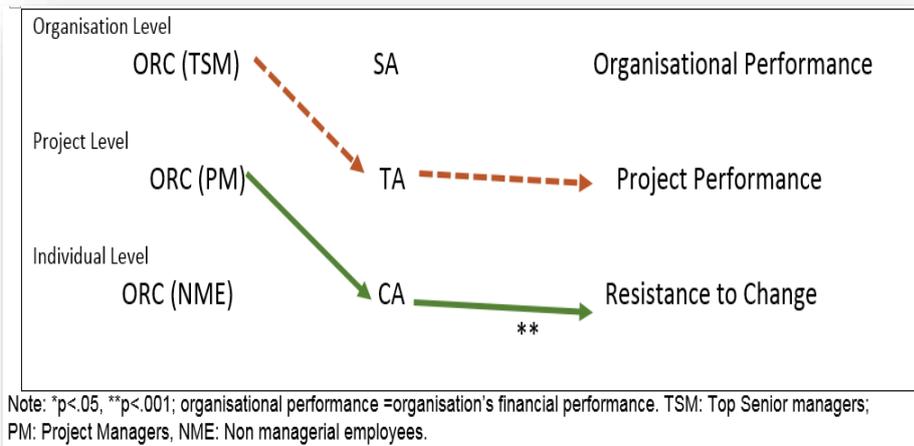


Figure 15: Same Level Interaction Effect: HR Power and Competence, Social Context and Daily Work Context.

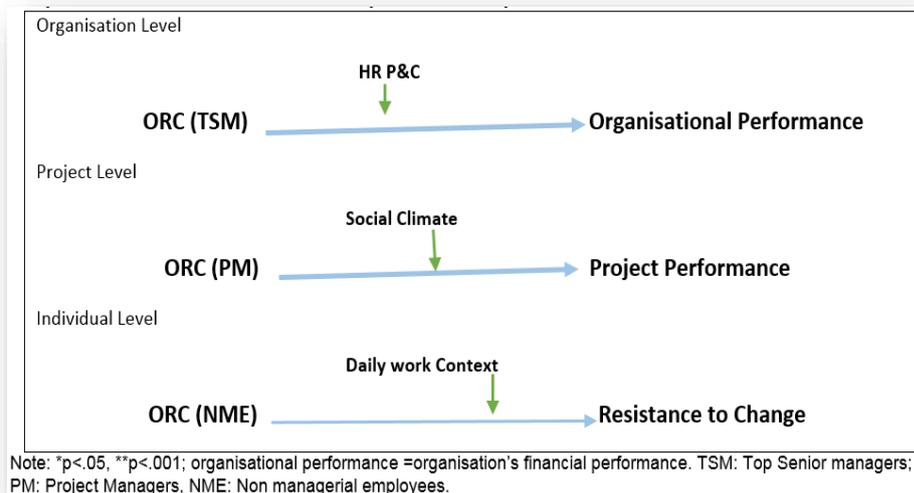
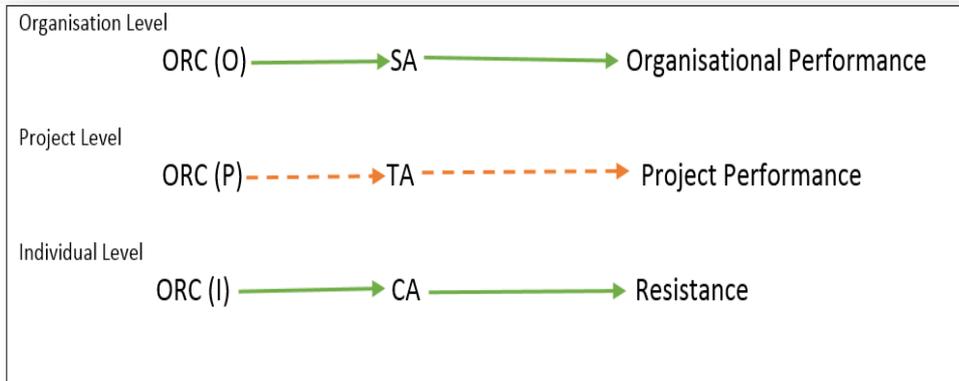


Figure 16: Same-level Mediation effect: Structural Ambidexterity, Temporal Ambidexterity and Contextual Ambidexterity.



Note: *p<.05, **p<.001; organisational performance =organisation's financial performance. TSM: Top Senior managers; PM: Project Managers, NME: Non managerial employees; SA: Structural Ambidexterity; TA: Temporal Ambidexterity; CA: Contextual Ambidexterity.

Table 17: Two-level, Organisational and Individual Level Model

ORC-IND	Models				
	NULL (Model 1)	RI&FS (Model 2)	RI&RS (Model 3)	CLM (Model 4)	CLME (Model 5)
Level 1					
Intercept (Y00)	2.89 (.11)**	2.89 (.11)**	2.89 (.11)**	2.89 (.11)**	2.89 (.11)**
ORC Y10		-0.22 (0.164)			
Level 2					
ORC			-1.10 (0.376)		
Cross-Level Interaction					
HR P&C				0.66 (.38)	
Cross Level Mediation					
CAx					-0.26 (0.21)
Variance Component					
Within org variance	.909	.816	.910	.819	.893
Intercept (L2) variance	.598**	.619**	.520**	.623**	.522**
Additional Information					
ICC					
-2 log likelihood (FIML)	0.30 757.1	737.73** ($\chi^2=19.42, df, 2$)	751.33** ($\chi^2=14.17, df, 2$)	734.42** ($\chi^2=19.42, df, 2$)	
Number of EP					
Pseudo R2	2	4	2	4	

RI&FS: Random Intercept and Fixed Slope; RI&RS: Random Intercept and Random Slope;
ORC: Organisational Receptivity for Change; HR P&C: HR Power & Competence

Table 18: Two-level, Organisational-Project Level Model

ORC-PRO Level and Variable	Models				
	NULL (Model 1)	RI&FS (Model 2)	RI&RS (Model 3)	CLM (Model 4)	CLME (Model 5)
Level 1 Intercept (Y00) ORC Y10	3.72 (.060)**	3.72 (.060)** -0.47(0.16)**	3.72 (.060)**	3.72 (.060)**	3.72 (.060)**
Level 2 ORC			0.25 (.18)		
Cross-Level Interaction HR P&C				.200 (.48)	
Cross Level Mediation TAx					.05 (.09)
Variance Component Within org variance Intercept (L2) variance	.418 .238**	.374 .276**	.417 .227**	.379 .280	.417 .136
Additional Information ICC -2 log likelihood (FIML) Number of EP Pseudo R2	.25 109.51 3	106.91 ($\chi^2=2.59, df,1$) 4	112.68* ($\chi^2=11.67, df,4$) 2	106.79 ($\chi^2=.87, df,1$) 4	

RI&FS: Random Intercept and Fixed Slope; RI&RS: Random Intercept and Random Slope;
ORC: Organisational Receptivity for Change; HR P&C: HR Power & Competence

Table 19: Two-Level, Project and Individual level Model

PRO- IND Level and Variable	Models				
	NULL (Model 1)	RI&FS (Model 2)	RI&RS (Model 3)	CLM (Model 4)	CLME (Model 5)
Level 1 Intercept (Y00) ORC Y10	3.55 (.08)**	3.55 (.08)** -0.22 (.162)	3.55 (.08)**	3.55 (.08)**	3.55 (.08)**
Level 2 ORC			1.12 (.27)**		
Cross-Level Interaction Social context/climate				.68 (1.27)	
Cross Level Mediation CAx					-0.34 (.14)*
Variance Component Within org variance Intercept (L2) variance	.916 .602	.679 .394	.846 .212	.679 .403	.896 .511
Additional Information ICC -2 log likelihood (FIML) Number of EP Pseudo R2	.30 763.89 2	745.46** ($\chi^2=18.43, df,2$) 4	752.19* ($\chi^2=6.73, df,2$) 2	741.38** ($\chi^2=10.81, df,2$) 4	746.85* ($\chi^2=5.47, df,2$) 2

RI&FS: Random Intercept and Fixed Slope; RI&RS: Random Intercept and Random Slope;
ORC: Organisational Receptivity for Change; HR P&C: HR Power & Competence

After an explanation of the adopted data analytical technique used to test the developed hypothesis and the results. Below is the table presents the overall summary of the results explicating if it supports the particular hypothesis. This table also shows each hypothesis's relation with the present research aims and related research questions.

Table 20: Summary of aims and objectives and related hypothesis of the present research.

Research Questions	Aims	Hypotheses
<p>1a: Is ORC a multilevel theory? (Are ORC factors as higher order capability at organisational level impacts lower level outcomes (e.g., individual or team level outcomes)?</p> <p>1b: How ORC handle team level dynamics? Are ORC factors enable to impacts team level performance and 'how'?)</p>	<p>1a: Empirically understand and advancing ORC (Organisational Receptivity for Change) theory as multilevel theory.</p>	<p>H1 –a H1 –b H1 –c H4 –a H4 –b H4 –c</p>
<p>2: what are these mechanisms or processes- 'how'?</p> <p>(ORC impact performance outcome at different levels within and organisation and competitive advantage of an organisation?)</p>		<p>H3 –b H3 –c H2 –a H2 –b H2 –c H4 –f H4 –g H4 –h H4 –i</p>
<p>3: What is the role of HR as dynamic capability in the context of ORC?</p>	<p>1b: Understanding the role of HR as a dynamic capability in the context of organisation's receptivity for change (ORC).</p>	<p>H3 –a H4 –d H4 –e</p>

Note: Variables: ORC: organisational receptivity for change; SA: Structural/strategic ambidexterity; HRP&C: HR power & competence; OP: organisational performance; TA: Temporal ambidexterity; PP: project performance; DWC: Daily work context; CA: Contextual ambidexterity; RTC: employee's resistance to organisational change. The level of analysis: OL: organisational level; PL: project level; IL: individual level.

Table 21: Summary of Hypothesis and its results

List of Hypothesis	Statistical technique	Results
<u>ORC and Outcome Link</u>		
H 1-a: - An ORC (organisational receptivity for change) is positively related to organisational performance. (organisational level)	HLM- random intercept model	√
H 1-b. An ORC (organisational receptivity for change) is positively related to its project performance. (project level)	HLM- random intercept model	√
H 1-c. An ORC (organisational receptivity for change) is negatively associated with employees' resistance to organisational change. (individual Level)	HLM- random intercept model	X
<u>Mediating effect</u>		
H 2-a: The relationship between ORC and organisational performance is mediated by structural/strategic ambidexterity. (organisational level)	SPSS-PROCESS	√
H 2-b: The relationship between ORC and project performance is mediated by temporal ambidexterity. (project level)	SPSS-PROCESS	X
H 2-c: The relationship between ORC and employee resistance to organisational change is mediated by contextual ambidexterity. (individual level)	SPSS-PROCESS	√
<u>Interaction effect:</u>		
H 3-a: The relationship between ORC and Organisational performance is moderated by HR power and competence. (organisational level)	SPSS-PROCESS	√
H3-b: The relationship between ORC and project performance is moderated by Social context. (project level)	SPSS-PROCESS	√
H3-c: The relationship between ORC and employee's resistance to organisational change, is moderated by daily work context (individual level).	SPSS-PROCESS	√
<u>Cross-Level Relationships</u>		
H 4-a. An ORC (organisational receptivity for change) is positively related to project performance. (organisational level – project level; direct relationship)	HLM- Means as outcome model	X
H 4-b. An ORC (organisational receptivity for change) is negatively associated with employees' resistance to organisational change. (organisational level – individual level; direct relationship)	HLM- Means as outcome model	√
H 4-c. An ORC (organisational receptivity for change) is negatively associated with employee's resistance to change. (project Level – individual level; direct relationship)	HLM- Means as outcome model	√
H 4-d. The relationship between ORC and project performance is moderated by HR power and competence. (interaction of organisational level factor on project level relationship)	HLM-Random Intercepts and Slops Models	X
H 4-e. The relationship between individual ORC and resistance to organisational change is moderated by HR power and competence.	HLM-Group Mean	√

(interaction of organisational level factor on individual level relationship).	Centered analyses	
H 4-f. The relationship between ORC and resistance to organisational change is moderated by social context. (interaction of project level factor on individual level relationship).	HLM-Group Mean Centered analyses	X
H 4-g. The relationship between ORC (organisational level) and project performance is mediated by temporal ambidexterity (project level).	SPSS-PROCESS	X
H 4-h. The relationship between ORC (organisational level) and employee's resistance to organisational change (individual level) is mediated by contextual ambidexterity (individual level).	HLM-Random Intercepts and Slops Models	X
H 4-i. The relationship between ORC (project level) and employee's resistance to organisational change (individual level) is mediated by contextual ambidexterity (individual level).	HLM-Random Intercepts and Slops Models	✓

6.4 Summary:

This chapter aimed to presents the resulting output of the data analytic techniques. The demographic profiles of the participants show that workforce is young, motivated and therefore having low resistance to change. The majority of the projects are at the middle stage of the scale line of progression. The preliminary analysis has contributed in identifying some interesting pattern among the three group (Top senior managers, project managers and non-managerial employees) within organisations. Finally, multilevel analysis using hierarchical linear modelling results shows some significant cross-level relationships which supported the established hypotheses. Next, discussion chapter providing explication on the identified relationships in this chapter and justifying them with existing literature.

CHAPTER 7

DISCUSSION

7.1 Introduction:

In an increasing unpredictable dynamic business environment, organisational receptivity for change has become necessity to survive and achieve competitive advantage. ORC theory has been traditionally used as strategic solution, searching for multifactor explanation of organisational change. It explains the change an interaction between and within different levels. Organisational change is a multilevel multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation (Butler, 2003). The nested and embeddedness of organisational structure enhances the complexity and hence leading and managing receptivity of an organisation has become primary challenge for management today. The aim of the thesis is to understand and advancing ORC theory adopting multilevel perspective.

The structure of this chapter begin with reviewing the aims and objectives highlighting the knowledge gap this research study addressing. Next, the research questions are discussed with data analysis outcomes and justified theoretical explanations. Finally, the theoretical, methodological and practical contributions are presented.

7.2 Review of the aims and objectives:

The main theoretical contribution of this thesis is in the development and advancing organisational receptivity for change (ORC) theory as multilevel theory. Many organisational change researchers (Pettigrew et al., 1987) have recognised that organisational change is a multilevel multifaceted and complex phenomena which require cohesiveness of all levels for effective change implementation. For example, Pettigrew (1987), highlighted that there is a need to do research which is contextualist and processual in character by considering micro context as well as the macro context within a firm. Butler (2003), acknowledged that change is an iterative multi-level, complex process. However, the majority of the organisational receptivity for change (ORC) studies have conducted research at the organisational level, identifying factors interacting at institutional and environmental level (Pettigrew and Whipp, 1991; Pettigrew et al., 1992; Butler, 2003; Butler and Allen, 2008; Taha, 2014). Reflecting on the above concern this is the first pioneer study in the ORC literature to address this issue by adopting multilevel perspective and empirically tested the ORC – outcome link at different levels within an organisation. In this regard, ORC theory has been around for a decade, still, there is not much development of the original model (Bennett and Ferlie, 1994; Butler, 2003). Moreover, previous studies (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003) on ORC used qualitative methods with a limited number of cases. This has

created limitations to the concept which makes it harder for the ORC concept to be applied to a wider population (Newton et al., 2003). Thus, this builds the need to conduct quantitative research to test and validate previous research findings (Straub and Carlson, 1989), permitting more generalisability to a wider population.

Adding to the above argument, recent quantitative work of Taha (2014) which was focused on ORC scale development have unlocked the research possibilities in a new direction and avenues which were previously unavailable. First, the ORC scale allows this research to quantify, test and explore ORC theory in the new alternative context and avenues - that is renewable energy sector in India. Second, the fully developed ORC scale also enable the researcher to conduct causal analysis, particularly, a function of independent variable (ORC) on dependent variables (resistance to change, project, and organisational performance). Finally, a new ORC scale permits to link ORC theory to other already existing theories, constructs, ideas and scales like ambidexterity and HRM.

The development of a multilevel paradigm, which is the integration of theoretical principles, research design and measurement and analytics, for investigating systems phenomena in organisations is an important quantitative research advance. However, there have been relatively few efforts to provide multilevel theoretical frameworks for organisational researchers (see, House et al., 1995; Klein et al., 1994; Rousseau, 1985). By adopting the multilevel quantitative

approach, this thesis is providing ORC multilevel framework for the academic and practitioner audience.

Reviewing the ORC literature, this thesis identified some key knowledge gap (see chapter 3) in the ORC field which leads to three main research questions of this present research study.

First, although researcher in ORC literature recognised the multilevel aspect of change and ORC theory (Pettigrew, 1987; Butler, 2003; Butler, 2008), the majority of the studies are conducted at the organisational level (Pettigrew, et al., 1992; Butler, 2003; Newton et al., 2003; Butler and Allen, 2003). It was Pettigrew and his team who first coined the term and developed ORC theory (1991 and 1992) in order to understand 'why' some organisations are more successful than others despite having similar conditions and they identified factors called 'receptive' and 'non-receptive' contexts. They defined 'receptive context' as a 'set of feature that seems to be favourably associated with forward movements (including management action) and 'non-receptive context' as 'configuration of features which may be associated with blocks on change' (Pettigrew et al., 1992, p.268). According to them higher the receptivity to change, the more flexible the organisation is to adapt to the environmental pressures. Later many subsequent studies by Newton et al., (2003), Butler (2003), Butler and Allen (2008), and Taha (2014) have contributed significantly to the development of ORC theory (discussed in chapter 3) and demonstrated its implementation and association with organisational performance in the context of change.

The previous studies did not explore the impact of ORC factors on lower level outcomes (e.g., employee's resistance to organisational change and project performance) within an organisation. The current ORC framework ignores the collective responses to change, specifically, its impact on team dynamics or performance. The above argument leads to the first research question that this thesis is addressing.

Research Question 1. Is ORC theory a multilevel theory?

Related to the above main research question, other linked questions are - Are ORC factors as higher order capability at organisational level impacts lower level outcomes (e.g., individual or team level outcomes ? How ORC handle team level dynamics? Are ORC factors enable to impacts team level performance and 'how'?

This thesis have addressed this question by investigating the link of ORC to lower level outcomes that are employee's resistance to organisational change (individual level) and project performance (project level); (including same level outcomes-organisational financial performance). For reference, see conceptual framework in chapter 4.

Second important knowledge gap in the ORC literature is that the current ORC theory and research do not provide an explanation on 'how' question. All preceding research have focused on organisational level analysis only. For example, previous all ORC research have utilised ORC factors in explaining organisational performance and sustainable

competitive advantage of an organisation. None of the ORC literature explores the underlying mechanism and processes that explain how ORC has an impact on performance outcomes in the context of change. Reflecting on the importance of understanding causal mechanisms and process, Butler and Allen (2008) emphasised –“...although it may be possible to identify the variables for an optimal performance, like receptivity factors, it is not possible to predict what should be done with them to achieve the optimal performance.” (p.433). Receptivity factors are interrelated and interconnected across the organisation, vertically and horizontally, which requires understanding the mechanisms and processes that are effective at the level of the actor, at the level of working teams and at the system level. The above discussion leads to the second research question that this thesis is addressing.

Research Question 2. What are these mechanisms or processes- 'How' ORC impact performance and behavioral outcome at different levels within and organisation?

This thesis addressing the above research question by identifying and empirically investigating the mediators and moderators that are effective at the level of an individual employee, at the level of project teams and at the organisational level (see, the conceptual model, chapter 4).

In response to the current dynamic business environment, organisations facing a challenge to balance between continuity and change (Probst and Raisch, 2005). Organisations need to

cultivate ambidexterity within a firm in order to its long-term success. The underlying argument is that too many change action could create organisational chaos if continuity is not taken into account, whereas the opposite could lead to inertia (Huy, 2000). Volberda (1998) argue that dynamic capability is the antecedent requirement which acts as a building block of organisational ambidexterity.

This research posits that ORC as higher order dynamic capability acts as antecedents and promotes ambidexterity by fostering congruence and enable a firm to alter its capability base (Benner and Tushman, 2003) by negotiating the fit between existing and new organisational practices. In the ambidexterity literature (Turner et al., 2012), it has been defined ambidexterity in three conducts- structural/strategic ambidexterity, temporal ambidexterity, and contextual ambidexterity. Structural/strategic ambidexterity is linked with organisation's and firm's performance (O'Reilly and Tushman, 2004; Aulakh and Sarkar, 2005). Temporal ambidexterity is more relevant to the project performance (Liu and Leitner, 2012; Purnanam et al., 2006). And, contextual ambidexterity is associated with individual behaviour (Gibson and Girkinshaw, 2004). Therefore, this research examining the particular conduct of ambidexterity at its relevant level within an organisation (see, the conceptual model, chapter 2).

Third identified issue is that the current ORC framework by Taha (2014) ignores the role of HR in change. This research adopting Taha's framework and developed scale on ORC to further advancing theory in new context. There has been increasing

emphasis in the new role of HR in change. Dooreward and Benschop (2003) claimed that the “unique contribution of HR” (p274) can impact success or failure of a change implementation. In the current rapidly changing and highly dynamic business environment, new emerging strategic and change agent role of HR is contributing significantly in managing and facilitating change in organisations (Crawshaw and Hatch, 2014; Hendry and Pettigrew, 1990; Shipton et al., 2016; 2012). Taha’s (2014) four dimension ORC framework consist of 1) ideological vision- describes as ‘to establish the change imperative’ (p.46). This address the strategic agenda that arise from the interest of a definite group within an organisation, 2) Implementation capacity- meant ‘to implement change in practice’ (p. 46). This involves mechanisms used by leading change to influence strategy/policy implementation and behaviors of stakeholders, 3) Institutional politics- ‘to affect formal and informal decision- making’ (p. 46). Cooperative organisational network (formal and informal) and, 4) Leading change- ‘to drive change throughout the organisation’ (p. 46). Location of the decision-making and analyses of actions of the decision maker; creativity in the organisational process. (Butler, 2012). The above ORC framework by Taha (2014) ignores the role of HR in change. Hence, the third research question-

Research Question 3. What is the role of HR as dynamic capability in the context of ORC?

This thesis addressing this question by investigating the moderating effect of the role of HR power and competence on ORC – outcome link at all the three levels, i.e., organisational, project and individual level.

Based on literature review, hypothesis (see Table 4, Chapter 4) were developed expressing the links between ORC and other outcome variables. Having nested structure of the data, hierarchical linear modeling and SPSS PROCESS software (for detail see chapter 4) were used to examine same-level and cross-level relationships. The next session includes the discussion on how the results of the data analysis providing answers to the above research questions.

7.3 Is ORC theory a multilevel theory?

RBV theory assumes that the resources and capabilities are the source of organisations' performance and competitive advantage (Barney et al., 2011). These various organisational resources and capabilities are the main sources to help an organisation increase performance levels, especially in dynamic and turbulent business environmental conditions (Ambrosini and Bowman, 2009). The preliminary analysis reveals that the current business environment of renewable energy sector in India is very competitive and fluctuating (see table 1, figure 1 in chapter 4). In response to the pressure of the external environment, ORC, as a higher order capability, allow the

organisation to create value by enhancing their ability to change and adapt faster (Butler and Allen, 2008).

Testing of the hypothesis (H1-a; figure 2, chapter 4), this study found that there is a significant relationship between the receptivity factors and organisational performance ($\beta = .47$). This supports the RBV view that resources and capability based variables are crucial in predicting performance levels (e.g. Newbert, 2008). These dynamic capabilities are useful in improving organisational performance especially in more hostile environmental conditions (Teece et al., 1997). The supporting hypothesis is consistent with the previous ORC studies (Pettigrew, 1992; Butler, 2003, Newton et al., 2003; Taha, 2014) which have demonstrated that ORC factors are related to organisational performance.

Two hypotheses (See Figure 2 and 3, chapter 4), H1-b and H4-a, that theoretically expressing the same relationship between ORC and project performance, shows the difference in the results in the operational framework. The former hypotheses represent same-level relationship and later cross-level relationship. ORC by project managers is significantly related to project performance ($\beta = .47$), yet ORC by top senior management not related to project performance ($\beta = .25$). The results represent the complexity and contradictions of change that organisations manage in order to affect organisational performance. Eventually, the mobilisation and activation of resources are dependent on the context (in this case projects) to actualise the outcomes (Newton et al., 2003). Supporting project same-level relationship (H1-b) suggest that in the context of the

project, ORC factors creates conditions providing high energy around change (Jones, 2003). Dynamic nature of receptive factors allows project managers to reconfigure, integrate and coordinate existing capabilities, which affects project performance. Dynamic capability literature highlighted the role of top management in deployment of capabilities (Teece et al., 1997.) The literature also emphasised the role of the manager in the generation of capabilities (Ambrosini and Bowman, 2009). ORC factors create internal factors and process at project level that contribute to the organisation's ability to reconfigure, integrate and coordinate existing capabilities (Eisenhardt and Martin, 2000).

In other words, at project level receptivity factors allows project managers to mobilise and activate resources and utilise them to affect project performance. Organisations depend on project managers to realise the project outcome and performance. In line with the above argument, Morris (2013), recognises that capabilities defined at the organisational level need to be tailored to the requirements of specific projects. ORC factor's dynamic capability enable project managers to develop and mobilise to deal with a variety of contingent conditions facing an organisation (Eisenhardt and Martin, 2000). The obtain results also relate to the receptivity factor-implementation capacity. According to Butler (2003), local actors, members of the staff at particular locale mobilise their available skills and resources to influence change.

ORC - resistance to change link also reveals similar results pattern (as ORC – project performance). The hypothesis testing results show that there is a non-significant same-level relationship at the individual level (H1-c; $\beta = -.22$) and found significant cross-level relationships at organisational (H4-b; $\beta = -1.10$) and project level (H4- c; $\beta = -1.12$). One of the sources of planned organisational change failure is ignoring the employees' reaction to the change -resistance to organisational change (Coch and French, 1948). Resistance to change is a well-known management problem that can come from a variety of quarters, including rigid cognitive frames within the organisation (Kaplan and Henderson, 2005). Coordinated adaptation of assets and overcoming resistance to change can benefit from dynamic managerial capabilities for reconfiguration (Helfat and Peteraf, 2015).

The obtained results can be related to the receptivity factor-quality and coherent policy (Pettigrew et al., 1992; Newton et al., 2003; Butler, 2003). Pettigrew et al., (1992), asserted that the quality and coherent policy factor creates a frame and the necessary conditions that allow the organisation to negotiate and implement change. Higher the clarity and vision will build higher commitment and prevent the resistance to change within an organisation (Pettigrew et al., 1992). Butler, 2003, also provide an explanation on the attitudes towards organisational change in his 5 factor ORC framework. According to him, at the strategic level, clear and coherent 'vision' (p 52) and managerial 'ideologies' (p 52) shape the norms and social values which influence the attitude towards change (Dimaggio and Powell,

1983). Hence, ORC as dynamic capability has the potential to influence employees' attitudes and behaviours toward change-resistance to change.

The above discussion of obtained results suggests that ORC factors as dynamic capability play a strategic role at the organisational level and operational role at the project and individual employee level (Davies and Brady, 2016).

7.4 Mechanisms and processes between ORC – Outcome

link: - 'How'

Hypothesis testing of the mediating effect of ambidexterity on the same level of ORC-outcome relationship (e.g., H2-a, and H2-c) shows significant results. It reveals that structural ambidexterity and contextual ambidexterity mediates the ORC - outcome relationship. Also, cross-level relationship shows the significant mediating effect of contextual ambidexterity on ORC – resistance to change link (e.g., H4-i). These results support this thesis argument which theorises that ORC as higher order dynamic capability acts as antecedents, influences, and foster ambidexterity by enabling a firm to alter its capability based by negotiating the fit between existing and new organisational practices.

Many organisational studies have described organisational ambidexterity as a prerequisite for organisational survival and success (Raisch and Birkinshaw, 2008). Research have also found empirical evidence that (see Jansen et al., 2005a) firms

operating in an environment characterised by high dynamism and competitiveness are more likely to simultaneously pursue both types of innovation activities and thus become ambidextrous. In response to the increasingly hostile environmental conditions companies direct towards a more balanced orientation in their strategic and structural alignment (Raisch and Hotz (in press)). In line with this argument organisational ambidexterity links to dynamic capability (Eisenhardt and Martin, 2000; Teece et al., 1997). In this regard renewable energy sector in India as high-velocity market (see Table 1 and Figure 1 in chapter 4) is characterised by an ambiguous industry structure, blurred boundaries, ambiguous environment, new competitors, changing and upcoming business models where change happens in an unpredictable manner (Eisenhardt and Martin, 2000; Make in India report 2015). Thus this environment demands high receptivity and ambidexterity within an organisation to be successful.

The majority of ambidexterity research (Gibson and Birkinshaw, 2004; Gulati and Puranam, 2009; Beckman, 2006; Lubatkin et al., 2006; Smith and Tushman, 2005) have focused on mechanisms that enable organisations to become ambidextrous. They described these 'mechanisms' as structural at the organisational level, the cultural and informal network called contextual at the unit level and leadership based mechanisms of ambidexterity at the individual level (Raisch et al., 2009: p 686). However, organisational receptivity for change (ORC) as higher order dynamic capability describes four broad 'contexts' or factors that are interrelated and interact with each

other and across the levels that enable organisations to navigate successful implementation of change (Pettigrew et al., 1992: p 268). Thus, dynamic nature of ORC factors creates the context by building an environment that foster mechanisms, activities, and practices that promote ambidexterity within an organisation. Hence, ORC factors are antecedent to ambidexterity which in turn affects organisational outcomes at different levels within an organisation, including organisational performance. Hypothesis H2-a supports this argument.

In this regard, ORC factor ideological vision (Butler, 2003) promotes structural ambidexterity at the organisational level. Ideological vision consists of three key elements- the quality and coherence of policy, simplicity, and clarity of goals and supportive organisational culture. Management ideology and clear vision at organisational level shape the direction of strategic change and change the implementation to balance continuity and change. Structural ambidexterity studies also acknowledged that few top management people need to act strategically integrating two opposite but simultaneous business activities- exploitative and explorative, at the organisational level (e.g., Smith and Tushman, 2005).

Whereas, contextual ambidexterity involves activities that enable individuals to conduct balance between creativity and adaptability (to accommodate strategic or technological changes and also attention to detail and quality) within a business unit. ORC literature (Pettigrew et al., 1992; Butler, 2003) suggests that through supportive organisational culture (ideological vision), informal and formal cooperative organisational network

(institutional politics) and local member of staff (implementation capacity), ORC factors foster contextual ambidexterity within a unit and individual level. Significant results for hypothesis- H4-1 and H2-c, support the above argument.

Reviewing the organisational change literature addressing the themes representing the level of analysis of the studies, this thesis identified the mechanisms (i.e. processes, systems, and structures) that interact with ORC receptivity factors to impact outcomes at different levels within an organisation- e.g., resistance to change, project performance and organisational performance. These factors are- daily work context at the individual level, social context at the project level and HR power and competence at the organisational level.

Hypothesis (H3-c) is supported by significant results, which reveals that daily work context interact with ORC in influencing individual level outcome – employees resistance to organisational change. In an earlier section, it is explained and demonstrated that ORC has a potential to make an impact on individual's attitudes, behavior and response to organisational change. However, ORC theory does not explicate how locale or change agent influence employee's responses towards change. Supporting (H3-c) results suggest that characteristics of the daily work context related to employees' resistance to change in the context of change. Characteristics of the change process evolve from the daily context within which organisation function (Van Dan et al., 2007). According to them, how change is managed and employee's reaction to change is related to characteristics of their daily work situation. Organisational receptivity for

change theory (ORC) acknowledged the crucial role of local actors to influence the change implementation. These local actors can be project managers or immediate supervisors or senior manager, mobilise their available skills and resources to influence change. For example, ORC receptivity factor, implementation capacity, looks at the mechanism used by those leading change to shape and influence strategy implementation, and behaviors of other stakeholders in the organisational network (Butler, 2003). But it does not provide an explanation on how locale influences employee's resistance to change or other attitudes, behaviors, and responses to change.

Daily work context is characterised as both how employees perceive the quality of the leadership (leader-member exchange) and their development climate (Van Dan et al., 2007). Although not tested in the context of an organisational change, high-quality LMX relationship has been shown to correlate with receptivity to change (see, Van Dam et al., 2007; Tierney, 1999). The quality of the immediate leader-member (in this case project managers, or immediate supervisors) relationship on a day to day basis and their exchange with their employees have interacted with ORC factor to influence resistance to change in the change process (H3-c). Results also suggest that non-managerial employees working in renewable energy firms perceive their change work climate as developmental not only for them but for the organisation also (H3-c).

This shows that identified locale and their daily work context makes a difference in ORC- resistance to change link. In other words, work context consists of quality leader-member

exchange and where the daily environment is perceived as developmental for employees and organisations reduces employee's resistance to organisational change.

The results support the previous research that argue that climate perceptions are seen as critical determinants of individual behavior affecting the relationship between objective work environment characteristics and individuals' responses (Carr et al., 2003). A climate that fosters continuous development incorporates the different ways in which the organisation, its leaders and its employees support, encourage and exercise organisational and individual learning and growth. (Van Dam et al., 2007).

Another moderator, HR power and competence also interacting with ORC factors to influence organisational performance (H3-a). And at the project level, social climate interact with ORC factors to influence project performance (H3-b).

Project level studies (Bresnen et al., 2003) have demonstrated that the process of knowledge capture, transfer and learning considerably depends on social patterns, practices, and processes in ways which emphasise the value and importance of adopting a community-based approach to managing knowledge. ORC theory does not clearly discuss the social patterns and social ties within a group which affects the performance at organisational, departmental or project level. However, ORC factor, key people leading change (Pettigrew et al., 1992) recognises the group as an effective factor. It emphasises that each team member's skills and assets denote the collective, complementary and multifaceted nature of the

team which provides interwoven skills that allow the greater combination of planning and opportunism (Pettigrew et al., 1992). The above argument is also evident in the obtained results that there is no significant direct relationship between ORC and project performance (H1-b), but the introduction of social climate interacted with ORC to affect project performance at the same project level (H3-b). It suggests that through coordination and collaboration among project team members, social aspect with ORC factors can be appropriate and exploited to achieve project goals (Nahapiet and Ghoshal, 1998).

Although ORC theory is unable to explain the underlying mechanisms which make ORC - outcome link possible, however, overall results suggest that receptivity factors' dynamic capability along with other identified (moderators) factors impact outcomes at different levels within an organisation. These identified factors are HR power and competence at the strategic or organisational level, social climate at the project level and daily work context at the individual employee level. These factors act as a process, practices, activities and/or mechanism at various unit levels within an organisation that works effectively along with ORC factors to impact performance outcome variables (including employees response to change).

7.5 The role of HR as dynamic capability in the context of ORC.

Taha's current 4 factor ORC framework ignores the role of HR as dynamic capability in the changing context. Literature suggests that the strategic role of HR is crucial to make firms more adaptable to the rapidly changing and highly dynamic business environment (Shipton et al., 2016; 2012) and the unique role and contribution of HR makes an organisational change success and failure (Doorewaard and Benschop, 2003). Significant results of hypotheses testing (e.g., H3-a and H4-e) supports the above argument.

ORC theory does not clearly discuss the HR role or human resource management. Nevertheless, it emphasises the support of those who shape and enforce institutional rules and beliefs and get these individuals to be committed towards the change programme (Pettigrew et al., 1992). This thesis posits that HR as dynamic capability contribute significantly at a strategic level and operational level in the context of change. This is investigated by testing interaction effect of HR power and competence on ORC – outcome link at organisational, project and individual level.

Supporting H3-a hypotheses suggest that dynamic capability of HR power and competence interact with dynamic capabilities of ORC factors to influence organisational performance in the context of change. In a highly turbulent environment, dynamic capability of HR involvement allows the firm to integrate, build and reconfigure internal and external competencies to address rapid change (Teece et al., 1997). This dynamic capability includes the HR manager's capability to utilise of business knowledge to facilitate HR issues, the ability to initiate changes or help employees to plan for changes and the capability to coordinate HR redirection corresponding to the strategic changes of the firm (Wei and Lau, 2005).

As a dynamic capability HR responses to the need for change. The significant results also suggest that in renewable energy sector in India, firms understands and exploiting HR capabilities by involving them in key strategic business decisions. The current high-velocity business market of the emerging renewable energy sector creates an ambiguous and challenging situation for the business. In response, organisations utilising capability of HR system and practices in designing compatible strategy and facilitating the achievement of business change strategy through the management of people (Lado and Wilson, 1994; Li-qun Wei, 2006). Significant hypotheses results (H3-a) supports the above argument and have demonstrated that HR power and competence along with ORC receptivity factors influence organisational performance.

Similarly, supporting significant result for hypotheses -H4-e, reveal that HR power and competence have potential to impact resistance to change at the individual level along with receptivity factors.

7.6 Renewable energy sector in India: Market dynamism

Dynamic business environment demands dynamic capabilities within an organisation to be successful and be a competitive advantage. The role of dynamic capability varies in the different arrangement of the environment that is characterised as 'moderately-dynamic market' and 'high-velocity markets (Eisenhardt and Martin, 2000: 1115).

The renewable energy sector in India is a high-velocity market not only in terms of its rich culture, various languages and regions but also as new technologies, upcoming policies, fluctuating prices, funding opportunities, national and state level encouraging schemes affecting this sector (Make in India, 2016). As one of the fastest developing economies and emerging sector, this is characterised by an ambiguous industry structure, blurred boundaries, ambiguous and shifting players and fluid business models where change happens nonlinear and are unpredictable manner (Eisenhardt and Martin, 2000). Such dynamic environment forcing firms operating in this sector to enhance their receptivity capability to adapt quickly to sustain success. These organisations show high receptivity for change which allows them to utilise their resources and capabilities to

manage change and increase organisational performance. In such dynamic conditions and as a new emerging sector, firms are relying more on newly created knowledge in order to be able to stay flexible and respond to changing market conditions as quickly as possible. The unpredictable environment allows companies to use ORC as higher order dynamic capability which is an iterative process and adopting 'learning by doing' approach in the context of change (Eisenhardt and Martin, 2000: 1115; Teece et al., 1997: 525).

7.7 Contributions:

The present study is contributing in two key ways: theoretically and practically. The next few sections will discuss each contribution separately.

7.7.1 Theoretical contributions:

The main contribution of this study is able to understand and advance the ORC theory as multilevel phenomena. Pettigrew, 1987, highlighted concerns on organisational change literature and emphasised the need to do research which is contextualist and processual in character by considering micro context as well as the macro context within a firm. Although Butler (2003), acknowledged that change is an iterative multilevel process-complex, multifaceted phenomenon, majority of the ORC studies have conducted research at the organisational level, identifying

factors interacting at institutional and environmental level (Pettigrew and Whipp, 1991; Butler, 2003).

Reflecting on the above concern, this is the first study in the ORC literature to address this issue by adopting multilevel perspective and empirically tested the ORC – Performance outcome link at different levels within an organisation. The findings have revealed that ORC factors interact across the levels and has potential to affect performance outcomes at individual perception and behavior towards change (e.g., resistance to change), project and organisational level. This supports the view that receptivity factors dynamically interact with each other and across the levels that enable organisations to navigate successful implementation of change (Butler, 2012) by affecting individual and team level outcomes. For example, ideological vision explains that the established strategic context and decisions need to be shared, accepted and understood by all. This sharing process involves other stakeholders within an organisation to participate in the change procedure.

Adding to the above contribution is another finding that key units that are non-managerial employees, project managers, and top senior managers, functioning at different hierarchies within an organisation differ in their perceptions of reality, exposure, and relationship, in this case, ORC. This finding is contrary to the multilevel theory assumption that nested structure is related and therefore have similar perceptions. However, this supports the argument by Kozlowski and Klein, 2000 that there is an over generalisation of the system metaphor that everything is related. This implies that for successful implementation of the change

program needs to create activities that increase the 'bond strength' (Simon, 1973) among levels and units. Regarding ORC theory, receptivity factors bring proximity and inclusion among different key stakeholders within an organisation- top senior managers, project managers and non-managerial employees. The dynamic nature of receptivity factors promotes informal and formal network structures that are dynamic and flexible to change in which the main mechanism of change relates closely to the personnel change.

The second contribution in advancing the ORC theory is understanding 'How' question in ORC-performance link. Pettigrew (1987), criticised and urged to provide data on the mechanisms and processes through which changes are created. Although receptivity theory has been around for a decade, still there is not much development happened (Bennett and Ferlie, 1994)... 'An emerging, undeveloped notion' (Butler, 2003). So far, ORC empirical studies have demonstrated its association with organisational performance and competitive advantage (Pettigrew et al., 1991; Butler, 2003; Newton et al., 2003; Taha, 2014), but none of the studies have explored how (mechanism and processes) ORC makes an impact on performance outcomes. This study identified mediators (ambidexterity) and moderators (HR power and competence, social climate and daily work context) which influence this link at different levels within an organisation.

Final major theoretical contribution in ORC literature is investigating the role of HR as dynamic capability in the context of ORC. The current ORC framework and previous studies have

ignored the role of HR. HR literature is full of acknowledgment that the unique role and contribution of HR specialist will make a difference in a success or failure of OC implementation (Shipton et al., 2016, 2012; Doorewaard and Benschop, 2003). This thesis has demonstrated that HR involvement in terms of its power and competence can enormously contribute in the business by being a strategic partner and equally involved in daily operations in the changing context.

7.7.2 Methodological contribution

This is the first study in the ORC literature who is adopting multilevel approach for analysing the data. Butler (2003), acknowledged that change is an iterative multi-level, complex process. However, the majority of the organisational receptivity for change (ORC) studies have conducted research at the organisational level, identifying factors interacting at institutional and environmental level (Pettigrew and Whipp, 1991; Pettigrew et al., 1992; Butler, 2003; Butler and Allen, 2008; Taha, 2014).

Reflecting on the above concern this is the first pioneer study in the ORC literature to address this issue by adopting multilevel perspective and empirically tested the ORC – outcome link at different levels within an organisation. In this regard, ORC theory has been around for a decade, still, there is not much development of the original model (Bennett and Ferlie, 1994; Butler, 2003). Moreover, previous studies (Pettigrew et al., 1992; Pettigrew and Whipp, 1991, Butler, 2003) on ORC used

qualitative methods with a limited number of cases. This has created limitations to the concept which makes it harder for the ORC concept to be applied to a wider population (Newton et al., 2003). Thus, this builds the need to conduct quantitative research to test and validate previous research findings (Straub and Carlson, 1989), permitting more generalisability to a wider population.

Adding to the above argument, recent quantitative work of Taha (2014) which was focused on ORC scale development have unlocked the research possibilities in a new direction and avenues which were previously unavailable. First, the ORC scale allows this research to quantify, test and explore ORC theory in the new alternative context and avenues - that is renewable energy sector in India. Second, the fully developed ORC scale also enable the researcher to conduct causal analysis, particularly, a function of independent variable (ORC) on dependent variables (resistance to change, project, and organisational performance). Finally, a new ORC scale permits to link ORC theory to other already existing theories, constructs, ideas and scales like ambidexterity and HRM.

7.7.3 Practical contribution

The current ORC scale by Taha's (2014) is developed and tested in the hospitality industry in Malaysia. This research is borrowing this ORC scale and utilising in a new context, which is renewable energy sector in India. This is crucial because

poor scale brings to doubt the reliability and validity of the research and its results (Hinkin et al., 1997). Establishing reliability and validity of ORC scale in Indian context would enable practitioners to use this scale as the diagnostic checklist to uncover the internal context that acts as a barrier to change and manage change better. Researchers have claimed and demonstrated that receptivity factors can be used as a diagnostic checklist to assist organisations in their change effort. Newton et al., (2003) asserted that ORC framework identifies a range of discrete facets of organisational change situations and enables analyses to typify individual cases (or context) against an ideal'. Additionally, the academic audience can also use this scale for future research in another similar context. In the past, the list of receptivity factors in Butler's (2003) and Butler and Allen's (2008) ORC framework has been used by the Transformation Project as part of their management toolset. This toolset has been applied by public and private partners of Transformation Project, e.g., Warwickshire Police and Translink, in order to identify the organisation's transformational potential. The aim of utilising receptivity factors was to identify how their organisations can create the right mechanisms that allow them to be more receptive and adaptive to changes in the external environment (The transformation project, 2010).

Additionally, the receptivity toolset can also be used for the core leadership and business development programme (Taha, 2014). Warwickshire Police has used ORC toolset for the Core Leadership Development Programme and the business Intelligence Development department for their organisation. The

standardised (validated and reliable) ORC scale at Indian context can be used by firms and practitioners in India, which will enable them to enhance the organisation's receptivity for change, and expedite change implementation in their organisation. Instead, the toolset can also be used to identify various receptivity factors that are inhibiting change as well as (Taha, 2014). Warwickshire Police and Translink firms have demonstrated and provided evidence that receptivity factors can be used to identify if their organisations are receptive to change. Four receptivity factors are the main areas within an organisations that managers need to analyse and consider to enhance organisation's receptivity for change. This is particularly crucial when organisations are operating in a highly dynamic business environment, like renewable energy sector in India. High velocity and unpredictable business environment demands firms to be more receptive towards change. And, managers need to constantly evaluate and manage their internal environment that is more receptive to change (Taha, 2014).

Exploring each receptivity factor, ideological vision, explains how managers can respond to environmental opportunities and threats which set the need as well as pace of change implementation. Managers can use clear vision to create change policies and strategies that becomes the part of the overall organisation's culture. This vision managers use to involve in the change process through clear communication to their stakeholders.

The leading change factor allows managers to plan, create and make decisions about the action, opportunities and type of

interventions involved. This factor demonstrate the role of manager instigating and implementing change. Managers involve employees in the decision making in the change process to increase the committed individual towards change. Manager's knowledge, skills and ability in enhancing the overall organisation's receptivity for change is emphasised.

The institutional policies factor focuses on the manager's or change leaders' political skills to gain support form key stakeholders by creating formal and informal network within an organisation. Managers can foster positive alliance that creates high energy around change. Managers as change leaders use formal and informal power positions to form strong relationships with employees to help expedite the change. Hence, this factor informs managers of the importance of creating the right network, and relationships within the organisations.

Finally, change orientation factor focus on the types of mechanisms that increase the organisation's capacity to implement changes. These mechanisms includes organisational routines, processes and culture which facilitate change and transformation. This factor emphasis the importance of setting the right environment and support systems for employees to handle changes within the organisations. Particularly, openness of discussion, clear communication and continuous support for employees, enables firms to generate the right mind-set around change that allows the organisation to adapt faster to environmental pressures.

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APPENDICES

Appendix 1: Access letter



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“Organisational Receptivity for Change and Performance in Indian Renewable Energy Sector”

Dear XXXX|

Greetings from England!

May I seek your kind support towards my above mentioned exciting research project I am pursuing at Aston Business School, UK. Aston is an internationally recognised top-ranked business school and is among 1% of business schools worldwide with triple accreditation for its research, teaching and business engagement.

The aim of this research is to investigate into how different organisational factors enhance organisational receptivity for change (ORC), which leads to high performance at individual, project and organisational level in your sector and increased competitiveness. In particular, I focus on how human resources management (HRM) can effectively integrate with your organisation’s strategic plans, especially those linked to organisational change.

I plan to conduct this research in two phases: 1) pilot study, which aims to validate the ORC scale in the Indian context; and 2) main data collection. To conduct a robust analysis, I intend to collect data from multiple sources, i.e., CEO/executives, HR managers, project managers, and project team members by help of a questionnaire survey. It should take approximately 15 minutes to complete the main survey.

From the research analysis I expect to highlight the critical role played by HR (as a dynamic capability) in enhancing organisational receptivity for change at different levels in organisation and come-up with a valid scale of organisational receptivity for change in Indian context for renewable energy sector.

In return of your valuable participation in the study I shall be able to provide you with a copy of our executive report. This feedback will help you to assess your organisation’s transformational potential, which reflects in the business practices that will guide your most important strategic business decisions. On request I shall be able to make key recommendations to improve high performance work practices in the context of change suitable for your organisation.

Confidentiality of the information is assured and no mention of specific names will be made (if not requested otherwise). I am aiming to get the perceptions of Participants only. Not the views of the companies in which they work.

For any additional information please free to contact us.

Thanking you in advance for your co-operation and kind support.

Yours sincerely,

Ms. Manjusha Hirekhan
Doctoral Researcher



Appendix 2: Volunteer consent form

VOLUNTEER CONSENT FORM

Title of project: Organisational Receptivity for Change and Performance in renewable energy sector

		Tick Box
1.	I confirm that I have been informed about the above study. I have had the opportunity to consider sufficient information, ask questions and have had these answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.	
3.	I agree to take part in the above study.	

Name of volunteer

Date

Signature

Manjusha Hirekhan
Researcher

Date

Signature

Appendix 3: Ethical approval letter



Appendix 4: Measure for top senior managers

“Organisational Receptivity for Change and Performance in Indian Renewable Energy Sector”

(For Executives/Top Senior Managers)

Dear Participant,

Thank you for participating in this research project,

The purpose of this questionnaire is to find out how different organisational factors enhance organisational receptivity for change (ORC), which in turn, leads to high performance at individual, project and organisational level in your sector and increases competitiveness. Given within are some statements regarding the changes happening/happened in your organisation? In front of the statements are a few columns of response ratings (e.g., 1.2.3.4) showing different degrees of agreement. Your task is to indicate the degree of your agreement by making an ‘X’ or tick ‘v’ mark in the appropriate column. Your answers will be kept confidential. This questionnaire will take max. 15 minutes to complete. So please be honest and answer all the questions for accurate feedback.

Please return the filled questionnaire to Manjusha H. or Email to:

████████████████████

Thanking you in advance for your co-operation and kind support.

Yours sincerely,

Ms.Manjusha Hirekhan

Doctoral Researcher

████████████████████

Name of the organisation: _____

How old is your organisation? (in years) _____

Number of employees in your organisation _____

Your organisation’s industry: Wind _____, /Solar _____

Your organisation industry sector: Private _____,
/Public _____

Location/ Geographic region: _____

SECTION 1: This section of the survey focuses on the changes that your company has gone through. For the purpose of this questionnaire, it is necessary to understand in which context you are responding, i.e. from past experience of change within your organisation or from current experiences. Please type/write (X/ v) to one of the following statements.

In which context are you completing this questionnaire?

Past Experience: _____

Current Experience: _____

Which of the type of changes listed below are happening / happened in your organisation?

	No Change	Minor Change	Major Change
Introduction of a new technology (i.e. information systems, systems, etc.).			
Introduction of new equipment (i.e. machinery).			
Changes in your organisation's management structure (i.e. re-shuffle of hierarchy)			
Changes in how non-managerial employees do their work (i.e. task, work processes).			

Please answer the following sections based on your experience of the change programme mentioned in this section (Section 1).

SECTION 2: The statements below describe the level of uncertainty in your organisation's external environment. Please indicate the degree of agreement or disagreement (1 "strongly disagree" to 5 "strongly agree") with the following statements.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. The business environment is threatening the survival of my company.					
2. Tough price competition threatening the survival of my company.					
3. Competitors' product quality and novelty is high					

SECTION 3: This section investigates mechanisms that could either facilitate or inhibit change within an organisation. The identification of these mechanisms would assist managers in addressing issues that slow down the implementation of a particular change program. Please answer all the questions in this section.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. My company's vision is clear to all employees.					
2. The top management has always considered the					

company's vision when developing new strategies.					
3. The change programme is in line with my company's vision.					
4. My company's change policies are in line with the company's vision.					
5. The change leader often would create a team to help manage the change programme.					
6. The team usually comprises at least one senior manager.					
7. My company would give the change leader the power and authority to implement these changes.					
8. The change leader's knowledge on change management enhances the change implementation success.					
9. The top management would use their relationship with these individuals/groups to implement change.					
10. The top management would use their relationship with external contacts (government, media, or other influential people) to implement change.					
11. The top management would form alliances with these individuals to gain support.					
12. The company formalizes participation procedures with all these individuals/groups.					
13. My company is always open about discussing issues relating to change.					
14. My company would provide continuous support for employees involved in change.					
15. The strategies to manage change are clearly defined.					
16. My company always divides change programmes into achievable targets.					
17. My company's culture is very adaptive to change.					
18. My company promotes knowledge transfer between different departments.					
19. My company has the capacity to absorb new practices.					

SECTION 5: Evaluate the performance of your company by responding to the following statements, compared to your competitive company, how you would compare your company's performance over the last 3 years in terms of....

	Much Worse 1	Worse 2	Better 3	Much Better 4
Marketing?				
Growth of sales?				
Profitability?				
Market share?				

SECTION 6: Structural separation

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. Innovation and production activities within the top management (includes engineering, human resource, safety etc.) teams/ departments are separated in terms of organisational structure.					
2. The top management teams are clearly separated within our company in terms of organisational structure.					
3. we have separate teams/departments devoted to innovative planning and devoted to improving company's efficiency (innovative planning defined as planning resulting in major strategic changes in the organisation's direction).					

SECTION 7: HR POWER & COMPETENCE. This section focuses on- to what extent your firm's strategies are incorporated into various HR aspects such as recruitment, selection, training and compensation.

HR activities	Very little 1	2	3	4	Very great extent 5
1 Match the attributes of managers to the strategic plan of the firm					
2 Identify managerial characteristics necessary to run the business in the long term					

3 Modify the compensation system to encourage managers to achieve long term strategic objectives					
4 Design staffing plans to help implement business or corporate strategies					
5 Evaluate key personnel based on their potential of implementing strategic goals					
6 Conduct job analysis based on what the job may entail in the future					
7 Conduct staff development programs designed to support strategic changes					
8 HRM department is able to provide HR related information for business strategic decisions					
9 There is HR planning in business, with clear and formal procedures					

This part of the section focuses on-the extent to which HRM staff and department are aligned with other departments of the firm.

HR alignment	Very little 1	2	3	4	Very great extent 5
1. HR staff try to understand the demand from line department, through frequent contact with them					
2. HR staff could communicate and market key HRM initiatives to business partners and front-line managers					
3. HR department try to seek information about the real, underlying needs of line departments, beyond those expressed initially, and matches these to available (or customized) products or services					

Thank you.

Appendix 5: Measure for project managers

“Organisational Receptivity for Change and Performance in Indian Renewable Energy Sector”**(For Project Managers)**

(Included only those sections which are different the scale for top senior managers)

Please provide some information about your organisation and the project you are/were working.

Name of the organisation: _____

Your organisation’s industry: Wind _____, /Solar _____

Your organisation industry sector: Private _____,
/Public _____

Location/ Geographic region: _____

Length of the project (in years) _____

Status of the project: Initial stage _____, Middle
stage _____, Final stage _____

Your position _____

Performance

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree5
1. This project team is achieving its full potential.					
2. This project team overall is doing a good job in terms of delivering results for the project.					
3. I have been given the opportunity and encouragement to do the best work I am capable of on this project.					

Temporal separation

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree5
1. All teams carry out innovative planning and developing project efficiency, although not at the same time (innovative planning defined as planning resulting in major strategic					

changes in the project direction).					
2. The project construction team is driven to carry out periods of innovation followed by periods of seeking project efficiency.					

SECTION: 6 :-PERFORMANCE CONTEXT

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. The managers on this project set challenging and aggressive goals.					
2. The managers on this project issue creative challenges rather than narrowly defining goals.					
3. The managers on this project encourage me to be more focused on doing the job well rather than personal gain.					
4. The managers on this project make a point of stretching people.					
5. The managers on this project hold people accountable for their performance.					

SOCIAL CLIMATE

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. Employees have confidence in other employees' intentions and behaviour					
2. Employees are skilled at collaborating with each other to diagnose and solve problems.					
3. Employees view themselves as partners in					

charting the direction of the organisation.					
4. Employees share information and learn from one another					
5. Employees are aware and committed to the purpose and collective aspirations of the organisation.					
6. Employees apply knowledge from one area of the organisation to solve problems and opportunities that arise in another					
7. Employees in the organisation share a commonality of purpose and collective aspirations with others at work.					
8. Employees in this organisation have relationships based on trust and reciprocal faith.					
9. Employees interact and exchange ideas with people from different areas of the organisation.					
10. Employees interact with customers, suppliers, partners, etc., to develop solutions					

Appendix 6: Measure for project team members

“Organisational Receptivity for Change and Performance in Indian Renewable Energy Sector”

(For Project Team Members)

(Included only those sections which are different the scale for top senior managers)

- 1) Name of the organisation: _____
- 2) How old are you? _____
- 3) Years of experience (in job): _____
- 4) Your education level: _____
- 5) Gender: Male _____/Female _____
- 6) Your Position: _____

SECTION 4: How does your company rate in terms of organisational context? Please answer the questions below-

Evaluate Social Support Context&Performance Management Context

Managers in my organisation	Not at all1	2	3	Neutral 4	5	6	Very great extent7
1.Devote considerable effort to developing subordinates							
2. push decisions down to the lowest appropriate level							
3. Have access to the information they need to make good decisions							
4.Quickly replicate best practices across organisational boundaries							
5.Treat failure in a good effort as a learning opportunity, not something to be ashamed of							
6. Are willing to take prudent risk							
7.Set challenging/aggressive goals							
8. Issues creative challenges to their people instead of narrowly defining tasks							
9. Make a point of stretching their people							
10.Use business goals and performance measures to run their business							
11. Hold people accountable for their performance							

12. Encourage and reward hard work through incentive compensation							
---	--	--	--	--	--	--	--

SECTION 5: How would you rate yourself in the context of change (happened/happening) in the organisation?

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1.I was afraid of the change					
2.I had a bad feeling about the change					
3.I was quite excited about the change*					
4.The change made me upset					
5.I was stressed by the change					
6.I looked for ways to prevent the change from taking place.					
7.I protested against the change					
8.I complained about the change to my colleagues					
9.I believed that the change would benefit the organisation*					
10.I believed that I could personally benefit from the change*					