THE HUMAN FACTOR IN DIGITAL TRANSFORMATION: AN EMPATHY-DRIVEN APPROACH TO CHANGE MANAGEMENT IN INDIA'S IT AND ITES ORGANIZATIONS

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ORGANIZATIONS

by

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Dedication

For my son, Devansh Bose – may you always be inspired to work hard, think innovatively and challenge yourself to bring out the best in you so that you can make the world a better place.

ABSTRACT

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The original empirical research on human factor in digital transformation change management in the India's ITES sector, investigated the role of human factors. The research aimed to understand how leadership empathy and specifically dimension of psychological safety influence the employees towards change-adoption behavior and change methods that help the IT organization transition from Industry 4.0 to Industry 5.0. Results showed strong positive correlations between change adoption and factors such as employee readiness, empathetic leadership and organizational support. Regression analysis indicates that leadership empathy significantly predicts change adoption. Thematic analysis found primary and secondary themes. Primary themes include - human decision making vs. automation decision making, change dynamics and process, leadership and organizational culture, value addition and continuous improvement, skill evolution and

technical knowledge. Secondary themes include - real time feedback and communication, diversity and inclusion, ethical considerations with empathy, iterative change, continuous training interventions. The research concluded that holistic approach integrates human-centric values with technological advancements is essential for change management to be successful and an empathetic leadership and a supportive, psychologically safe environment is crucial for enhancing employee readiness, reducing resistance to change, and driving Industry 4.0 to Industry 5.0 transformational journeys.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

In a moment when digital change is considered necessary for success in businesses, a key question arises: What happens to the individuals behind the technology? Though technology promises improved efficiency, it frequently neglects the nuanced human dynamics in the workplace. With each new tool or automated system, there is often an employee wondering: "Will this machine replace me?" This unvoiced concern, seldom spoken but widely experienced, reflects a common anxiety that comes with many technological developments. In workplaces undergoing digital changes, the introduction of new tools often incites fear, uncertainty, and resistance—emotions that can quietly disrupt even the best plans for change management.

The human-centered focus of Industry 5.0 is often seen as a response to the panic caused by Industry 4.0 technology, where fears arose that robots would replace jobs. As companies adopt more technology and automation, it's crucial to align these advancements with human values so that people see technology as an ally. The aim is to empower individuals, using technology to boost creativity, teamwork, and decision-making. Today's challenge is finding a balance, which is difficult because traditional management styles were made for past industrial models that focused on structural changes and efficiency, where the effects on people's psychological, emotional, and physical well-being were not key factors.

The rise of Industry 5.0 highlights the need for a human-focused strategy, yet the blend of Industry 4.0 and 5.0 within organizations, often running side by side, complicates matters. Industry 4.0 focuses on automation and efficiency, often overshadowing the human-centered ideas of Industry 5.0. This results in a divide in workplaces between the

drive for productivity and the principles of empathy, inclusion, and ethical practices (Xu et al. 2019; Adel, 2022). As work environments become more automated, organizations must recognize that technology alone will not keep people engaged, loyal, or creative. There is an urgent need for a change management model that includes human factors.

The human factor in the organization especially in production and operation management to explore the unique capabilities in the input dimension of stimulus part of SOR theory, and is at the centrality to capability building programs. As teams try to find out the new opportunities for skill building for the workforce, the emergence of human resource management in equipping the workforce, for embracing change management has emerged stronger, when compared to other management disciplines like finance or marketing (Meisel, 2024). Ever since the industrial revolution, technology has been an enabler for the humans, in bringing about both gradual and radical changes, helping organisations to transform towards the next level productivity, yield and capabilities. The competitiveness of the organization, therefore, depends upon understanding the existing workforce skills, competencies and advanced technologies can be a key enabler in developing capability (Mukherjee, 2023). However, this transformation of traditional business models into digital business model, requires the human factor to strategize and create a pathway and direction in embracing the change for the organization. The role of human factor which comprises of the competence knowledge attitude and behavior of any worker in the organization and their intention and contribution to improve productivity requires norms policies practices helping them to take advantage and achieve better performance dimension amidst the dynamism in the business environment (Zulaikha et al. 2023). The recent example of COVID-19 pandemic have shown how businesses, irrespective of whether large or small are susceptible to experience crisis, and the reason why shifting towards embracing digital tools, helped the organisations to be more resilient.

While advanced technological tools and processes, help in increase productivity, reduce cost and time, achieving faster 'go to market' strategy, adding value to the products and services, the role of the internal stakeholders needs to understand the centrality of customer focus, in the value chain (Chaturvedi, 2024). The business environment is susceptible to innumerable forces acting on it, and hence, this dynamism for the workforce is impossible to be contained, but amidst this constant and rapid changes building internalized capabilities, to deal with these variations and variability. The businesses are experiencing major market trend shifts economic shifts regulatory changes compliance pressures and the continuous change in customer preferences impacting the business operations. The entirety of the business operations and the dynamism in the environment requires the internal stakeholders to be agile and adaptable, in order to navigate the uncertainties of risks and continuously innovate to overcome the challenges. Snow (2023), argued that in most cases there is too little time to update their corporate or business strategies already in place and irrespective of the risk management done previously the workforce can only leverage new opportunities when they have access to advanced technologies as competitive edge. Technology especially ICT, has evolved over time in the context of manufacturing and services sectors where the manual effort that affected the employee fatigue with repetitive actions of hand or leg movement to be done away with instrumentalization of work process (Underwood & Powell, 2023).

Interestingly, the Industry 4.0 or the fourth industrial revolution, has been a part of the progress in business and the society, where fusion of multiple advanced +technologies help in creating a digitalized ecosystem, which increases the productivity connectivity multifold. There are technological 'push factors' and different 'pull factors' which contribute towards the evolution of Industry 4.0 paradigm towards the next level (Singh, 2025). Even though this change is gradually happening across countries the workplaces the

communication and interaction and human life organizations trying to embrace connectedness with automation require the human capital factor.

But the argument of creative thinking-innovation, which requires the human factor to contribute in designing algorithms, or shaping new processes and methodologies for organizational development needs a rethink from stakeholders. The contribution of human resource discipline and the organizational development, in achieving the digital maturity which is a transformational journey from Industry 4.0 to Industry 5.0, requires to develop the digital ICT competencies, adopt key performance indicators (KPIs) for the performance management, and most importantly the employee autonomy, openness in learning-adopting advanced technologies. So there are three human resource themes, which are key for embracing digital transformation at enterprise level where change in attitude in the work, while adopting digital skills and e-learning capabilities, is a significant dimension that helps to be agile, in knowledge application against the challenges (McCarthy et al. 2024). Lastly, the cooperation and collaboration between the internal stakeholders across organisational hierarchy, is necessary as the transformational change within the organization is time bound and requires a staged process, requiring employee contribution, at each level. It is evident that Industry 5.0 requires a human focused strategy, even though the challenges and complications of advanced technologies and it's blending in the workplace, needs structural changes in productions and operations, apart from the people in workforce showing emotional and psychological maturity, towards the change transitions (Liedtka, 2020). As per report from human factors international, the employees' inability to keep a compelling relationship with the external stakeholders, during the transformation process in their organization, has been the highest cause of failures. While there are many technical dimensions in this argument, as the intent, research, Omni channel, business strategy, business model, in re-designing requires key underpinning

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cause of the workforce, requiring variety of skill sets in order to bring about a change is often overlooked. Kowalski (2023), stated that the transformational journey for the organization to evolve into Industry 5.0 requires to decode and map the existing infrastructure capabilities product and processes and develop a blueprint for a matured sustained integrated customer experience during the digital transformation of the organization. Ensuring this is a key business differentiator, as even during the business transformation processes across stages, serving the customers is a key testimony of how advanced technologies can be leveraged, in offering seamless user experience engineering personalized for each customer in real time (Van Genderen et al. 2022).

The ITES sector (Information technology enabled services), has experienced significant growth maturity in his life cycle stages and is evolutionary is dependent upon the transformational journey that it embraces. The evolution of information technology sector into ITES first traced through the various forces working on it and it led to expansion and extension of the business models that contributed revenue generation for organisations. The year 2000 and advent of Internet affected the IT Industry, that have helped the organisations to move away from offering basic IT consulting services from programming, towards service oriented offerings like lower end tasks (data entry) and basic software development. Even though ITES or business process outsourcing (BPO) sector evolved over time towards maturity like KPO (knowledge processing outsourcing) firms, the focus in delivering client centric KPIs, however, showed emphasis on human factors (Emmett et al. 2021). The significant shift for the establishment of IT organizations and its product and service portfolios, evolving with customer support, technical support, back office operations, client servicing, have shown how the offshore outsourcing business model, was leveraged with information technology enabled with Internet leading to cost advantages. ITES sector aimed in harnessing low labour cost in the developing nations. Roshanaei et

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al. (2024), explained that the maturity stage of the ITES sector across the sector's lifecycle stages, has led this Industry transitioning towards high value knowledge intensive services. However, ITES sector too have shown the need for systems integration, business process management, business process re-engineering (BPR), business continuity program services aided by automation and application of advanced technologies. The Industry 5.0 is human centred and focused, that requires the automation and algorithms to strike the fine line of machine based decisions and human creative thinking impacting the business ethics. This is a challenge in order to strike a balance, as human capital centeredness in bringing about transition in the technology adoption requires the human decision process in order to program an algorithm the robots operating in the Industry across sectors (Bicen & Gudigantala, 2019). As organizations invest more technology intensification with higher level of complexities resolved through automation aligning with this developments the role of human capital and ethics in decision making becomes more pertinent. Even though the power of advanced technologies like- (AI) artificial intelligence, (IoT) Internet of things, (ML) machine learning, Bigdata, Cloud platform, Blockchain, deep learning, VR and AR are challenging the traditional business models. Therefore, the organisations which are aligning with these technological advancements, are increasingly required to understand the role in designing the algorithm of automation. In this process of the transformative journey and key to strike the right balance the business models undergoing changes at structural and process level leaves a deeper impact in terms of communication their interpersonal relationships skills and competencies (Gheerawo, 2018). The criticality of empathy driven approach to people management in the traditional human resource practices was evident, but when the organisations are embracing change management in a totally technology driven environment, the challenge is to include empathy during transitions clearly stands out. In order to build empathy, at 'people to people 'level, the

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'leader-member exchange theory' helps to understand how the supervisory mentoring and coaching, helped in a traditional business model creating a culture induced environment, to overcome the employee resistance to change (Zhao et al. 2024).

When organizations are aimed to embed multiple advanced technologies, for automated operations, where predictability forecasting risk analysis are performed by the advanced technologies, the scope of embedding empathy is limited. In order to build trust and focus on the ethical decisions for embedding advanced technologies, designing these algorithms taking over the production and operations need humans to show empathy neither to humans nor to machines but in practical impartial manner (Fuller & Kruchten, 2021). In the ITES sector, addressing the emotional and psychological needs of the employees during a staged and a gradual change process, has been the key to a successful outcomes in the past. The post COVID19 rush in businesses harnessing Industry 5.0, has seen the question of empathy driven approach for the clinical precision decision making capability, in designing Industry 5.0 algorithms, that automates the business environment (Zizic et al. 2022). This needs to consider the technology induced communication outcomes, with all the stakeholders to be positive in nature. Creating a successful pathway for the organization wide change initiatives, with empathy induced processes help the internal stakeholders to promote collaboration high level of creative thinking and innovation. It also helps the workforce in managing the legacy systems that requires migrating from an older technology and embracing advanced level technology convergence. This study intends to build upon my experiences and industry research. It proposes a model to address the shortcomings of traditional change management amid the current interplay of Industry 4.0 and Industry 5.0 especially with regards to the Indian context.

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1.2 Research Problem

Problem in the research topic centers on failing to understand how to incorporate empathy in the change management journey and strategies which can improve digital transformation initiatives in the sector. Despite the intense competition from the peers, the ITES organizations are increasingly adopting advanced technologies, and aiming to achieve digitalization of their production and operations processes. The transition from old technology to advanced technologies in the ITES sector has many complexities and challenges, that the third party technology services providers, with whom the integration of cross-platform technologies is being done needs real time convergence. Traditional change management process involved the 'people to people' factor, that led to elimination of concerns, anxiety issues, or behavioral resistance, or motivation or low morale, in accepting technological shifts in work methods and work processes. This research focuses on how ITES organizations are trying to adopt advanced technologies in their organization during Industry 4.0 to Industry 5.0 journey, and focus specifically on 'empathy driven approach' in the change management journey. Research tries to understand the degree to which the stakeholders of the organization, in its forms are emphasizing on the human factor, and its role choosing the change dimensions in embracing advanced technologies, even though most of the transformative changes are operated by algorithm centric Industry 5.0 interventions.

The traditional business model presented the opportunity for 'people to people' connections and elevating the negative dimensions in the workforce against that impending change within the enterprise. The IT is sector embracing Industry 5.0 undergoing the transition from Industry 4.0 therefore, face the challenge of technological intensification and tries to explore the human factor in the digital transformation journey, seeking to identify those best practices and strategies, which can help in organizational level success,

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innovation through empathy. The problem of human decision making, which was predominant in traditional business model, and post-implementation of advanced technologies for Industry 5.0, the automated decision making makes this research pertinent. The human factor and empathy within the organization undergoing digital transformation, requires to be evaluated. The challenges for top leadership, the middle management, frontline workforce, is to understand how empathy driven approach in ethical decision making choices, that aid in the ITES organization transition from Industry 4.0 to Industry 5.0, overcome those critical change management decisions.

1.3 Purpose of Research

The purpose of this current research is to critically analyse the human factor which plays a key role in the ITES organization transformational journey with particular emphasis in empathy driven approach to sustain the change stages to be effective. It is evident that organizations striving to become more efficient has increasingly shown its inclination in the corporate strategy, to adopt advanced technologies as a part of their initiatives. So the traditional brick and mortar business models shifting towards digitalized 'end to end' processes embed advanced technologies to converge and eliminate the human decision making processes, for achieving effeciency. This research therefore aims to address the empathy dimension which is critical for the workforce as they learn advanced technologies in implementing them to design algorithms, that the automated machine environment helps the ITES firms to operate seamlessly without human intervention. While in the past 'people to people' factor was important for eliminating the anxiety and allay the fears, the context of empathy in a digitalized environment, impacting the decision making at human level and machine level, creates a problem that this research intends to identify. The purpose of this research is, therefore, linking the human resource dimension amidst the

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information technology management both converging to a niche area, that the business organizations required to address in future. While people centric in interaction and communication are becoming digitalized in a work environment, the context of empathy or digital empathy needs to be relooked from employee engagement perspective organizational culture perspective and morale that are important contributors towards workforce readiness during the transformation stages.

The purpose is relevant as it helps the its organization across the sectors to understand creativity innovation and empathy dimension for the humans in the workforce who are embracing end to end digitalization transformation journey. It is evident that technological advancements within the organisations will be taking place over a period of time. It is also important that the effectiveness of this exercise is dependent upon how well the workforce adapts and embrace these changes. This study will explore the challenges and opportunities which are associated with the human side of digital transformation in its forms specially focusing on the need to showcase the human factor and empathy driven approach towards long term change management. This is critical as the emotional psychological and social factors for the employees in a digitalized work environment undergoing a change process and correlate in developing best practices and create a more positive inclusive mindset for the ITES sector workforce. It also requires to understand how the empathy dimension in relation to the workforce human factors is understood from the manager perspective, with actionable insight and recommendations, to ensure that the transformation journey towards Industry 5.0 helps to eliminate the fears. The research intends to explore those dimensions, during the stage transformation process and also bring about engagement, productivity and success in overcoming the challenges in the transformation journey.

1.4 Significance of the Study

The increasing reliance on advanced technologies and the rapid pace of competitiveness have forced the ITES organizations to embrace the digital transformation at enterprise level. Even though substantial research exists on multiple dimensions but the issue of human factor in the context of Indian ITES sector remains under explored from the transformational journey perspective as human decision making is a significant contributor, towards adopting advanced technology automation, within an enterprise. Therefore, developing an understanding, as to how the workforce perceive and adapt the empathy driven approaches which is critical for successful change implementation stages cannot be ignored as human element facing Industry 5.0 automation is likely to resist the change, and show decrease in interest and productivity output, leading to the entire exercise of transformation initiatives. The research is important in this perspective, as it seeks to bridge the gap which exists in human decision making and automated decision making, by emphasizing on the former with empathy with approach which might not hold true for a digitalized work environment in future. The research includes exploring the factors of the employee suffering from fear of job displacement, in advanced technology training, mental - physical well-being, with lack of face to face communication during the change management process failing to address the transformation challenges to your welcome successfully.

The issue is important now as Indian ITES sector is undergoing stiff competition from multiple countries around the world. Once the global hub of ITES, during the period of 2000 to 2010, offering solutions across Industry, the Indian ITES organizations vying for competitiveness, is embracing a mix of techno-human work environment leading the future of Industry 4.0 transformation towards Industry 5.0. The research is timely, as it is a watershed moment for the ITES sector that is embracing advanced technologies at faster

pace and is more critical than ever to understand how empathy in the human factor plays an important role, as organizations are adapting Industry 5.0 initiatives in bringing about a transformational change within. It pertains to business ethics, as machine based decision making and human decision making, will be evaluated from security perspective of technology, and the creativity-innovation of human creative thinking is likely to challenge each other in finding solutions for the business. However, the aspect of the workforce ignoring the empathy driven human factor, during that transformation challenges, needs to be overcome and prioritized, that this research intends to explore.

1.5 Research Purpose and Questions

This research looks at how a change management framework based on empathy can fix problems with current models in handling quick tech changes, especially in an age of rapid technology and digital transformations where Industry 4.0 and Industry 5.0 coexist. The purpose of this study is to: (1) To identify and measure key human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence change adoption; (2) To examine the relationship between human factors and change adoption to determine their collective impact on successful transitions; (3) To identify the most important human factors that influence change adoption; (4) To provide practical recommendations for organizations to improve change management strategies based on empirical findings.

The research questions that will guide the research are as follows: (1) What are the human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence, change adoption from Industry 4.0 to Industry 5.0? (2) What the relationship between human factors and change adoption to determine their collective impact on successful transitions.in ITES

change management systems? (3) What are measures of key human factors that influence change adoption applicable for ITES undergoing change from Industry 4.0 to Industry 5.0? (4) What are practical recommendations for organizations to improve change management strategies based on empirical findings.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Theoretical Framework

2.1.1 Empathy in Leadership

Empathy in relations leads the entire project team to be held together as the leadership style helps the entire process to understand comprehensive problem shared between the team members and show consideration, towards each team member feelings perspectives of the situation before taking a decision. Leadership of this is inclusive in nature, where leaders representing management role are engaged in perspective taking (Clark et al. 2019). Jian (2022), stated that impacting leadership or in a supervisory role goes beyond the mentoring and coaching and helps to 'build stronger relationships' that is linked to the leader member exchange theory. It enhances the communication flow as empathic leaders help the team members to express their own thoughts and they listen to everybody that encourages free flowing two-way communication and resolving all the problems at hand, irrespective of tactical and strategic issues building resilience (Elche et al. 2020).

Thirdly, Grigoropoulos (2020), stated that it boosts the employee model and productivity levels as employees or team members feel that the leaders care about the going beyond the task level contribution and engagement that is more compassionate with ethos. This leads to overall productivity as higher the bond between the leader and the employee higher is the level of output and productivity due to the well-being at work, that significantly makes the employed to feel valued and positive welcoming the task challenges linking organisational culture (Arghode et al. 2022). This encourages innovation levels to reach higher level, as creative thinking and leadership supporting the entire team, to express their creative ideas freely irrespective of being judged for their

creative idea inputs. Improved decision making for the team or department under an empathetic leadership, which emanates from the feedback loop in the process of leadership empathy (Simon et al. 2022). Kock et al. (2019), argued how the emotional support in leadership empathy apart from the task target has helped the employees to improve the follower performance in a team. It is evident that the psychological connect of the employee being considered and to be fit to be in leadership consideration, getting help and guidance, which Yue et al. (2023), found to emphasize and consideration for emotional reactions-feelings is leading them to commitment to goals, and lesser turnover intention during COVID19. Baesu (2019), stated that leadership in modern organisations are showing more empathy for their teams, relating the efficiency in work, harmonising relationships which is a capacity to build empathy driven emotional intelligence.

2.1.2 Employee Readiness

Katsaros et al. (2020), stated that as organisations required to change due to different business situations the human resource tries to adapt the external and the internal forces through policies frameworks and methods which impact the 'employee readiness' dimension. Kirrane et al. (2016), outlined how the human resource teams showed access control, where leadership has helped to inculcate readiness to change. It is evident that leadership is responsible for organisational profits, need employees to foster environmental foster to facilitate the relationship quotient to positively influence readiness to change. Gfrerer et al. (2021), argued uncertainty and ambiguity in the business environment is not a passive one, and there requires an active participation dimensions, with mental, physical and psychological involvement. Citing earlier studies of Holt, Purwanto (2021), stated that employee readiness depends on a multi-dimensional construct, where the degree of change and change efficacy the manager support the change dimension appropriateness and the

employee perceiving it as a benefit contribute significantly to readiness dimension. Rahi et al. (2022), explained that leadership and employee relationship dwells on information exchange and participation that impacts the involvement in the change effort. Rafferty & Minbashian (2019), argue that the employee believing in themselves about their own capability with the skill set and competencies combined with the ability to solve problems in their given task area, leading to the effort culminating into achievement defines the process of employee readiness. In this context, Alolabi et al. (2021), stated that role of the leadership and employee readiness has been typically synthesised, in the form of autocratic, democratic and laissez-faire styles of leadership.

2.1.3 Organizational Support

Organizational supports indicates the leadership and employee jointly offering assistance in the environment helping the production process by performing the tasks on time with quality and achieve the targets (Mansaray, 2019). This differs from the individual support by the leader or the supervisor and the concept encompasses a wider dimension of how different internal stakeholders contribute significantly towards the overall employee well-being (physical, mental), their capability in achieving the productivity, and the satisfaction at job. The key dimensions of organizational support includes the training and development, which is a part of the human resource management, with creation of employee opportunities for skill-development starting from induction training, product training, process training, systems training for Industry 4.0 (Cimini et al. 2020). The second dimension is the psychological or emotional support in the interaction perspective in work environment where the employee within the team or groups feel valued and understood (Carvalho et al. 2019). This comprises of clearing the differences and aiding the employee about the issues or concerns in relation to task salary challenges and also recognising their

achievements in the world workplace, thereby, clearing a sense of belongingness. The third dimension is related to health and wellbeing, apart from the structural benefits of insurance, pay medical benefits that help the employees and their extended families, which contribute to overall perceived safe work environment (Els & Meyer, 2025). The organizational support from management perspective relates to compensation that is fair and is competitive with respect to the skill sets and the labour supply in the market. It also deals with how the human resource policies design the bonus and fringe benefits, as a part of the overall package which reflects how the organization view the employee contribution and their effort, to the given job description. Masood & Egger (2019), stated that human resource ethics relates, to how open Industry 4.0 uses AR to change, moving towards accepting feedback from each employee. Wójcik-Karpacz & Karpacz (2020), stated that this helps not only in providing feedback per se, but also a mechanism to constructively create and improve employee relationship against aggregate task, and the wages paid to them. Secondly, the recognition of employee for their effort and hard work, for the tenure and the achievement of goals, amidst complex challenges also requires to be celebrated socially, bringing more transparency in the organizational support to employees.

2.1.4 Communication Effectiveness

Communication exists at 'one to one' and 'one to many' level between the employees and their team members employees and their supervisors that forms a key to successful all organisations (Li et al. 2021). Depending upon the type of organization the communication modalities have expanded from physical face to face interactions to virtual communication across multiple branch offices for the same organization (Lewis, 2019). Information technology based communication has enhanced productivity where technological characteristics have contributes significantly in bridging relationships that

are geographically distant (Putro, 2023). However, the opening of communication helps to create a positive work environment involving all the internal stakeholders across organizational hierarchy. The characteristics of communication in a team setting or between the employer and employee, requires to show emphasis on clarity and conciseness in making the task context, to be to the point avoiding complex language, that might confuse the message intent and increase the noise factor (Errida & Lotfi, 2021).

Active listening for all the employee and the employers in context to an internal meeting hot getting training requires attention and quicker comprehension of the message content thereby helping to become more ready to respond appropriately by recalling what was said (Wang et al. 2020). Oreg & Berson (2019), argued that communication and linking human resource policy also requires the issues to be discussed with power consistency about leadership and freedom to air their views. The open door policy, in this perspective, is the level of comfortable feeling that the employee feels while approaching their leadership supervisors managers with specific concern ideas or issues at work or feedback that enriches the organizational culture of openness and trust. Dimensions of verbal and nonverbal communication constitutes, the enter gamut official work and hence, internal stakeholders awareness about understanding or developing understanding, helps in conveying the right message between two parties; employer and employee; that may involve eye contact, facial expression or body language (Men & Yue, 2019).

Transparency is related to organizational goals changes and expectations and it is bound to happen and have an adverse impact on the implied perception (Yue et al. 2019). In this context the distance relationships across offices, between the employee-employer, it requires to be reduced through transparency of communicating the message on right time to make the employees feel informed and valued (Albu & Flyverbom, 2019). This can also link with the human resource operations and productions, where employees are able to

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access regular updates about the organizational change process and lead or initiate open discussions around it. The dimension of communication also relates to a broader sense that cultural aspect where written rules and unwritten rules of behaviour practice within the organization, and bring about a positive change in cultural sensitivity. Felzmann et al. (2020), stated that from human resource teams perspective, the dimension of open communication and its effectiveness helps to promote inclusivity and diversity in the workforce and prevent the misunderstandings between IT employees using AI at work, that lead to role conflicts. Communication is a key dimension in the context of organizational change process, as it not only creates the employees to be embracing their role of readiness towards change, but it helps to improve the planned change dimension processes, significantly acting as agile mediator variable.

2.1.5 Psychological Safety

The concept of psychological safety at organizational context originated from the industrial work environment and later on percolated in the service escape as well (Edmondson & Bransby, 2023). The belief of the individual worker who perceives that, they will not be able to raise their concerns, mistakes or freely speak about ideas in the context of the norms of the human resource policies. O'Donovan & McAuliffe (2020), referred that at conscious level, the leaders in the organization required to attend to the employee efforts that help in creating an environment where the employee are more comfortable taking interpersonal risks. However, in this context as mistakes performed by the employees are self-learning opportunities, rather than they're being treated by the organization as a ground for punishment (Clark, 2020).

The supervisors and operations managers making it an inclusive environment for all the employees, across organizational hierarchy, an environment of diverse perspective, all employees to be included in the consideration set and making the employees to be encouraged and appreciated (Javed et al. 2019). Fostering psychological safety requires the leadership to promote active encouragement to all employees by opening the communication dimension and also offer feedback continuously (Xu et al. 2019). The practice of active listening and showing empathy by the leadership helps to build a sense of trust that is transference in the relationship and keeping it consistent would help both employers and employee to recognise the contributions of this dimension (Zeng et al. 2020). For the individual employee there has to be human resource rules and norms and policies that promotes human resources ethics for 'inclusion safety' of the group, and be accepted as they are. The 'learner safety' requires Kim et al. (2020), argued that employee need to ask questions seek feedback make mistakes without being judged or reprimanded for whatever they have done unknowingly in the organization. Maximo et al. (2019), referred that 'Contributor safety' is dimensions, which relates to their contribution of creative ideas and avoid the fear of rejection creating employability in the workplace. Also, the dimension of 'challenger safety' where the employee request to challenge the dissenting opinions of the colleagues, supervisors and work without fear of the negative impact and consequences.

2.1.6 Resistance to Change

Every work process offers the task challenge and hence for the employees engaging diverse tasks and job descriptions resistance to the work is the common form of behavioural expression (Rachmad, 2022). The distance to change however is a dimension that deviates from the normal work process which is a challenge for the individuals in many

organizations (Errida & Lotfi, 2021). Employees who are unwilling or show hesitancy in their behaviour in adopting new work method, new processes, or adopting advanced technologies, show resistance to change (Darmawan & Azizah, 2020). Resistance to change happens due to fear of unbound as most of the time the individual do not know what lies ahead that makes them to be threatened. The comfort zone is the familiarity level with which the individual starts venturing into the unknown is the next stage. There's a loss of control for the individual as they enter the environment or situation from moving from the familiarity zone to the unknown territory. The past experience of the individual also impact their actions in terms of embracing, the future bringing in fresh perspectives and leading them to the growth stage (Murrar & Brauer, 2019).
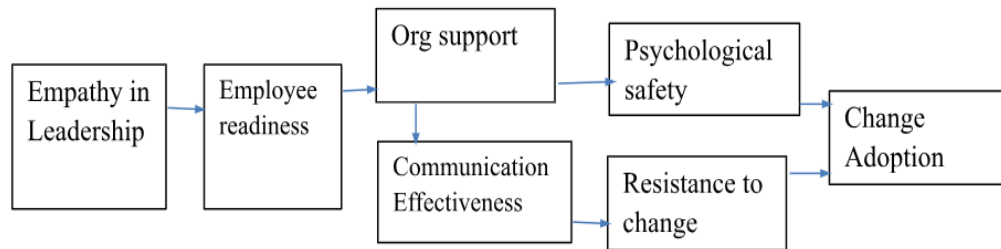
Figure 1: Factoring in the Human Factor

2.2 Theories Related to Research Phenomenon

2.2.1 Lewin's Change Model

The Lewin's change model proposed in 1940 is a classic framework that helps the individuals to understand how to manage change at enterprise level. Burnes (2007), explained that it comprises of three stage process unfreeze change and refreeze. The first stage 'unfreeze' is a stage in this model that helps the organization to be prepared for the entire changes that is likely to happen thereby creating a sense of urgency within the internal stakeholders and external stakeholders (Memon, 2021). In this phase highlighting

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the need for changes communicated to all the stakeholders, and the existing status quo of the challenges are being discussed and broken down, in terms of their behavioural attitude towards change and also inducing the motivation intent that the change is about to happen. Harrison et al. (2021), explained that 'Change' is the second stage where the actual process of change is implemented within the organization from the existing state to the envision desired future state. This stage comprises of effective communication, training and all the business support methodologies, which is essential for the internal and external stakeholders to adapt and embrace the change process. Tang & Tang (2019), highlighted that the third stage is 'refreeze', in which stabilising and embedding the new change process into the organizational culture is established where new behaviours work practices routines are adopted for this change to sustain overtime. Galli (2019), stated that it relates to policies, procedures, rewards that help the change to override the existing processes. The criticism for the Lewin's change model is related to the dimension of lack of detail as to how each stage applies for a specific guidance well it also does not refer to the employee resistance or communication and the critical aspects of crossover of integration from old change to new change (Maes & Van Hootegem, 2019).The model is too oversimplified and simplistic in terms of understanding and application the complexities and stages of organizational change making it more linear and sequential process while in complex projects changes more iterative and dynamic. This model is not considering the economic conditions external factors the speed of change and Industry trend or competition that impacts this model severely. The refreezing in this change model is a one-time event even though the organization may require refreezing at multiple times for the internal and external stakeholders to adopt and embrace a continuous change process.

Lewin Change Management Model
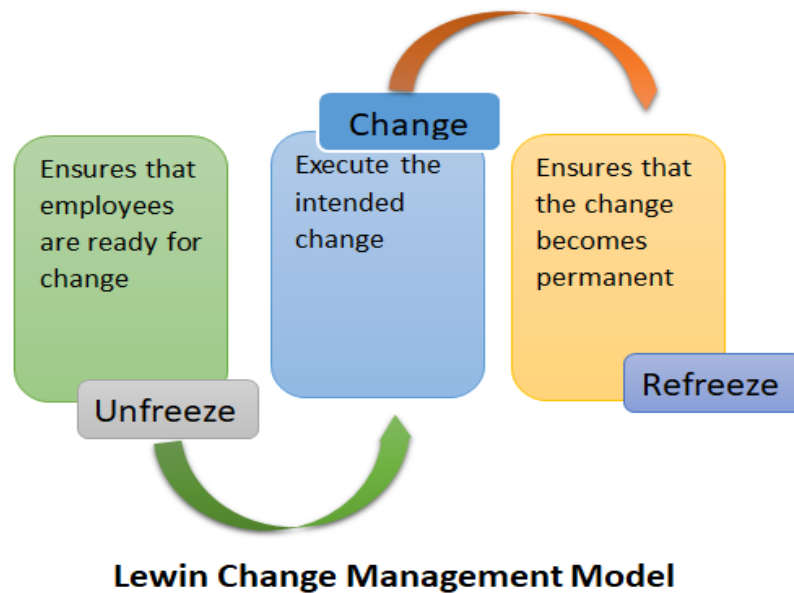
Figure 2: Lewin's Change Management Model

2.2.2 ADKAR Change Management Model

The expansion of ADKAR acronym relates to awareness desired knowledge ability reinforcement that an important change management which help people and organisations to overcome transitional challenges (Tang & Tang, 2019). The ADKAR model is more process centric as it considers the systems, workflow and behaviour at individual level, and also for team or departmental level, contributing towards the change approach for transforming organizational success (Paramitha et al. 2020).

In 'awareness' stage, the framework requires the stakeholders to ensure that every internal and external stakeholder, associated directly or indirectly with the organization, is aware about the issues that is requiring the urgent change to come in. Mudjisusatyo et al. (2024), explained that the second step is 'desire' as all the stakeholders need to understand the benefits of change and its consequences for them which is creating internal level of

motivation and a behavioural commitment acknowledged that the change is necessary. The third stage is 'knowledge' which includes the existing product processes methods which are part of the organizational operations process to be mapped. The next stage is the 'ability' of the stakeholders to focus and each individual is a process owner, who believes in the skill-gap existing and it limits of change outcome (Sulistiyani et al. 2020). Lastly, the 'reinforcement' stage in this model request to relook the changes that has happened over time integrating new work practices norms policies in daily routines and from every stakeholder to create congruence in there thought process about the new change adopted win the organization (Leung et al. 2021).

ADKAR framework has been embraced by many sectors across industries these step by step approach is more precise and it mixes the behavioural and the methodological dimensions for the internal stakeholders. However the adaptability of the ADKAR model to manage complex change in large enterprise related activities. The reinforcement stage in the ADKAR model helps the change to sustain and improve over a period of time provided the internal stakeholders are using it to embrace the new methods of work process and not going back to the older methods of work methodology. It is also true that the ADKAR model assumes that individuals are self-driven change drivers though the organization comprised of diverse team members with individual differences creating specific barriers towards the change implementation process. On the positive side, it does show its usefulness, both for start-ups or large enterprises making it a practical business application tool provided the knowledge of employees want to change model and their work methods is in place.
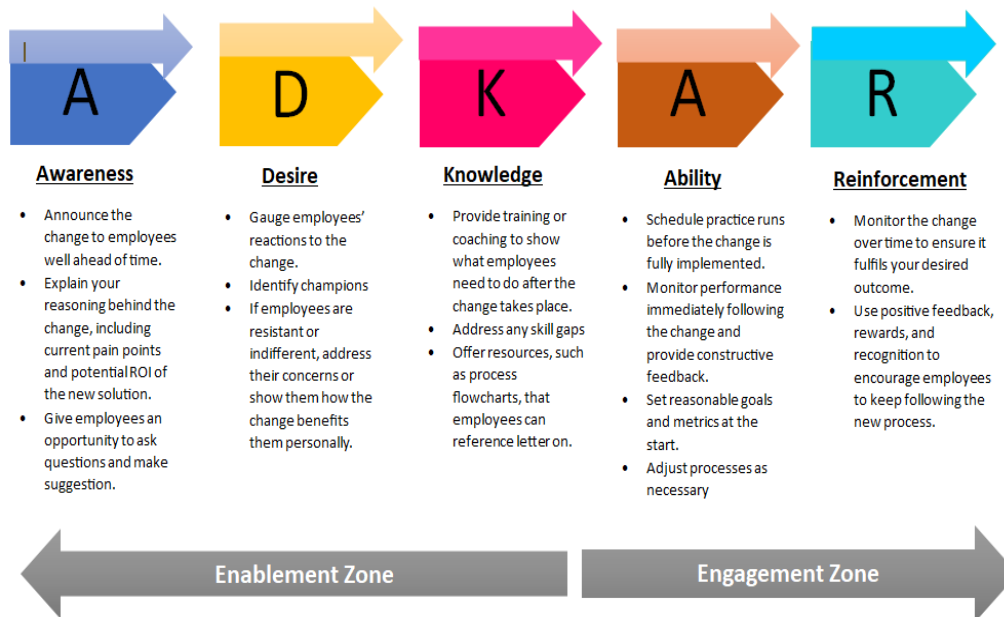
Figure 3: ADKAR Model

2.2.3 Kotter's 8 Step Change Model

The eight step change model proposed by quarter is a comprehensive framework as it is designed for organisations which are seeking change initiatives in an elaborate manner. The first stage comprises of creating essence of urgency where the internal and external stakeholders understands the need for change and thereby, creating a sense of urgency within themselves planning to contribute time effort money and asking the people to act.

Secondly, it requires to form a powerful coalition with the senior and the middle management team to support the change vision and then drive it forward by rolling it for the rest of the employees (Brock et al. 2019). Thirdly, this stage creates a vision for change with all the stakeholders agreeing to the change pathway process and the strategies to be followed in each change stage. Graves et al. (2023), stated that the fourth stage comprises of communicating the vision of change to all the stakeholders and gain their support and consequently the engagement with continuous communication during the change stages.

The fifth stage comprises of removing obstacles with rebuttals that comes from any organization process method individual or department that hinders the change process to be successful. The sixth stage is about creating short term wins in celebrating the success and the momentum and reinforcing the commitment to change (Mouazen et al. 2024). The seventh stage is building on the change process that has already been initiated and working on the short term wins from each change toll-gates and making subsequent improvements on that. The last and 8th stage of the quarters eight step change model is anchoring changes in the corporate culture where the new methods of working work process norms policies overrides the older work practices and sustain it in long term (McLaren et al. 2023).

This model is structured approach to a change perspective but it is linear in nature. Albulescu & Bibu (2019), highlighted in an IT large enterprise and found that the complexities are higher and the resources are unlimited with multiple business processes, departments, management disciplines, making the change to deviate from the structures approach and to be more dynamic and iterative in nature. Therefore, it may not suit all types of organisations (large, medium, small), type (manufacturing and services) and sectors, as it might be more limited and not suitable for a customized approach for global change delivery system for multinational corporations.
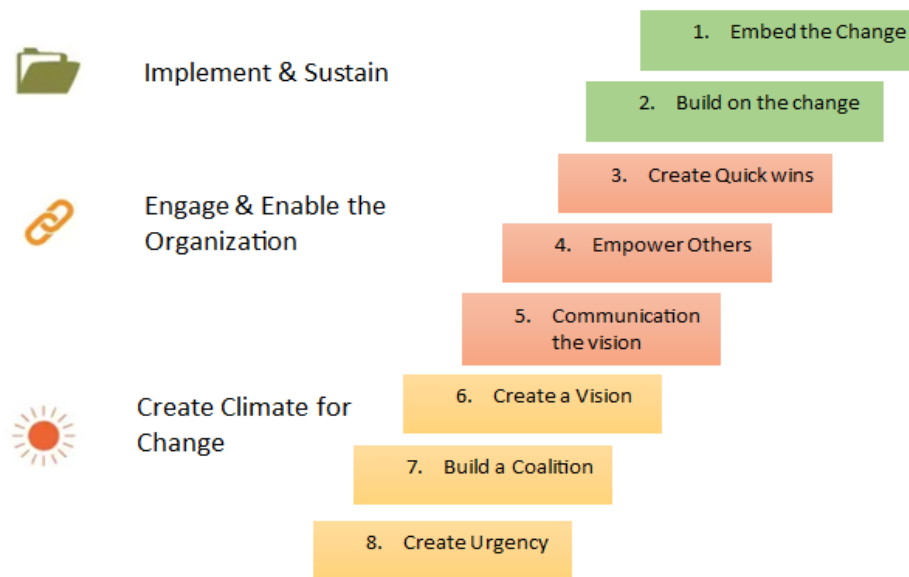
Figure 4: Kotters 8 Step Change Model

2.2.4 Nudge Theory

The nudge theory is a phenomenon in Behavioural economics that relates to the individual choices which are influenced by slight changes the manner in which options are presented (Thaler & Sunstein, 2008). This theory postulates that it does not restrict the freedom of the individual choice or rather not alter the economic incentives that are attached to it and these subtle changes are called nudges (Ewert, 2020). The nudges work in a manner it helps the individuals by leveraging how people make decisions (Graf, 2019). Examples of nudge include the desired option for the individual or the organization to make a default choice which is automatically on-boarding the employees for a retirement savings plan. Nudges can also be expressed in a social norm where people are formed in a group with their own set of preferences and demographic characteristics have been asked to

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recycle their waste the area where they are operating. Nudges can also be framing in the manner in which it is presented that helps the positive aspects of a choice highlighting the benefits of the activity for the given group of people.

The criticisms of the nudge theory relates to the level of manipulation that the critics argue which significantly impacts the individual self-determination and autonomy. It is evident that individuals are free to think and act any new organizational environment they're also likely to make their own choices based on their beliefs thought process and opinion even though the choices that are made are not in their best interest (Mills, 2022). Limited effectiveness in the next theory states that nudge depends on varies from context and individual. Additionally, there are ethical concerns about the use of nudge theory in the organizational context, when the population are vulnerable and it is not in the best interest of the people and influencing their behaviour. Nudge theory is used for aligning the individual employee behaviour with the company's purpose mission, vision and its application in the change transformational stages emphasizes how a 'soft HRM (human resource management) approach' instead of a 'hard HRM (human resource management) policy' is required (Mejía, 2021). It is evident that employees are likely to resist the change at any level bringing about their own perspectives fears anxiety in the context of new work methods policies and outcomes. Applying 'Nudge theory', in business practice, therefore, nudge help the individual employees to understand their choice, and how they are guided to make an optimal decision in accepting the change as a phenomenon. Nudge is also non-intrusive in nature as the behavioural changes at individual level is presented through a set of choices, even though the individuals tend to take decisions based on their mental resistance dimensions.

McKinsey states that nudges are related to the choice architecture, as any organization may require the employees to attend or choose certain choices as a part of the organizational process. However, there are small differences in this architecture that can significantly contribute formation of large differences in the aggregate individuals at societal level. The participation even though voluntary requires the people to opt in any of the segment, that the nudge architecture prompts in order to understand the individual choice set (Mckinsey Much anew about 'nudging' 2021). Nudges are used to understand how the employees respond to a change, within the organization and expresses their standpoint instead of letting the issue to be confused or delayed as a decision which requires time commitment.

In the context of above research, it is evident that the nudge request to be transparent and not covered or hidden in the context of any policy or change at enterprise level and request to be consistent with human values. There's also the dimension of technology centric nudge (Industry 4.0 to Industry 5.0), within the organization that relates to people working to opt for disclosure agreements, or show their allegiance as an employee, to easily access the machine readable information and respond to their own choices, or usage patterns within organisation. Even though the economics is tied to the behavioural dimensions, and economics related to nudge, many organisations are willing to experiment when they are trying to make a change.

Figure 5: Nudge Theory

2.2.5 Stakeholder Theory

The stakeholder theory emphasise the importance of meeting the needs of the stakeholders associated with the organizational purpose and decision making process (Mahajan et al. 2023). Stakeholder theory from organizational production perspective and project management is important as every stakeholder within the organization and external stakeholder associated with the organization business contract is important in their contribution towards the relationship (Freeman et al. 2018). Stakeholder theory is also a valuable framework that helps in understanding and the concern in relation to their

expectations from the organizational processes and their role as a stakeholder in relation to their association with organization (Barney & Harrison, 2020).

The change perspective of stakeholder theory relates to the internals stakeholders like leaders managers frontline employees while the broader community of media, regulator, compliance, investors, are also critical to be considered (Wood et al. 2021). Along with that the suppliers, vendors of different services and products that contribute to the organization's production and operation are also vital. The concept of change management and its purpose request to be communicated clearly too all the stakeholders clearly laying down the benefits, and how do stakeholders role will ensured post-change stages. Freeman (2018), stated that the stakeholder analysis comprises of identifying the relevant stakeholders and grading them in accordance with their importance time decision making an association with the relevant business area. This is called the level of interest and influence they have for any production process or for the organization as a whole that and hence prioritising the stakeholders and setting communication standards stakeholder engagement strategies is important in this phase. Providing the stakeholders with the change management plan and agreeing to discuss their viewpoints, increases the trust and reduces the resistance to change from the stakeholder perspective. Danso et al. (2020), argued that the degree of engagement the stakeholders can influence in the change management decision making process, helping the corresponding project outcomes, to be more fluid as feedback during the change journey helps collaboration and coordination within the stakeholders to make the change initiative successful. The stakeholder theory however, requires to ensure that the change initiatives challenges, faced by the stakeholders and the contribution of the stakeholder adhere to the ethical standards beholding the stakeholder rights and their business contracts.

Criticism about feedback and concerns being raised leading to conflict situation need the organization and its supplier vendor equation to balance and stand in the relationship from change management perspective in agreeing and negotiating the viewpoints resource utilization to promote real time collaboration using information technology.

2.2.5 Systems Theory

Systems theory in information technology discipline is a holistic method an integrative approach that helps the stakeholders to integrate different components within a system (Cabrera & Cabrera, 2023). In the context of IT change management, the system theory offers a valuable framework in understanding the complex interactions that interplay between the stakeholders' processes, management disciplines, people, technology, and organizational structure (Sony & Naik, 2020). The first step in applying systems theory in it domain is to identify and define the boundaries of the information system which involves understanding the existing system and the feasibility and scope of including a new IT system (Laszlo, 2021). This requires a thorough analysis of software requirements hardware requirements the data structure and its flow the processes, internal and external stakeholder in relation to the organization. The business process mapping of the entire system its core processes technical processes in the broader business environment help to identify the elements the key players how they interact and they influence each other. Understanding and setting the threshold and key performance indicators (KPIs), need employee-employer confidence in access to strategizing, training on methods and processes, adhering to metrics and freedom to report or improve task area challenges in shortest possible time.

2.3 Change Management

Change management is related to the continuous process of change that alters the organization's direction working process structure business capabilities, in order to serve the dynamic needs of external environment and its customers (Cameron & Green, 2019). Errida & Lotfi (2021), explained that organizational change is a part of the organizational strategy and hence it requires the leadership and managerial skill to envision and execute for the survival of the organization. Hayes (2022), argued that the road map for change requires a knowledgeable workforce which aids in understanding the trends social indicators business forces and technological innovation, Rachmad (2022), highlighted that coping with complexities during change, which leads to resistance behaviour in employees. The 'pace of change' requires the agreement between the internal and external stakeholders, their 'change readiness' in relation to their perception about the business environment and build a consensus that helps them jointly to approach the challenges (Weiner, 2020). Yue, et al. (2019), argued that change is typically characterised by the occurrence factor and also the manner in which it impacts organization and lastly the scale. Many tools and methodologies are available today, for both service and manufacturing business models across sectors, which pertains to total quality management guidelines along with ISO and business process reengineering in order to take a guided approach which has been adopted across wide range of business enterprises throughout the world (Rachmad, 2022).

2.3.1 Change by Rate of Occurrence

Change has been characterised by incremental change and discontinuous change has not all the times organization required to adopted change (Lewis, 2019). Continuous change in dynamic organizations while there are 'continuous incremental change'

processes that are largely found in projects (Tabrizi et al. 2019). There is also 'smooth incremental change' which are staged along with bumpy incremental change processes. Deszca, et al. (2024), stated that the diverse approaches to change methods is applicable for differential requirements in organizations and people who continuously, require to monitor and respond towards the factors in the environment causing change. Wyer (2019), argued that change within the organization can also be rare occurrence due to a unique force that has not existed before while internal change like departmental change and organization wide change shows the internal restructuring methods (Rachmad, 2022).

2.3.2 Change by 'How it Comes About'

Change can be characterised by the manner in which it impacts or approaches the organization and academic literature has defined it as an emergent change or a planned change (Anderson, 2019). The planned approach to change helps in individual, group level, intergroup level, relationships to understand the complexities and the set the pace of change (Kotter, 2015). This helps the process of change to be attempted and explained for individual and organizational perspective that emphasizes how every stakeholder request to understand and go through the envision stages in order to avoid unsatisfactory state of missing out desired state. The planned approach is able to make incremental changes that are small in nature but it's not applicable for situations that required fast agile transformational change. Secondly, the planned approach to change assumes that it is a constant condition and every change stage is going to happen in a pre-planned manner with no acceleration deceleration (Hanelt et al. 2021). The approach to plan change ignores the situation which is related to the situational crisis where a mix of change typology is required like major changes or rapid changes which does not work for planned change.

Rachmad (2022), stated that the emergent change is a process where the change emphasises on the linear sequence of events in a given period of time that is continuous and impacting the surrounding circumstances and conditions. There are multitude of variables that acts on the organization in the context of emerging approach to change especially when the stakeholders have no control over the changing precursor neither have organizational practices to cope with the change process. Appio et al. (2021), explained that this approach requires more in depth and dynamic approach do you understand the nature of change at any given point of time and interpret it using process based information against contextual environment forces.

2.3.2 Change by Scale

The change when it is characterised by scale relates to four different dimensions such as incremental adjustment, modular transformation, corporate transformation and fine tuning. Incremental adjustment is related to the distinct modification that are embedded in the management processes and in the strategies of organization (Armstrong & Taylor, 2023). Modular transformation is one or several departments in the organization where the change is identified and carried out with part alterations against whole of the organisation (Harmon, 2019). The corporate or enterprise wide changes involve radical alterations of the business strategy, that requires to align the mission, core values, to be redesigned and the work processes methods interaction patterns to change as per envisioned goals (Baiyere et al. 2020). The fine tuning is elemental in nature at the organizational context and uses mechanism, tools, methodologies like project management as to how to make it efficient and effective in terms of time speed quality in any any existing procedure or policy (Kerzner, 2025).

The above discussion in the literature review, shows the entire dimension of change dynamics by length and breadth changes the process changes a framework which have diverse applications in relation to the organization. It relates to how different frameworks and approaches to change management have evolved over time and have found its application in business environment leading to the organization change process to be more evidence based, circumstantial and contemporary in its characteristics.

2.4 Change and IT

The advent of technology in the industrialisation have stimulated the organizational change process to be controlled, managed and also deal with the uncertainties, associated with the change. Tallon et al. (2019), argued that the IT enabled change is different ever since technology cost performance dynamics have been embedded in the work, it has created requirement for additional skills competencies control methods in order to create the change management to be more informed within all the stakeholders in IT based organizations. Hopwood (2019), author argued that the change dimension it reaches across the management functions, accounting and the organization as a whole. The change process in the IT organization requires to be managed within the functional entity even though the IT based communication and coordination are cheaper in nature but the algorithm of integration across large IT projects is more complex. Wessel et al. (2021), however, argued that the level of change initiated by electronic integration leads to series of functional integration, technological integration, management integration, that impacts the business scope and purpose. In any IT based change process, the change effort, is what the leadership both top and middle management, must mobilize in order to set organizational boundaries, for each department (Hanelt et al. 2021). The process centric approach to address organizational spectrum off it based change also requires to consider the supplier

vendor the traditional IT legacy system and the end user customers who must embrace the change process irrespective of their association culture communication patterns and reward system.

2.4.1 Knowledge and Power shift

IT based change management requires knowledge and power shift as information travels through people and databases and hence the people who are controlling this system and converting the raw data into substantial knowledge that is a value is essential for the change management outputs (Kuraś, 2021). The dimension of IT based access control to information and the stakeholders associated with it, requires to be mapped, as to how power and knowledge in holding the information in relation to change can cause resistance or free flowing knowledge that support transformations (Krasova, 2021).

2.4.2 Process Cycle Speed Up

The transition process enabled by information technology especially in the manufacturing or services sector creates organizational tension (Attaran, 2020). Every production process have their speed and hence in order to bring about the change processes understanding the stages re-designing and re-engineering efforts requires to be aligned the physical process and the IT process to be in synchronization. Changes in the business management methods also impacts the technology the databases and the organizational roles creating a cascading effect (Harmon, 2019). This critical impacts the order to delivery cycle for a business management function meeting the customer requirements and also the IT project team having to redo the cycle and release the forces causing the tensions in the process cycle (Sandberg et al. 2020).

2.4.3 Change in Work Methods

IT based change requires the physical production system and the envisioned mental production system to be mapped into a new blueprint of design (Yang et al. 2022). The application of information technology in the physical manufacturing process or services environment have brought in data-centric dimensions and technological challenges, that required negotiation from each stakeholder to approve the change framework (Frank et al. 2019). It also required the change management team to carry out the change stages being a third party and not considering the leadership or employee perspectives or the decision making choices in order to bring about the change (Vrontis et al. 2023). Lastly, information technology project management have inherent models and frameworks about systematic process of change that are mutually adaptable in terms of technology implementation aligning the business processes and organization structure.

2.4.4 Systems Approach to a Process Change in IT

The systematic process serves two purposes- 1st is to provide a road map overtime resource in a detailed manner at elemental level task identified for each individual. Secondly to provide a common frame of reference or vocabulary in managing change and discussion the issues. You know it enabled change environment the time based models are used with a project management approach defining by start date and end date that requires the production and systems development to adhere to a quality improvement dimension. Sony & Naik (2020), highlighted the socio-technical systems theory of Industry 4.0, a critical as every IT project requires to realise the cost of resource deployment and project overrun cost irrespective of the risk assessment and stakeholder being aligned to the commitment of accepting change stages.

2.4.5 Equilibrium and Mutual Adaptation

Change within the organization that has deployed information technology, requires to achieve a balance or equilibrium from the start to finish, during the change journey process that determines the actions to be taken the resources to be used, the time taken, quality of each change toll-gate stages (Sabherwal et al. 2019). The change equilibrium is difficult to obtain, and this is how the stakeholders must adapt their business process to achieve and adopt envisioned goal and strategy against the structure. There are 5 elements which requires to contribute towards the equilibrium or balance which are- organizational strategy, technology, individual role, and their culture list of management processes and departments and the overall organizational structure (Haki et al. 2020). During the change process when the equilibrium is imbalanced and the work processes required the technology and the organizational stakeholders to use culture, to align this change strategy towards the anticipated path. Chatterjee et al. (2021), argue that it is important to determine whether enough energy and effort that has gone to align the change towards the envisioned pathway has been achieved through constant monitoring and feedback while the importance of the effort and the skill of change achieved also request to be addressed transparently across the stakeholders.

In the complex change in large enterprises requires a champion a third party team who is a change practitioner and is able to drive the change project without getting involved as an employee (Eller et al. 2020). The role of being a third party during the change management helps to understand the neutrality of the business issues and provide a balanced advocacy for resources deployed finding procured setting deadlines that are realistic and achievable from the commitment processes. Using IT communication large change projects have third party change teams who advise the organization is external

stakeholder minimizing their power or perceive authority and creating a more committed participating environment towards the change stages (Harmon, 2019). In order to bring problem challenges issues the IT communication system requires continuous feedback and monitoring from all the stakeholders to make the change process to with relevant stakeholders in the loop. Lewis (2019), argue that spending time with external project stakeholders in relation to the change, is important as it increases the change project value and offer a structured approach educating with frameworks and models that help the stakeholder to overcome the challenges in their task area. Errida & Lotfi (2021), stated that large enterprises also require process modelling with flow of information and decision making to be mapped in the information technology helping the change team to understand the trade-offs required. This helps the simulation system to understand stages of change the types of risk and threat involved across the stages and how policies and norms are important to contain those challenges in respective change stages. This is called building 'change reviews from each stakeholder' and incorporating in the management process of change and usually the IT enabled platforms expedite the entire process involving the stakeholder analysis perspective to contribute significantly (Lauer, 2020).

2.5 Human Factor

The human factor comprises of the individual's attitude competence-skill knowledge expressed in the form of behaviour in the workplace environment and it's one of the key dimensions for improving competitive advantage and productivity (Reiman et al. 2021). It is evident that as the role of humans with the inclusion of technology has been diminishing the creative thinking and innovation and generation of new ideas however still relies on the human cognition. Triplett (2022), stated that the availability of advanced level technologies offering real time information has helped the human role and their decision

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making to improve significantly thereby assisting the enterprise level improvement to be faster at a cheaper cost. The human component in the organization carries with them the human values and dimensions of achievement or benevolence.
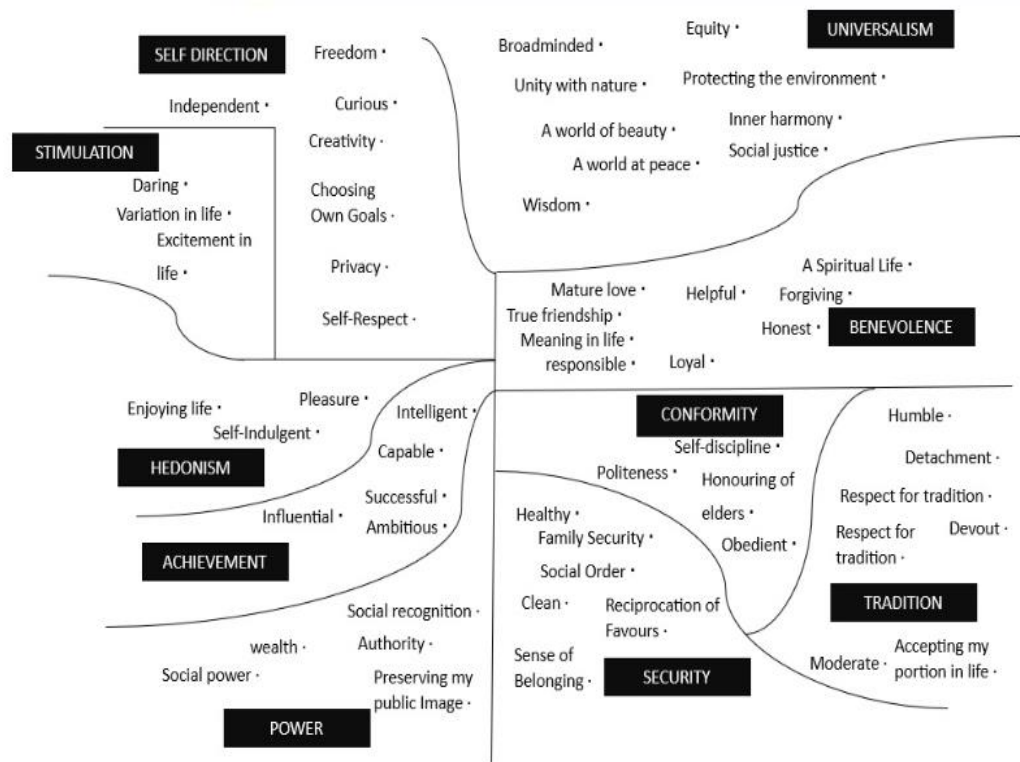
The Schwarth models of basic human vales (Schwartz 2012) taken from (Holmes et al. 2011)

Figure 6: Schwarth Model

Rockeach (2019), defined human values as a belief that the individual holds in the manner in which they do something at personal or social level, preferably to the opposite ways. In the social context social sciences or business, the relative importance of values are found to be intertwined with the feelings, that can either upset or bring enjoyment to the person. There are several categories of 'human values' and amongst them the 'Schwartz model' is most comprehensive as it covers the holistic approach of value system with 10 time based on the individual motivation levels (Körber, 2019). These are as follows –Self

direction, benevolence, universalism, tradition, conformity, security, achievement, power, hedonism and simulation (Schwartz, 2007).

2.6 Human Values

The elements that comprises of this model are described below. It uses the human values from the 'Schwartz theory' that establishes the value taxonomy and categorizes these value into dimensions. These dimensions of value structure - are 'self-transcendence' 'openness to change' 'conservation' and 'self enhancement' 'allowing identification of potential value conflicts and areas of change (Lechner et al. 2024). Secondly, dimension is 'cognitive processes', which tends to examine the individuals who perceive and interpret the incoming information related to their personal values. This comprises of selective attention cognitive dissonance and self-reflection that help the individuals to show their willingness in order to change the values (Lechner et al. 2024). The third dimension is emotional influence which relates to how the individual recognise the emotional connection strong-medium-low, towards their values and how the negative or positive emotions, help the individual to be motivated in valuing the change, which is expressed in the form of pride, shame or guilt (Lechner et al. 2024). The behavioural activation pertains to how the individual gives importance to aligning the actions at personal level with the desired values thereby reinforcing the value change and deliberating the individual behaviour modification strategies against the task at hand.

The value assessment from the individual's perspective and the values which are internal to the heart and in relation to the organization, in the context of a potentiality of change process. The second stage is of the strategy development undertaken by the individual to assess the current values and the value system, assisting the desired value

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shift. Thirdly, the exposure to the relevant information is critical for the individuals as there are many external noise in the form of noise that impacts the mental makeup.

The leadership mind-set and the leadership development dimension, inculcating a positive work culture is critical in order to bring about a change. Secondly, the dimension of education which is a component of training and development, is also important for the internal stakeholders, when they are embarking upon the transformational change within the organisation. (0) argued that educating the stakeholders who are about to bring a transformational staged change, within the organization helps to be aware about the individual-team level, departmental level needs, that this framework inculcates in the form of knowledge. Lechner et al. (2024), argued that the personal development in supporting individuals with the knowledge with application of this model, helps to understand the value driven approach in their personal life. The model is embedded with a value congruence dimension that ensures that any change intervention brought about within the individual or organisational requirement aligns with the broader value system, of what it is right now and what it will be in future, thereby, maximizing the effectiveness. It is one of the critical drivers in human resource and organizational development strategies, at enterprise level change management interventions, to be more humane and specific leading and impacting the stakeholders to reflect and reinforce their mental belief models during the challenges faced in the change stages.

Gebken et al. (2021), findings that human value oriented digital social innovation, have deployed the multi design framework in software service system where human values were analysed from the perspective of value development value inscription in multiple DSI (digital social innovation) level. This helped the institutional approach to design and value design, to merge in creating a new ecosystem eliminating the potential value conflicts while cooperating with each other during the change process.

Viberg et al. (2023), applied the cultural value sensitive perspective applying privacy and autonomy for the individuals who were a part of learning analytic software and applying the culture and value sensitive design method to be tested. Results show that individuals dealing with culture with the intention of designing a system required to affirm attune change a bridge and bypass to achieve their goals that has to be culturally envisioned and embedded during the design phase.

Thew & Sutcliffe (2018), found that from the stakeholder perspective the value motivation emotions are the process guidance factor for understanding the functional and non-functional requirements in the software. While designing a people oriented software engineering method the role modelling approach the emotional requirements the social influences was important for VBRE (value based requirement engineering) and VSD (value sensitive design).

Nurwidyantoro et al. (2021), stated that organisations are implementing values dashboard where the internal stakeholders and their high level requirements have helped them to map the existing values and progress and monitor the envision values in the dashboard during the change process for software development.

Perera et al. (2021), explained the impact of human values in engineering activities, Using a scenario based survey where 56 software practitioners where asked questions about the software features as to how the values helped them to identify the features developed in the software system the abilities to think outside box. They suggested a four step take away practical model comprising off brainstorming features 'value mapping' leading to 'value driven feature mapping' of a software system, and closing it with granularity synthesis for the team based value aligned feature list in the software.

Hussain et al. (2022), stated that in SAFe and agile methods of where the results showed, familiarity impact values being triggered during value mapping values being traded off between stakeholders.

2.7 Industry 4.0

The Industry 4.0 or the expanded version of 4th industrial revolution states, that adoption of digitalization of technology in the business environment and the society leads to convergence and fusion creating ecosystem that generates higher productivity connectivity and leverage interlink transformations in the work process and methods (Oztemel & Gursev, 2020). Ghobakhloo (2020), argued that ever since the industrial revolution began research studies have shown that the relationship between the people and their involvement in the structural company perspective have always shown to exhibit a positive relationship due to the human ability to think that has been a cornerstone of the progress of civilization. However, Frank et al. (2019), argued that the advent of modern advanced technologies which are increasingly becoming digitalised the use of computer hardware and software are contributing towards machine based thinking, creating automated business intelligence (Bai et al. 2020), and they were compelling the leadership to emphasize on human resource performance that is cost effective and it's not prone to fatigue.

Industry 4.0 is characterised by some of the key dimensions in the technology world, which is important to discuss from the literature review perspective (Rosin et al. 2020). It is leading to 'interconnectivity' where devices systems and machines can be connected with technologies that are able to link cyber physical systems. Secondly, the aspect of 'smart manufacturing', where the physical industrial process of manufacturing were replaced with instrumentation and computational models control helping faster

manufacturing with precision and real time visibility monitoring of manufacturing physical system. Thirdly, 'automation'', the Industry 4.0 that deploys industrial robotics and automation technologies in software that converge together to increase the production efficiency of effectiveness precision and accuracy that help the productivity dimensions to reach next level reducing the human intervention to literally zero (Stentoft et al. 2021). Fourthly, 'data analytics', as a key dimension where data of the operations in production from different sources of the processes to be analysed in real time producing information centric data that helps the stakeholders in real time monitoring and controlling the physical systems using the digital data (Choi et al. 2022). Fifthly, ' cyber-physical systems', that integration of physical process, and computational models that leads to controlling , monitoring the operations (Peres et al. 2020). Sixthly, 'artificial intelligence', is a technology that automates series of tasks making decisions based on algorithms leading to higher level of operational capabilities without human interventions. Seventhly, use of 'Cloud computing' as the volume of data generated from data driven computational environment offers real time storage, retrieval, aiding collaboration and distributive across different locations. Eighthly, 'additive manufacturing', is addition of 3D printing offering production that reduces production cycles with high level of customisation of products and flexibility (Angelopoulos et al. 2019). Ninthly , 'AR.VR', augmented reality and virtual reality that are immersive and interactive technologies that help in design, maintenance of processes to be virtualized. All of these above are able to transform existing production and operations processes, to be sustainable and ethical, in terms of usage of resources, optimising efficiency and effectiveness, offering higher level of design and flexibility, reducing impact on the environment at large (Kumar et al. 2020).

The application of Industry 4.0 has led to smart factories which are enabling the internal stakeholders to monitor and control the machinery perform the task together a news

analytics to optimise the production schedules eliminating the risk of quality, also predict the downtime issues order machine maintenance needs (Nascimento et al. 2019). Industrial robots that manufacture the products using assembly line packaging or material handling are doing repetitive task that are programmed at higher level to collaboratively work with human 'cobots' in the manufacturing environment (Munirathinam, 2020). This has led to creation of the internal stakeholder managing digital twins, with the industrial physical assets and infrastructure, and processes to be envisioned in digitalised version (Bag et al. 2021). In most of the cases, the information technology deployed in the manufacturing instrumentation, is converted into software based connected system helping the capability of operational efficiency and productivity, to show more adaptability and flexibility during the production process.

2.8 Industry 5.0

In any production and operations environment that involves information technology modules and information technology enabled communication process with humane centricity embedded in. Leng et al. (2023), stated that the Industry 5.0 also acronym in the context of fifth industrial revolution, in the business environment is an emerging phase that requests a collaboration of the advanced technologies existing and intense collaboration between human beings. Akundi et al. (2022), stated that it places humans at the central production process, especially in decision making and leveraging the advanced technology capabilities. Coelho et al. (2023), explained that built on the foundation of Industry 4.0 the 5th generational industrial revolution characterizes the creativity and innovation of human thinking against the machine based thinking producing business intelligence.

Aspect of 'Human centricity' is prioritising the need of humans in the automated environment, recognizes the unique skill and competencies (Adel, 2022), about creative thinking process, ideation and problem solving, from a very different perspective, when compared to the automated algorithm based decision making systems (Barata & Kayser, 2023). Secondly, the 'collaboration', in the Industry 5.0 between the machines and the humans requires parallel processing of dual thinking with both robots and artificial intelligence requiring the human based algorithm leveraging the collaboration dimension when achieving more complex business tasks and offering solutions creatively (Alojaiman, 2023). Thirdly, 'personalisation', Is a dimension where mass level customization from the organization towards the customer base requires the advanced technologies to be leveraged and tailored to a level that meets the specificity of the customer need (Nahavandi, 2019). This cannot be automated and requires the intervention of human thinking process and this application across the advanced technologies, like AI and 3D printing is closely related to the business lifecycle stages, the flexibility and production yield, embracing agile manufacturing process. In personalisation context, the timing and the degree of personalization matters the most, hence building business models which are customer centric, in a virtual environment the Industry 5.0 ushers in fine-tuning of this dimension to a higher level. Fourthly, 'resilience' in the production and operations linkages across supply chain need to deal with the uncertainty dimensions and the disruptions which are likely to occur. Lastly the progressive industrialization requires to achieve sustainability indicators, circular economy principles, and hence using the principles of Industry 4.0, the 5th industrial revolution request to optimise the sustainable practices in a responsible manner that uses clean energy circular economic principles to minimise the degree and intensity of environmental impact on the industrial activities (Raja Santhi & Muthuswamy, 2023).

2.9 ITES (Information Technology Enabled Services)

The information technology enabled service has experienced significant transforming the information technology sector to be assistant supported over the years. The growth lifecycle of the IT sector traced back to the early 2000, with the advent of the Internet showed the business processes outsourcing (BPO) model to evolve as a sector across globe, allowing the organisations to seek cost effective solutions (Park et al. 2022). Li et al. (2021) stated that the nature of services offered on this platform started with data entry and customer support business processes which in its lifecycle evolved towards complex IT enabled services- like financial analysis, deep research (KPO) and in the later phases also the software development. Pearlson et al. (2024), stated that automation in particular, has played a significant role in transforming the ITES sector operational efficiency reducing cost and headcount has organisations that have set up captive units in host countries, offering tax benefits and have a knowledgeable workforce aiding the ITES sector to boom.
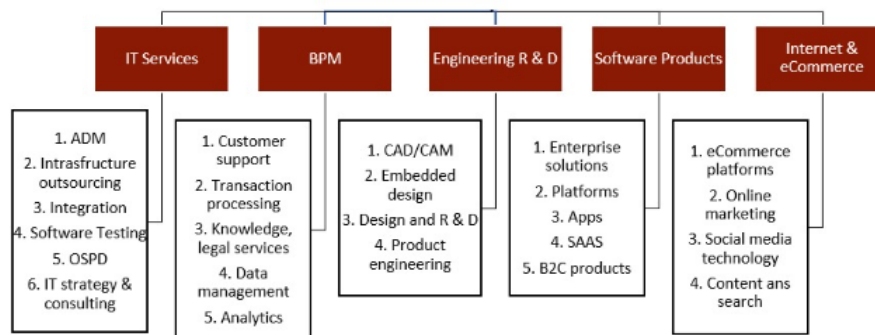
Portfolio of Indian IT/ITes Industry

Figure 7: Portfolio of Indian IT/ITES Industry

Business process outsourcing flourished from the parent country (USA) and host country (India), (Yadav & Joshiya, 2021), for example, significantly intensifying the scalability and flexibility of the ITES operations, to expand and achieve higher levels of complex task and productivity levels (Hailu & Chebo, 2024). The ITES sector have been segmented into IT services business process management services, engineering and R&D (research and development), software products internet and e-commerce based platform services (Suresh & Ravichandran, 2022). The evolution of each of these service portfolios in the ITES Industry, however, have taken years to develop with human capabilities and IT enabled technologies blending together to offer business process solutions, to remote customers across globe (Saito, 2019). In any information technology sector, the work method and work processes, are automated based on software (Dumlao et al. 2024), thereby, eliminating the repetitiveness and the routine tasks to be streamlined human errors to be identified and optimizing the resource allocation effectively. In the life-cycle growth phase, ITES company have intensified application of technologies that helped them to connect with diverse stakeholders in real-time improving the quality (Benabed, 2023), and project visibility helping them to have a collaborative decision making process. With the advent of advanced technologies, automation in software has enabled ITES companies to systematically and incrementally fine-tune internal BPO operations and client operations using culture (Negros, 2022), expand their service portfolio capabilities, productivity-yield in projects for their customer base need human centred intellectual capital (Castillo-Palacio et al. 2022). The period of manual functioning of work suffered with quality issues, and total quality management (TQM) embedded with ISO 9005:2015, six sigma, lean principles, helped the ITES sector to find wastes and eliminate them, bring in flexibility and scalability during the production, scale-up its efficiency models, to outclass the complex challenges in a remote and virtual work environment.
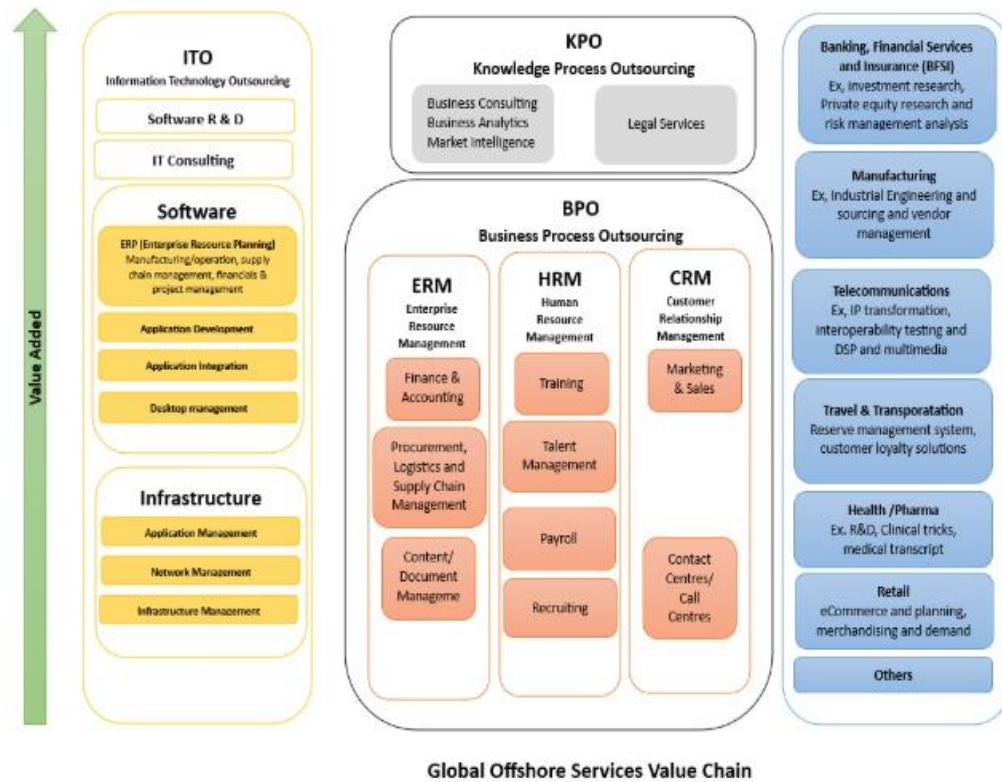
Figure 8: Global Offshore Services Value Chain

The business models scaled up and improved, towards extending to be a more customer-centric in their offerings, the ITES sector used the technological advancements and changed the business models, against the external environment factors (Ejechi & Oshodin, 2019). Technologies are the enabler for the its infrastructural transformation, and client handling services, as increasingly the ITES organizations relied on gaining long-term operational excellence, the economics of business deals with the customers to be efficient, driving innovation across their ITES portfolio of service offerings and offering business model transformation services to clients (Jara et al. 2022). In the above dimension of the business process out sync is seeing Industry shows that the KPO (knowledge processing

outsourcing) complex in terms of its fundamentals and deliveries (Huda et al. 2025). The successive progression of BPO sector have shown enterprise resource management human resource management financial management and CRM to be offered as ITES business solution across geographies underpinned by technical platforms with the clients (Schönenberg & von Wnuk-Lipinski, 2024). Closely related to information technology sector, is the information technology outsourcing where software research and development, help the business model of ITES organization to expand and add value to the market offering (Suresh & Ravichandran, 2024). Evidence of businesses in this sector, involves application development application integration and desktop management, apart from the infrastructure management services for the IT Industry. ITES sector over the period of time has been able to replicate the business model, underpinned by technological and communication software spanning across banking financial services and insurance. It also have forayed into manufacturing consulting, like industrial engineering and vendor management services. Sectors like telecommunication, travel and transportation (supply chain logistics) have also access the consulting help, while captive units of ITES in medical-pharma with medical transcription have shown to be a steady business domain.

2.10 Application of Industry 5.0 in ITES Sector

The information technology and its sector both are complementary to each other even though the latter is adopting in a techno human centric perspective of advanced technology intensification in its key business application areas (Al Faruqi, 2019). Currently, the artificial intelligence enabled customer service are offered as a standard a solution to clients with AI chatbots and virtual assistant helping the personalization factor in handling multiple queries in the customer support thereby, enabling an environment that is entirely divide of human intervention. Therefore, Khan et al. (2023), stated that

application of advanced technology have help to eliminate the routine enquiry system and human fatigue with the requirement to maintain shift duties in rotational manner, where automated robots algorithmically offering routine enquiries to clients. The ideas sector has also started offering personalized IT solution for any business, across sector, embedding machine learning (ML) and artificial intelligence (AI) (Rožanec et al. 2023), apart from Big Data and Cloud platform, IoT which captures the data analytics and offers algorithm based technical solution to meet the client needs and automate solutions as per their business needs and preferences (Chi et al. 2022). As every business are unique in nature, the personalization of the business processes and corresponding information technology inclusivity differs a lot (Doyle-Kent et al. 2019).

Therefore, the role of its organizations in re-engineering and re-designing the business processes, and leveraging the advanced technology IT solutions required the human thinking to tailor their specific needs (Hein-Pensel et al. 2023). The role of humans in designing the human-robot collaboration in software development shows the elemental level software coders and developers, automating testing and debugging the software in a collaborative environment (Martynov et al. 2019). This approach is being perfected by the ITES business model, helping to leverage both human developing thinking and the machine learning based software development, to be more strategic in nature and creative in output eliminating business problems of clients. Additionally, the dimension of cyber-security that is entirely dependent upon the machine based business intelligence, fails to detect the dimensions of creative human thinking in design and implementation, increasing the chances of drivers of threats for the business customers in real time (Mekkunnel, 2019). Application of technologies in the business environment, requires human thinking to allocate diverse technologies for specific problems, that requires creative human thinking (Karmaker et al. 2023). This is a high level design centric issues, where allocation of

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technologies and its intensification is something that automated tools cannot fathom and hence in order to create a more responsible and sustained business solution, for the clients who are wishing to undergo digital transformation human values and thinking with business environmental considerations is critical (Lu et al. 2022).

2.11 Research Gap

The change management explain in diverse models and theories and frameworks in type of literature review reveals different dimensions and also specific challenges. The current context of the research involves how the change or transformational process for the business at enterprise level embraces Industry 5.0 moving on from Industry 4.0 thereby, enabling the management both employees and leaders to consider the human factor and values adapted during transformational journey in ITES. The discussion of integrated human value change model introduces the human factor value dimension amidst the Industry 4.0 transitional journey towards Industry 5.0 in ITES sector. There is limited research on how empathy driven approach to change management in its organizations in the context of India has been explored in the past has empathy integration in the digital transformational journeys within the ITES sector is a key dimension that this research intends to explore. Dedicated review have extensively covered the technological aspects of change models the digital transformational journey well there is paucity in the human centric empathy driven change management models that this research emphasises. The research specifies that Indian ITES sector is undergoing through the life cycle changes in his business model and the uniqueness of the internal stakeholders pursuing cultural and organizational dynamic traits further complicates this issue of enterprise wide change management approach. Evidence of human value in software studies have been cited above, and evidence of employee resistance to change, lacunae in automation driven

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change management algorithms, have been driving the enterprise level transformation initiatives. As the Industry moves from 4.0 to 5.0 the humane centric approach to balance the automation and decision making and include creative thinking and innovation in design and implementation of advanced technologies, requires to meet the personalization-customization challenge from the client perspective. Therefore it necessitates, this research to address those gaps for the policymakers and the business practitioners' perspective in ITES to find empathy in human value driven change transformations issues and challenges, as the Indian IT Industry is embracing Industry 5.0. This human centred digital transformation change process in the ITES sector is a research gap in Indian context, and hence this research leads to a more insightful transformational journey based on human values and impacted driven approach towards change management in its organizations in India.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

Empathy in leadership dimension in this research context refers to the ITES leaders' ability to understand its workers feelings and how to share it within the team or within the department. Since the change transformation in technology is imminent the leaders within the ITES sector demonstrating empathy needs to project on the human values and also make the employees to be understood that boost their confidence at individual level, help them to show willingness to embrace the change. From the literature review it can be concluded that empathic leaders in the ITES sector can address the ITES employees concerns and provide the necessary empathy driven support making them more prepared and motivated for the Industry 4.0 to Industry 5.0 change.

The employee readiness, at individual level, for every worker in the ITES relates to the psychological state and their behavioural outcomes, that is at cognitive level acceptance and behavioural level implementation of change readinesss strategies. The employees are ready for change is a testimony that they are likely to support the organization procedures and methods diligent showing their commitment towards the change process in ITES sector. High levels of readiness within each employee working in the ITES sector can lead to smoother Industry 4.0 to Industry 5.0 transition toll-gets to be achieved and higher rates of outcome and change adoption (CA).

Organisational support and employee readiness is necessary and it incorporates a holistic approach towards using all the resources, environment, culture assistance, helping the workers to perform effectively during the change transition stages. It is evident that the ITES organization offers diverse kind of training for the new employees and existing employees and hence, resources being skilled and competencies being evolving against the

demands of the situation and creating a positive work environment. The employees are more confident and capable in managing and handling change in each of its complex stages that contributes towards change.

Organisational support and psychological safety as required by the employees feel supported by the organization to rules norms and invisible ways and they are likely to commit and feel safe in their creative ideas their concerns about the task area challenges or the mistakes they have made. This dimension therefore helps to create an open and trusting work environment that leads the employees to experience psychological safety.

Communication effectiveness and employee readiness, is related to how the organization with human resource rules and operation rules guided by the supervisor and the employee are involved in a clear transparent open communication lines in the context of the change taking place in ITES organisation. This leads to the employee readiness since the communication is key with the management leadership where the discussion revolving the macro problems micro problems, steps methodologies, to be deployed helps to remove the uncertainty and creates the departments to embrace change readily.

Communication effectiveness is also linked to the psychological safety as it helps to open up the environment and create trust between the members of the workforce and being informed in real time and respected for the decisions of voicing the concerns reduces the employee fear and encourages the employees to contribute significantly towards the ITES Industry 4.0 to 5.0 change status without hesitation.

The psychological safety state of mind within the employees in the ITES organisation's context, can help to reduce the dimension of resistance to change in their behavior. The distance between the employees and the leadership being reduced helps to open the dialogue for the change stages change modalities and the challenges removing the

resistance to change attitude or opinion in the mind making way for the process to a smoother and less confrontational in nature.

Psychological safety towards change adoption is related to how the workers and the leaders in the ITES sector creates a safe psychological environment during the transition stages of Industry 4.0 to 5.0 to be successful. Both the leaders and the workers feel confident in taking their risk during the transformational change process and trying to add new approaches against planned change principles in the chain process and overcome the challenges during the change adoption.

The resistance to change is a natural phenomenon against any technological and complex changes especially in the context of Industry 4.0 to Industry 5.0 and both leaders-employees to understand the change process on the whole. The resistance to change leading to change adoption that is higher levels in each stage of the Industry 4.0 to Industry 5.0 challenges. Addressing support, empathy and communication ITES organization can help resistance to change to achieve successful change adoption.

3.2 Operationalization of Theoretical Constructs

The hypotheses here explores the relationships between leadership, communication, organizational support, psychological safety, and change adoption, aiming to device a method or a designed framework to comprehend how human-centric change management operates in Industry 5.0. Empathy in leadership (H1) is expected to influence employee readiness because leaders who acknowledge employee feelings nurture an environment that is more accepting of change. Higher employee readiness (H2) can lead to a greater change adoption for employees who feel they are more ready tend to accept, use and practice new systems and processes. Organizational support (H3) is very imporatant when it comes to employee readiness for it ensures that resources, assistance

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and support is available to assist employees to navigate these transitions. That said, organizational support (H4) helps create psychological safety which allows employees to speak up and take risks without fearing retaliation and backlash. Effective communication (H5) provides clarity and direction that reduces uncertainty in employees and prepares them for change while ensuring psychological safety (H6) by promoting transparency and trust. Psychological safety (H7) helps or aids in lowering resistance to change because employees who feel they are in an secure environment are more open to newer initiatives. This leads to psychological safety (H8) being quite essential and crucial to successes in adoptioning change and reinforces the idea that emotionally secure workplaces are a catalyst to innovation and adaptability. That said, one can conclude with the idea that lower resistance to change (H9) is hypothesized to result in higher change adoption.

Hypothesis are as follow:

Empathy in Leadership → Employee Readiness

H1: Empathy in leadership positively influences employee readiness for change.

Employee Readiness → Change Adoption (CA)

H2: Higher levels of employee readiness positively affect change adoption.

Organizational Support → Employee Readiness

H3: Greater organizational support enhances employee readiness for change.

Organizational Support → Psychological Safety

H4: Organizational support positively impacts psychological safety in the

workplace.

Communication Effectiveness → Employee Readiness

H5: Effective communication improves employee readiness for change.

Communication Effectiveness → Psychological Safety

H6: Effective communication positively influences psychological safety.

Psychological Safety → Resistance to Change

H7: Higher psychological safety reduces resistance to change.

Psychological Safety → Change Adoption (CA)

H8: Psychological safety positively impacts change adoption.

Resistance to Change → Change Adoption (CA)

H9: Lower resistance to change leads to higher change adoption.

3.3 Research Purpose and Questions

Change is inevitable. But how organizations manage change determines whether transitions lead to progress or disruption or failure. The purpose of this research is:

- Research Objective 1: To identify and measure key human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence change adoption.

- Research Objective 2: To examine the relationship between human factors and change adoption to determine their collective impact on successful transitions.

- Research Objective 3: To identify the most important human factors that influence change adoption.

- Research Objective 4:. To provide practical recommendations for organizations to improve change management strategies based on empirical findings.

The research questions are as follows:

- Research Question 1: What are the human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence change adoption from industry 4.0 to Industry 5.0?

- Research Question 2: What the relationship between human factors and change adoption to determine their collective impact on successful transitions.in ITES change management systems?

- Research Question 3: What are measures of key human factors that influence change adoption.applicable for ITES undergoing change from industry 4.0 to Industry 5.0?

- Research Question 4: What does practical recommendations for organizations to improve change management strategies based on empirical findings

3.4 Research Design

Research design relates to the strategy used to collect the data in order to arrive at the research aims, research objectives and research questions (Richter & Hauff, 2022). There are many research design types and its subtypes like 'descriptive research design' which comprises of survey, case study, naturalistic observation. 'Correlation research design' that contains observational study, case control study and 'experimental research design' that has field experiment, controlled experiment and quasi experiment.

The 'descriptive research design' tries to arrive at the conclusion in relation to the research dimensions and phenomenon unfolding the characteristics and functions with the 'what' questions (Kingsley et al. 2017). The descriptive research design is carried out through surveys case study observations but data is tested statistically in the form of

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assumptions or hypothesis leading to quantifying the variables, and their statistical relations, using descriptive statistics and/or inferential statistics.

The 'exploratory research design' is applicable in a research where the problem is not researched and not well understood or deciphered or is a new research phenomenon that requires to be explored deeply (Apuke, 2017). The aim of the 'exploratory research design' is therefore, to define the problem and suggest hypothesis which is flexible and unstructured which require qualitative research method like 'focus group' or literature review, to gather insights from wider dimensions of diverse data or even conduct interviews converging the new trends into new research findings.

The 'explanatory research design' seeks to establish the cause between the variables, explaining the 'why' and 'how' questions of the research (Maylor et al. 2017). This can involve using hypothesis testing of quantitative methods, and can be either experiments or longitudinal studies to establish the relationship between the variables.

3.4.1 Justification for Descriptive Research Design

The research design chosen for this current study is descriptive in nature, as it allows to understand and comprehend the current state of empathy driven change management practices which can be tested statistically, from the responding groups identified in the research. By deploying the survey instrument 'the questionnaire' designed to capture the data shows how the researcher describe, the relationship of the variables embedded in the questions, and gather the quantified data to understand their opinion. Additionally, connecting interviews with the managers offer qualitative insights, to the research issues, from diverse perspective, confirming the mixed method research approach of human factor impacting digital transformation highlighting pattern in the areas and gaps that exist. The descriptive research design is suited for the study, as it captures the

complexities of two responding groups; the managers and the employees in the organizational dynamics. It is presenting the valued information which is contributing towards capturing both the perspectives of employees and managers in relation to the transformative changes which is impacting the ITES sector.

3.4.2 Research Methods

3.4.2.1 Quantitative-qualitative

The research can be either quantitative or qualitative and/or both depending upon the research topic that requires the researcher to design the data collection methods, in order to reach the research aim objectives and goals (Bailey & Burch, 2017). The quantitative research collects data that is numerical in nature and which can be statistically tested through descriptive statistics or inferential statistics helping to establish the variables identified in literature review and their relationship strength. The qualitative research on the other hand, is the opposite of quantitative research and offers new data in relation to subjective expressions, that is collected through interviews, case studies and focus group data (Lindlof & Taylor, 2017). In both the cases, the researcher adopting either quantitative and/or qualitative, directs the research towards adopting and designing a research instrument that helps to capture the quantitative data or qualitative data in accordance with the research topic. The mixed research method comprises of both qualitative and quantitative and the researcher has the option to mix the data collected to be cross-verified and the results to be triangulated with the researching objectives and literature review (Remler & Van Ryzin, 2021).

3.4.2.2 Primary-secondary

The research can also be primary research, where the data collection happens for the first time in the world on a research topic, which has not been done before. The primary research requires primary data to be collected from the environment or respondent group(s), as it offers potential solution to identify the research gap and the quantitative research method or qualitative research method supporting the primary data collection to contribute towards new research findings (Berger, 2018). The secondary research on the other hand uses existing data available in this world in order to prove a research aim objective and question. The secondary research method has the advantage of time effort and desktop research against the primary research method but can procure and test new findings with either quantitative historical data or qualitative subjective data like research journal analysis. Both these methods are credible ways in proving a research topic.

3.4.2.3 Mixed Methods

The current research deploys a primary method with a mixed research approach that helps encompassing two types of data quantitative and qualitative justifying the thorough investigation process for the research topic. The quantitative dimension in this research is achieved through the employee service where questionnaires which are closed ended, rated by the respondents measuring its prevalence and its impact on the empathy factor in the organizational change management practices in the ITES sector. The statistical data therefore offers a clear and measurable data set helping to understand the trend and correlation between the variables identified in the literature review and conclude these in the research environment perspective. Complementing this quantitative dimension of data collection this research also captures the managerial perspectives through the research instrument 'interviews'. The questions are open-ended that help the managers to

explain their perspectives of the change management in the its organization and the digital transformation that is impacting the sector thereby creating a holistic 360 degree approach to attack that research topic.This dual approach has helped the research to be more comprehensive in terms of exploration the length and depth of dimensions embedded in the topic and use quantitative research method and qualitative to converge the results and bring into light those dimensions that the world has to know. The use of mixed research is a robust methodology and is justified as it helps in developing a better understanding to the research topic above and present a unique context by facilitating a well-informed research design process deploying effective strategies which supports data-driven quantitative and qualitative initiatives.

3.5 Population and Sample

The population refers in the research context the entire group of stakeholders which includes organisations individuals who are relevant in terms of the research question. The population includes all the employees across the organizational hierarchy starting from the frontline middle management and thereby showing the diverse range of demographic variables across department roles and levels of experience that the individuals possess. Similarly the population also pertains to the organization across the sectors which is related to the research topic and title. Molina-Azorín et al. (2020) stated that the high volume of data and its collection is a challenge for the researcher and it is likely to impact the potential complexities in data collection and analysis section of the research that prevents the researcher in achieving timed accurate conclusion and submission. Therefore, it is important for the researcher to deploy sampling techniques instead of collecting data from the entire population they manage the research more effectively and draw meaningful comparisons between smaller group of sample in relation to the research topic.

The sample on the other side is a subset of the population which is selected for the actual research framework. The sample is a representation of the part of the population and can be of many types; probability sampling non-probability sampling (Turner et al. 2017). Segregating the population in relation to the research helps in comparing and contrasting the characteristics of the respondent size based on certain criteria as per the research. The sampling method therefore ensures that the researcher is able to capture and use the data the primary research in an optimal manner helping to address both the quantifying and qualifying dimensions of the sample. The probability sampling is a technique which deployed in the research and the sample frame is relatively small but every respondent has an equal chance of being selected and they are an equal part of the entire population (Oakshott, 2020). The probability sampling technique is random and therefore does not suffer from bias of selection.

The non-probability sampling method is deployed when the researcher has limitations and therefore it offers more power for the researcher to deploy this technique in selecting the sample and its respondents.

3.5.1 Sampling Plan

The sampling plan is a detailed outline of how the researcher is able to identify the samples the respondents and design the data collection process with different stages of the research study. This requires the time at hand and the stages of the research where the researcher is in and it involves planning and development to be rolled out for the research (Masud & Daud, 2019). Any research utilising comprehensive sampling plan requires the materials to be used like instruments the date and time, number of sample connections as per the sampling plan process. This results in the date wise and time slot wise collection of

data resulting in uniform data collection method and also addressing the sample based parameters of interest, in relation to the research topic, to be answered systematically in alignment with the research study goals.

The first stage involves identifying the dimensions of the variables emitted in the literature review in each of the questions of the questionnaire. This initial step helps the researcher to understand how to accumulate the data collection process and the validity and reliability of the questions asked to the respondents (Richter & Hauff, 2022). In this first stage, the research goals and the linkage of variables in the research phenomenon formed through the questions in the questionnaire request to be pilot tested by testing the Chronbach Alpha that request to be over (0.60). Irrespective of the research using an existing scale or research instrument to measure the research phenomenon or it is establishing a new set of questions in a questionnaire to be validated and tested for Chronbach Alpha the pilot testing stage forms an integral part in terms of its contribution to the research.

The next stage of the sampling plan rollout in the research perspective deals with the detailed collection of the data through the questionnaires of the interview as research instruments for the respective respondent groups. There are various methods of considering to choose a sample size in a research study and hence before the research questionnaire is rolled out the strategy requires to understand the population parameters. The researcher also request to understand the time and the cost of sampling process and the spread of the sample across population (Maylor et al. 2017). It is important to understand the practicality the data collection process as per the sample size and researcher estimate by dates complete the entire data collection process in a timely manner. The last stage of the sampling plan in a research involves effort of the researcher in collecting the data as per the sample size, sample frame and thereby, showing the importance of the researchers'

roles and responsibilities in terms of data collection, the strategy for data storage and security.

3.6 Participant Selection

A targeted sampling method was used to choose participants who fulfilled specific requirements necessary to answer the research questions. Requirements included having a background in ITES or similar tech areas, practical experience with significant technological changes, and 5 to 30 years of work experience to blend fresh ideas with experienced perspectives. Participants were also sourced from different locations in the India, allowing the study to incorporate various cultural and organizational contexts. 100+ participants were selected, creating a solid dataset for both quantitative and qualitative analysis. This sample size balanced breadth with manageability, aiding the study in obtaining valuable insights while maintaining depth in its review. The participants span different organizational levels, providing varied viewpoints on the challenges and opportunities from Industry 5.0 shifts.

A group of 7 participants was chosen for semi-structured interviews. These individuals were selected because their experience provides particularly rich insights into the human aspects of change management. The qualitative data from these interviews added nuances to the study, situating the trends identified in the broader dataset. This combined approach enabled a fuller understanding of the complexities involved in organizational change.

3.7 Instrumentation

Research instrument is designed by the researcher in order to collect measure analyse data in relation to the research topic. The research instrument or tools when they

are statistically tested and validated for reliability and validity and that can be used in multiple research topics and themes thereby extending the research instrument application in wide variety of research scenarios (Sloan & Quan-Haase, 2022). The research instrument can be 'closed ended' or 'open-ended' and can be applied depending upon the research topic. The choice of the research instrument even though depends upon the research topic, a good research instrument should be able to support and meet the research goals and questions to be achieved in the end and as to test the hypothesis of the research. The research instruments required to be embedded with questions that does not leads to 'bias' while collecting data. The research questions comprises of 'Likert scale' which is a rating scale, for social science and educational research in psychometric topics, where the individual respondent is able to express the opinion attitude through ratings (Sloan & Quan-Haase, 2022). The types of research instruments available in the research world shows survey that can be conducted either 'online or offline', in order to capture the response from the respondent or respondent groups undertaking the survey. The second most common research instrument is through interviews at 'one to one' level or group level with the researcher asking the interview questions and capturing them by writing it down or audio recording the entire interview session. There is also 'observation', as it is used in sociology or psychology, while 'focus groups' present large number of people separate into groups for data collection (Abutabenjeh & Jaradat, 2018). The research questionnaire is a research instrument that comprises either closed ended questions or open-ended questions or a mix of both.

The current research deploys two primary research instruments, in relation to the research topic better; survey and interview. The survey in this current research, serves as a quantitative tool or instrument that help in enabling the collection of numerical data, which is standardised using a scale from large number of employees. This approach helps

in understanding and identifying the perception trends and their overall opinion, in relation to the ITES sector and the transformation which is happening when you listen to the digital inclusivity. The choice of survey questionnaire helps to include structured questions related to the research objectives and the variables identified in the literature review to be test statistically, proved leading to significant new research findings. Conducting the in-depth interviews with open-ended questions as a research instrument help the managers of the ITES organisations to express their perspectives. This is a dual approach that helps in comprehensive understanding and attacking the topic for surveys and interviews covered the length and breadth of two respondent groups, capturing wide range of data quantitative and that adds value to the research output. The integration of both these instruments enabled to triangulate the subjective and numeric data thereby, enhancing the reliability and validity of the research findings. The mixed method approach helps this research to capture the macro level trend or the managerial leadership perspectives, and detailed transformation change management across India's ITES organisations.

3.8 Data Collection Procedures

3.8.1 Primary Data

The primary data is collected with the aid of questionnaires for quantitative data, that comprises of textual, visual and audio data. The observations primary qualitative data, take place based on the interview and interview interactions, during the research process and the data is used for the next level of study which is a data analysis. The primary data capture requires to eliminate the bias or the noise which is prevalent in the environment (Hair et al. 2019). The key criteria for the primary data collection and its storage relates to

the data leakage and the issues of research ethics that request to be contained by the researcher irrespective of the data being collected offline or online.

3.8.2 Secondary Data

The secondary data used in any research relates to a reference point for the research in gaining substantial past knowledge. This is important from the perspective of the research taking shape in terms of the thought process and reference to frameworks, models, theories and empirical studies that help the researcher to show the opinion and progress in the research (Collis & Hussey, 2021).

3.8.3 Justification

The justification in the use of data types for the current research relates to the secondary data that was collected from the peer reviewed journals. This is a key stage for the literature review to take shape and offer a conceptual framework comprising of the assumptions or hypothesis helping the researcher to establish a narrative. The primary data collected in this research from two different responding groups the employees and the managers of the its organization, requires differential research instrument to capture these data and also different data storage spaces, that leads to different data analysis stages for quantitative and qualitative response data (Easterby-Smith et al. 2021).

3.9 Data Analysis
3.9.1 Qualitative Data Analysis

The qualitative data analysis involves the framework of the Braun and Clarke's six stage thematic framework, to be analysed that helps in identifying analysing and reporting the patterns which emerge from the qualitative data (McAvoy & Butler, 2018). This

comprises of six stages starting with familiarising with data, generating initial codes, searching for the broader themes, reviewing the themes, defining a naming fine-tuned themes and producing the final report.

3.9.2 Quantitative Data Analysis

The analysis of the data collected in research, involving the mixed-methods approach, was developed for comprehensive understanding and achieving the research objectives (Bougie & Sekaran, 2019). Quantitative data from the structured surveys was analyzed using Microsoft Excel. This software is a tool that enabled to clean the captured data (quantitative) and then process the large datasets efficiently. The responses were systematically categorized as per the survey questions into columns and responses in rows, with missing values identified, then coded to be fed into SPSS 19.0 software, allowing for the identification of patterns and trends related to key constructs. The descriptive statistics, including measures of central tendency and variability, were calculated to provide an overview of the data. These insights were further illustrated through visual representations such as charts, graphs, and tables, leading to the significance of new research findings.

3.10 Research Design Limitations

The current research suffers from a small sample size in this research methodology which can severely impact the quality of the output. The use of purpose of sampling and targeting the individuals in the sample plan, requires experience and expertise as it also leads to the bias creeping into the research. There is such a request to be aware about these data collection and the noise and capture the data in an ethical manner in order to achieve the scope of the research study (Richter & Hauff, 2022).

The respondents, both employees and managers, belonging to ITES sector, are bound by their corporate disclosure agreement in their employment terms and conditions, that seriously impacts their research response decisional quality in relation to the responses provided for the research.

3.10 Conclusion

The research methodology chapter therefore guided by research onion framework has emphasised on discussing the research philosophy research approach and research design for the primary research method in relation to the above topic. Justifications for the appropriate choices were made in this chapter, which have been underpinned with relevance and its applicability in addressing and achieving the research goals as the final outcome. The mixed method research quantitative survey technique for employees and qualitative interview for the managers from the ITES sector requiring detailed sampling strategies and data collection sampling plan, helping the research to systematically adopt appropriate methods for data analysis.

CHAPTER IV:

RESULTS

4.1 Introduction

The present chapter presented the qualitative findings of the interviewee opinions on the human factors responsible for the success change transition in the organisation. Based on the ideas of Braum and Clarke's six-stage thematic framework, a total of 4 themes were constructed to carry out thematic analysis. The quantitative survey findings are also analysed using the SPSS tool, this helps to reflect into the positive and negative correlation between study variables (employee readiness, leadership empathy, communication effectiveness, organizational support, resistance to change, psychological safety and change adoption). Thus, both qualitative and quantitative analysis helped to justify the four study objectives.

4.2 Quantitative Findings

Data was collected from 161 respondents using Google forms. Out of this, 1 response was incomplete which was deleted. The responses were downloaded and analysed using SPSS. The results are presented in this chapter.

4.2.1 Reliability Testing

A Cronbach's Alpha analysis was conducted for each sub-scale for testing the internal consistency of the sub-scales. The commonly accepted threshold for acceptable reliability is 0.70, while values above 0.80 indicate good reliability and those above 0.90 indicate excellent reliability. The results of the Cronbach's Alpha analysis are following in the *Table 1*.

Table 1. Cronbach's Alpha analysis.

Construct	No. of Items	Cronbach's Alpha	Reliability Level
Leadership Empathy	5	0.907	Excellent
Employee Readiness	5	0.923	Excellent
Organizational Support	5	0.895	Good
Communication Effectiveness	5	0.879	Good
Psychological Safety	5	0.902	Excellent
Resistance to Change	5	0.864	Good
Change Adoption	5	0.916	Excellent

All constructs exhibit high internal consistency, with Cronbach's Alpha values ranging from 0.864 to 0.923. The highest reliability was observed in Employee Readiness (0.923), indicating that employees consistently perceive readiness-related factors in the same manner. The lowest reliability was found in Resistance to Change (0.864), which, although is still within the acceptable range of 'good' score for Cronbach's Alpha analysis. As all the values are above 0.80, no items were removed from the constructs.

4.2.2 Demographic Profile

The first part of the survey collected demographic data of the respondents and the results from this section are shown below:

Table 2: Age Profile

Age

Years		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years	16	10.0	10.0	10.0
	31-45 years	80	50.0	50.0	60.0
	46-60 years	60	37.5	37.5	97.5
	61>	4	2.5	2.5	100.0
	Total	160	100.0	100.0	
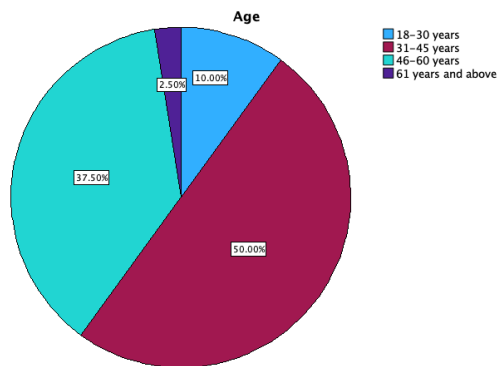
Figure 9: Age Distribution

Half of the respondents (50%) belong to the 31-45 years age group, followed by 46-60 years (37.5%). Younger professionals aged 18-30 years make up 10% of the sample, while only 2.5% of respondents are aged 61 years and above. This indicates that the sample is majorly composed of mid-career and senior professionals, who are more likely to be

actively involved in organizational change processes. The lower participation from younger employees and older individuals.

Table 3: Gender Profile

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	100	62.5	62.5	62.5
	Female	60	37.5	37.5	100.0
	Total	160	100.0	100.0	
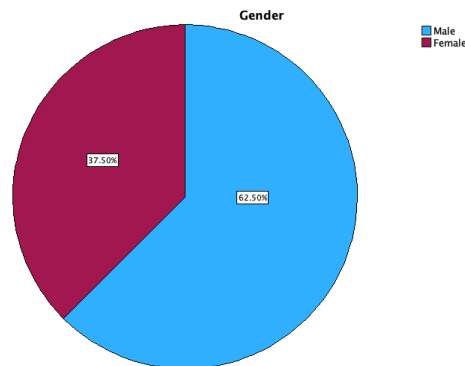
Figure 10: Gender Distribution

A significant majority of the respondents (62.5%) are male, while 37.5% are female. Although the gender distribution is skewed toward males, a considerable proportion of female respondents ensures that perspectives from both genders are represented. This distribution may reflect that the gender composition of ITES organizations includes more of male employees in technical and managerial roles.

Table 4: Experience Profile

Years of Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<1 year	12	7.5	7.5	7.5
	1-3 years	4	2.5	2.5	10.0
	3-6 years	4	2.5	2.5	12.5
	6-9 years	16	10.0	10.0	22.5
	9> years	124	77.5	77.5	100.0
	Total	160	100.0	100.0	
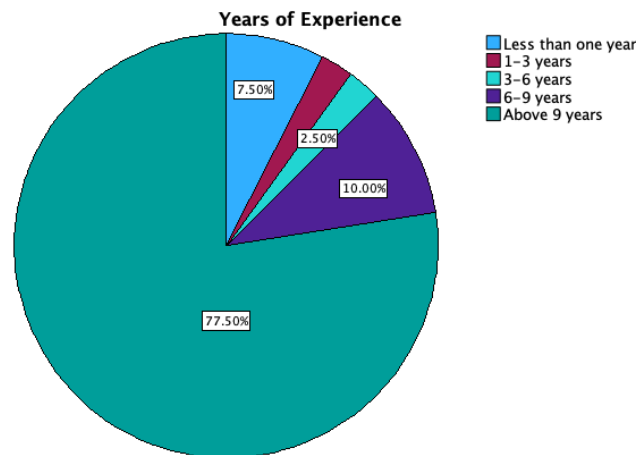
Figure 11: Experience Distribution

A vast majority of respondents (77.5%) have more than 9 years of work experience, indicating that the study reflects insights from highly experienced professionals. Employees with 6-9 years of experience account for 10%, while those with less than 6 years of experience collectively represent only 12.5% of the sample. This suggests that

perspectives from professionals who are in early phases of their career are limited in this study.

Table 5: Job level Profile

Job level in ITES organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Entry Level	12	7.5	7.5	7.5
	Mid-Level	36	22.5	22.5	30.0
	Senior Level	76	47.5	47.5	77.5
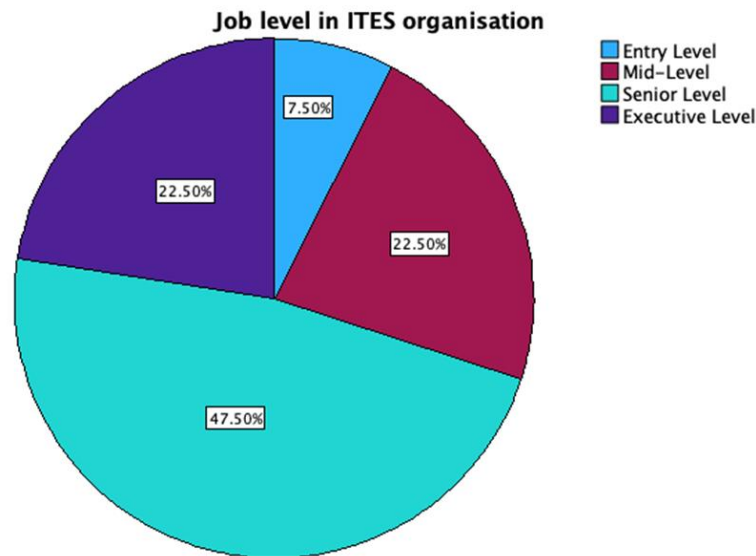
Figure 12: Job Level Distribution

Nearly half of the respondents (47.5%) hold senior-level positions, followed by mid-level employees (22.5%) and executive-level professionals (22.5%). Entry-level employees constitute only 7.5% of the sample. This distribution highlights that the study

majorly captures insights of individuals who hold decision-making and managerial roles. This is beneficial for this study as these professionals are actively involved in organizational change initiatives.

Table 6: Organization size Profile

ITES Organization Size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small (1-50 employees)	20	12.5	12.5	12.5
	Medium (51-500 employees)	24	15.0	15.0	27.5
	Large (Above 500 employees)	116	72.5	72.5	100.0
	Total	160	100.0	100.0	
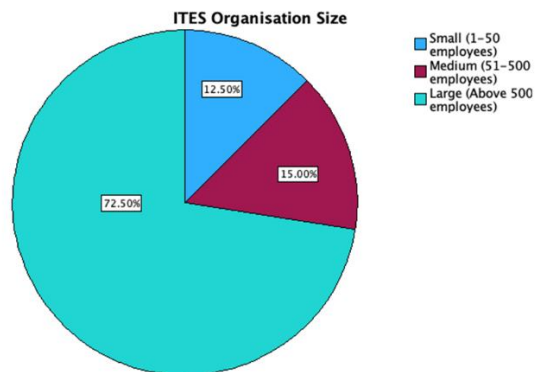
Figure 13: Organization-size Distribution

A significant majority of respondents (72.5%) work in large ITES organizations (more than 500 employees), while 15% are from medium-sized organizations (51-500 employees) and 12.5% are from small organizations (1-50 employees). The high representation of employees from large organizations and less representation of small

organizations can raise concerns about the generalizability of findings from this study to smaller organizations.

4.3 Research Question One

The first research question (RQ1) at hand was that – What are the human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence change adoption from Industry 4.0 to Industry 5.0?

4.3.1 Leadership Empathy

While assessing the key factors that influenced change adoption it was found that Leadership Empathy is one important aspect. The findings indicate that leadership empathy plays a crucial role in organizational change adoption. The highest mean score (4.14) was observed for "My organization's leadership provides emotional support during change," suggesting that a significant portion of employees perceive their leaders as emotionally supportive. But responses regarding leaders taking employees' emotions into account when making changes (M = 3.74, SD = 1.20) scored the lowest, indicating that while leadership shows empathy in general, there is room for improvement in considering employees' emotional responses during decision-making. Overall, these results suggest that employees recognize leadership efforts to support change but may still feel that their concerns are not always fully integrated into change initiatives.

The results imply that change acceptance is much influenced by leadership empathy as workers value emotional support from leaders. Still, there is a discrepancy in how executives view workers' feelings about decisions. This is consistent with Jian (2022) and

Clark et al. (2019), who contend that empathic leadership strengthens resilience and creates a conducive climate for transformation. Likewise, Elche et al. (2020), underline how empathy of leaders enhances communication, thus increasing trust and participation throughout changes. Baesu (2019) argues, meanwhile, that many companies still struggle with emotional intelligence, which causes resistance and disengagement. The results go counter to McCarthy et al. (2024), who advocate that leaders of digital transformation give emotional factors equal weight with strategic objectives. This suggests that even if ITES companies understand the need of leadership empathy, there is still space for development in integrating employee emotions into methodologies of organised transformation. Dealing with this disparity might result in better transitions and less employee opposition during digital transformation.

Table 7: Leadership Empathy

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
My organization's leadership provides emotional support during change	160	1	5	4.14	1.132
Leaders in my organization show empathy toward employees' concerns	160	1	5	3.91	1.036
I feel that my leadership understands the challenges employees face during change	160	1	5	3.96	.983
Leaders encourage open communication and feedback about change	160	1	5	3.98	1.119
My organization's leadership takes employees' emotions into account when making changes	160	1	5	3.74	1.200
Valid N (listwise)	160				

4.3.2 Employee Readiness

Employee readiness for change received relatively high scores across all items, with the highest mean (4.26) for "I actively seek ways to improve and align with organizational changes," indicating a proactive approach among employees. Similarly, confidence in adapting to changes (M = 4.23, SD = 0.768) and the perception of adequate training (M = 4.23, SD = 0.746) further support the idea that employees generally feel equipped to handle transitions. However, the openness of employees towards change (M = 3.89, SD = 0.836) was slightly lower than other indicators, suggesting that while individuals may personally feel prepared, broader cultural acceptance of change within the organization may not be as strong. According to the survey, workers usually feel ready for change and exhibit confidence in adjusting and matching with organisational transformations. On a more general organisational level, receptivity to change was somewhat lower, however.

This helps Purwanto (2021) and Rafferty & Minbashian (2019), who contend that self-efficacy, training, and leadership support promote personal preparedness. Kirrane et al. (2016), further add that workers are more likely to welcome change when their leaders create a trusting and empowering workplace. On the other hand, Katsaros et al. (2020), propose that strict organisational control might stifle preparation by rendering staff members helpless in the change process. The results imply that while cultural opposition still exists, ITES companies have mostly been successful in arming staff members with the required confidence and abilities. Dealing with this calls for not just training but also programs encouraging group openness to change, thereby guaranteeing that preparedness is ingrained at both personal and corporate levels.

Table 8: Employee Readiness

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I feel prepared to adopt new processes or changes in my organization	160	3	5	4.11	.640
My organization provides adequate training to help employees transition smoothly	160	3	5	4.23	.746
I am confident in my ability to adapt to organizational changes	160	2	5	4.23	.768
I actively seek ways to improve and align with organizational changes	160	1	5	4.26	.947
Employees in my organization are open to change	160	2	5	3.89	.836
Valid N (listwise)	160				

4.3.3 Organizational Support

The results indicate that employees perceive strong organizational support for change adoption. The highest-rated item (M = 4.10) was "The organization has clear policies and structures to support employees during change," suggesting that structured mechanisms for change management are in place. However, "There are systems in place to address employee concerns about change" (M = 3.86, SD = 0.994) had the lowest mean, suggesting that while resources and support structures exist, there may be gaps in effectively addressing employee concerns. This indicates that while organizations provide the necessary infrastructure and policies, individual concerns about change might not always be adequately addressed.

Regarding policies, training, and tools for change adoption, the study shows that staff members see great organisational support. Still, there remains a gap in properly responding to personal worries about change. This is in line with Mansaray (2019) and Cimini et al. (2020), who underline how important well-organised support systems including development initiatives and clear rules are in enabling seamless transitions. Carvalho et al. (2019), also contend that psychological and emotional assistance during transformation could improve workers' adaptability. Els & Meyer (2025), counter this, claiming that many companies concentrate on structural support but ignore employee emotional well-being, which might cause resistance. The results imply that more customised, employee-centric support systems are needed even if ITES companies provide enough technical and procedural help. Improving direct involvement tactics include psychological support programs and staff feedback systems would help to increase change acceptance results.

Table 9: Organizational Support

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
My organization provides sufficient resources to facilitate change adoption	160	2	5	4.08	.897
The organization has clear policies and structures to support employees during change	160	2	5	4.10	.906
My organization fosters a culture that embraces change	160	2	5	4.03	.854
I receive support from my team and management when changes are introduced	160	1	5	3.94	.963
There are systems in place to address employee concerns about change	160	1	5	3.86	.994
Valid N (listwise)	160				

4.3.4 Communication Effectiveness

Communication effectiveness was rated positively, with all items receiving mean scores above 4.00. The highest scores were observed for "Change-related information is communicated clearly" (M = 4.04, SD = 0.717) and "Leadership ensures transparency in the change management process" (M = 4.03, SD = 0.886), indicating that employees generally view communication as clear and transparent. However, the lowest score (M = 4.00, SD = 0.869) was for "I receive timely updates about organizational changes," suggesting that while communication is clear, timing and frequency of updates could be improved.

Although workers see communication during change as usually transparent and open, the survey results show that timeliness of information might be improved. This is consistent with Lewis (2019) and Putro (2023), who contend that good communication

lowers uncertainty during change and improves employee involvement. In the same vein, Oreg & Berson (2019) underline that honest communication builds confidence and reduces opposition to transformation. Albu & Flyverbom (2019) counter this, however, by saying that effective change management depends on two-way communication and real-time updates—transparency by itself is insufficient. The results imply that delays in updating could cause employee irritation and confusion even if ITES companies are trying to properly convey change. Businesses should so use proactive leadership communication techniques, organised feedback loops, and real-time communication platforms. Improving the frequency and clarity of change-related messaging can help to build employee confidence, lower resistance, and create a more flexible workplace.

Table 10: Communication Effectivenss

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Change-related information is communicated clearly in my organization	160	2	5	4.04	.717
I receive timely updates about organizational changes	160	2	5	4.00	.869
Leadership ensures transparency in the change management process	160	1	5	4.03	.886
Employees are given opportunities to provide feedback on change initiatives.	160	1	5	4.03	.961
I understand the reasons behind organizational changes	160	1	5	4.01	1.070
Valid N (listwise)	160				

4.3.5 Psychological Safety

The findings suggest moderate levels of psychological safety during change, with the highest mean score (M = 3.85, SD = 1.089) observed for "My organization encourages open discussion about the challenges of change." However, the lowest score (M = 3.63, SD = 1.137) for "I feel safe to express doubts or uncertainties about changes in my workplace" indicates that some employees may not feel entirely comfortable voicing concerns about change initiatives. This suggests that while open discussions are encouraged at an organizational level, individual employees may still feel hesitant about expressing doubts, possibly due to fear of repercussions.

According to the report, workers still hesitate to voice concerns because of fear of negative repercussions even if companies promote honest communication about changes. This backs up Edmondson & Bransby (2023) and O'Donovan & McAuliffe (2020), who contend that psychological safety is crucial for encouraging creativity and teamwork throughout organisational changes. In line with this, Zeng et al. (2020) underline that a secure workplace where staff members feel free to express worries improves confidence and commitment to transformation. Javed et al. (2019) contend, however, that many companies fail to completely incorporate inclusion methods, which fuels residual concerns about speaking up. The results imply that even if ITES companies understand the need of psychological safety, workers could still see dangers in sharing different ideas. Organisations should use leadership development on active listening, anonymous feedback systems, and a culture that supports honest communication in order to increase psychological safety. By filling up these gaps, a more engaged and resilient workforce throughout digital transformation will be produced.

Table 11: Psychological Safety

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I feel comfortable voicing my concerns about change	160	1	5	3.72	1.081
My opinions about organizational changes are valued	160	1	5	3.78	1.040
I feel safe to express doubts or uncertainties about changes in my workplace	160	1	5	3.63	1.137
Mistakes during the change process are seen as learning opportunities rather than failures	160	1	5	3.70	.983
My organization encourages open discussion about the challenges of change	160	1	5	3.85	1.089
Valid N (listwise)	160				

4.3.6 Resistance to Change

The results indicate moderate resistance to change among employees, with the highest score (M = 3.70, SD = 1.080) for "I feel that changes are imposed rather than collaboratively planned." This suggests that employees may not feel fully involved in the change process, leading to some resistance. The lowest score (M = 3.45, SD = 1.051) was observed for "I resist changes because they disrupt my current workflow," indicating that while disruption is a factor, it is not the primary reason for resistance. Overall, these results suggest that employees may not necessarily resist change outright, but a lack of involvement in the planning process could contribute to feelings of uncertainty and resistance.

According to the research, resistance to change results more from forced changes and uncertainty than from disturbances to workflow. This is consistent with Murrar & Brauer (2019) and Darmawan & Azizah (2020), who underline that opposition is mostly motivated by uncertainty about the future. Rachmad (2022), also emphasises how disengagement results from staff members not participating in change planning. But Errida & Lotfi (2021), argue that resistance is more linked to operational interruptions than psychological elements, therefore contradicting this. The results imply that in order to lower resistance, ITES companies might have to modify management using a more participative strategy. Transparency in arguments for changes, more employee participation in decision-making, and organised transition plans help to reduce uncertainty. Moreover, encouraging a culture that recognises issues and combines staff comments into change plans can assist to reduce resistance, therefore guaranteeing better acceptance of new technologies and procedures in the ITES Industry.

Table 12: Resistance to Change

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I feel anxious when changes are introduced in my organization	160	1	5	3.55	.923
I resist changes because they disrupt my current workflow	160	1	5	3.45	1.051
Organizational changes create uncertainty that affects my productivity	160	1	5	3.53	1.052
I feel that changes are imposed rather than collaboratively planned	160	1	5	3.70	1.080
I believe that change is often unnecessary in my organization	160	1	5	3.65	1.111
Valid N (listwise)	160				

4.3.7 Change Adoption

Change adoption received generally positive responses, with the highest score (M = 4.13, SD = 0.874) for "I actively contribute to making organizational changes successful." This indicates a strong commitment from employees to support change efforts. However, the lowest score (M = 3.92, SD = 0.962) for "I feel motivated to adopt new processes introduced by my organization" suggests that while employees actively participate in change efforts, motivation levels could still be enhanced. Overall, these findings indicate that employees recognize the benefits of change and are willing to adapt, but ensuring sustained motivation remains an area for improvement.

According to the research, workers usually welcome organisational changes and actively help them to be successful. Still, there might be more drive to implement fresh approaches. This is consistent with all who contend that greater rates of change adoption are brought about by involvement and preparation. Likewise, Wang et al. (2020) underline how important good leadership is in keeping drive throughout changes. The results also corroborate Men & Yue (2019), who underline how employee participation and honest communication help to improve change acceptance. Conversely, it contradicts this by suggesting that financial incentives, rather than involvement techniques, are the primary drivers of motivation. The findings show that while ITES companies have created an atmosphere of change acceptance, keeping employee enthusiasm a difficulty. Organisations could start recognition programs, provide clear career paths after change, and increase support of leadership to boost motivation. Constant involvement and incentives help to guarantee more efficient and long-lasting change acceptance.

Table 13: Change Adoption

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I believe the organizational changes have been beneficial for my role	160	2	5	3.95	.807
I feel motivated to adopt new processes introduced by my organization	160	1	5	3.92	.962
I actively contribute to making organizational changes successful	160	2	5	4.13	.874
I adapt quickly to new changes in my workplace	160	2	5	4.07	.935
Change adoption in my organization leads to improved performance	160	1	5	3.93	.935
Valid N (list wise)	160				

4.3.8 Linking the above findings with research objectives

From the descriptive analysis, it can be interpreted that there is an acute need for emotional support in a successful change transition. The mean value of 4.14 justified the above argument, moreover, it can also be said that employees in the ITES sector preferred emotionally supportive leaders. However, the higher degree of leadership empathy might prolong the change transition process, hence, it might risk the time-effectiveness in the change management processes. Moreover, in the context of employee readiness, the majority of the survey participants (M=4.26) opined on the need for aligning oneself with organisational change. Moreover, training, open to change, self-confidence are also the contributors to employee readiness development, thus, justifying the second research objective. Moreover, it can be further interpreted that the human contributors to Organisational support in successful change adoption are clear policies and structure (M=4.10) and organisational resources (training modules and digital tools).

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Communication Effectiveness and psychological safety are the drivers to inclusion of human factors in organizational change processes. The key contributors to it include clear communication of change-related information (M=4.04) and open discussion (M=3.85) respectively. Thus, the above elements are the most crucial human factors that drive the process-based and service-oriented change adoption in the ITES Industry (justifying the third research objective).

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4.4 Research Question Two

The second question at hand (RQ2) was that - What is the relationship between human factors and change adoption to determine their collective impact on successful transitions in ITES change management systems? Factor analysis was conducted to assess the underlying structure of the survey items corresponding to different human factors influencing change adoption. Principal Component Analysis (PCA) was used as the extraction method to identify significant factors. The results indicate that each construct was unidimensional, with all items loading strongly on a single component. The results from factor analysis of each are analysed in the subsequent sections.

4.4.1 Leadership Empathy

The results of the Principal Component Analysis (PCA) for Leadership Empathy revealed that all five items loaded onto a single factor, with loadings ranging from 0.857 to 0.906. The highest loading (0.906) was observed for "Leaders encourage open communication and feedback about change," suggesting that open communication is a central aspect of leadership empathy. The lowest loading (0.857) was found for "My organization's leadership takes employees' emotions into account when making changes," indicating that while emotional consideration is present, it may not be as dominant as other

leadership behaviors. These findings suggest that Leadership Empathy is a cohesive construct.

Table 14: Leadership Empathy

Component Matrix[a]

	Component 1
My organization's leadership provides emotional support during change	.862
Leaders in my organization show empathy toward employees' concerns	.902
I feel that my leadership understands the challenges employees face during change	.887
Leaders encourage open communication and feedback about change	.906
My organization's leadership takes employees' emotions into account when making changes	.857

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.2 Employee Readiness

For Employee Readiness, PCA also identified a single factor, with factor loadings ranging from 0.737 to 0.818. The highest loading (0.818) was observed for "I feel prepared to adopt new processes or changes in my organization," highlighting the role of individual preparedness as a key component of employee readiness. The lowest loading (0.737) was for "I actively seek ways to improve and align with organizational changes," indicating that proactive change-seeking behavior varies among employees. Overall, the findings suggest that Employee Readiness is a well-defined construct, primarily driven by training, confidence, and preparedness for change.

Table 15: Employee Readiness

Component Matrix[a]

	Component
	1
I feel prepared to adopt new processes or changes in my organization	.818
My organization provides adequate training to help employees transition smoothly	.777
I am confident in my ability to adapt to organizational changes	.761
I actively seek ways to improve and align with organizational changes	.737
Employees in my organization are open to change	.778

Extraction Method: Principal Component Analysis.

a.   1 component extracted.

4.4.3 Organizational Support

The PCA for Organizational Support extracted a single component, with factor loadings ranging from 0.778 to 0.889. The highest loading (0.889) was found for "There are systems in place to address employee concerns about change," emphasizing that employees view structured support mechanisms as the most crucial aspect of organizational support. The lowest loading (0.778) for "My organization fosters a culture that embraces change" suggests that while a change-oriented culture is valued, it may not be as directly impactful as tangible resources or managerial support. These results confirm that Organizational Support is a strongly unified factor that encompasses both structural and cultural support for employees during change.

Table 16: Organizational Support

Component Matrix^a

	Component 1
My organization provides sufficient resources to facilitate change adoption	.864
The organization has clear policies and structures to support employees during change	.851
My organization fosters a culture that embraces change	.778
I receive support from my team and management when changes are introduced	.853
There are systems in place to address employee concerns about change	.889

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.4 Communication Effectiveness

The PCA results for Communication Effectiveness showed that all five items loaded onto a single factor, with loadings between 0.790 and 0.919. The highest loading (0.919) was for "Leadership ensures transparency in the change management process," indicating that transparency is perceived as the most critical aspect of communication during change. The lowest loading (0.790) was for "Change-related information is communicated clearly in my organization," suggesting that while clarity is important, it may not be as influential as transparency and feedback mechanisms. These findings highlight that effective communication is characterized by transparency, timely updates, and opportunities for employee feedback.

Table 17: Communication Effectiveness

Component Matrixa

	Component 1
Change-related information is communicated clearly in my organization	.790
I receive timely updates about organizational changes	.868
Leadership ensures transparency in the change management process	.919
Employees are given opportunities to provide feedback on change initiatives.	.886
I understand the reasons behind organizational changes	.904

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.5 Psychological Safety

The factor analysis for Psychological Safety extracted a single component, with high loadings ranging from 0.892 to 0.942. The strongest loading (0.942) was observed for "I feel safe to express doubts or uncertainties about changes in my workplace," indicating that psychological safety is primarily driven by employees' comfort in expressing concerns. The lowest loading (0.892) was for "I feel comfortable voicing my concerns about change," which, while still high, suggests that some employees may feel hesitant to share their concerns openly. Overall, these results confirm that Psychological Safety is a well-defined construct that revolves around open discussion, value for employee opinions, and learning from mistakes.

Table 18: Psychological Safety

Component Matrix^a

	Component 1
I feel comfortable voicing my concerns about change	.892
My opinions about organizational changes are valued	.940
I feel safe to express doubts or uncertainties about changes in my workplace	.942
Mistakes during the change process are seen as learning opportunities rather than failures	.905
My organization encourages open discussion about the challenges of change	.928

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.6 Resistance to Change

The PCA for Resistance to Change extracted a single factor, with very high factor loadings between 0.869 and 0.928. The highest loading (0.928) was found for "I feel anxious when changes are introduced in my organization" and "I believe that change is often unnecessary in my organization," indicating that resistance is primarily driven by anxiety and perceived redundancy of change. The lowest loading (0.869) was for "I feel that changes are imposed rather than collaboratively planned," suggesting that while lack of involvement contributes to resistance, emotional responses to change play a more significant role. These results confirm that Resistance to Change is a single, cohesive factor, with strong associations between anxiety, uncertainty, and perceived imposition of change.

Table 19: Resistance to Change

Component Matrix[a]

	Component
	1
I feel anxious when changes are introduced in my organization	.927
I resist changes because they disrupt my current workflow	.920
Organizational changes create uncertainty that affects my productivity	.887
I feel that changes are imposed rather than collaboratively planned	.869
I believe that change is often unnecessary in my organization	.928

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.7 Change Adoption

The factor analysis for Change Adoption extracted a single component, with factor loadings ranging from 0.799 to 0.893. The highest loading (0.893) was for "I actively contribute to making organizational changes successful," suggesting that active involvement is the strongest indicator of change adoption. The lowest loading (0.799) was for "I adapt quickly to new changes in my workplace," indicating that while adaptability is important, it may be influenced by external factors such as organizational support and leadership. These findings confirm that Change Adoption is a well-defined construct, primarily driven by employee motivation, contribution, and perceived benefits of change. Therefore, the results of the Principal Component Analysis (PCA) indicate that all measured constructs are unidimensional, with each scale forming a single coherent factor. This confirms the validity of the individual constructs and suggests that the identified factors accurately represent their respective theoretical constructs. The strong factor

loadings across all sub-scales indicate that the survey items are well-structured and effectively capture the key elements of leadership empathy, employee readiness, organizational support, communication effectiveness, psychological safety, resistance to change, and change adoption.

Table 20: Change Adoption

Component Matrix^a

	Component
	1
I believe the organizational changes have been beneficial for my role	.842
I feel motivated to adopt new processes introduced by my organization	.857
I actively contribute to making organizational changes successful	.893
I adapt quickly to new changes in my workplace	.799
Change adoption in my organization leads to improved performance	.848

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

4.4.8 Correlation Analysis

Correlation analysis was conducted to examine the relationships between the seven key human factors influencing change adoption. Pearson correlation coefficients were computed to measure the strength and direction of associations between Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, Psychological Safety, Resistance to Change, and Change Adoption. The results from the correlation analysis are shown below:

Table 21: Correlation Analysis

Correlations

		REGR factor score for leadership empathy	REGR factor score for employee readiness	REGR factor score for organizational support	REGR factor score for communication effectiveness	REGR factor score for psychological safety	REGR factor score for resistance to change	REGR factor score for change adoption
REGR factor score for leadership empathy	Pearson Correlation	1	.748**	.720**	.713**	.828**	-.406**	.579**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001	<.001
	N	160	160	160	160	160	160	160
REGR factor score for employee readiness	Pearson Correlation	.748**	1	.836**	.705**	.775**	-.474**	.857**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001	<.001
	N	160	160	160	160	160	160	160
REGR factor score for organizational support	Pearson Correlation	.720**	.836**	1	.727**	.826**	-.448**	.781**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001	<.001
	N	160	160	160	160	160	160	160
REGR factor score for communication effectiveness	Pearson Correlation	.713**	.705**	.727**	1	.771**	-.469**	.640**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001	<.001
	N	160	160	160	160	160	160	160
REGR factor score for psychological safety	Pearson Correlation	.828**	.775**	.826**	.771**	1	-.538**	.747**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001	<.001
	N	160	160	160	160	160	160	160
REGR factor score for resistance to change	Pearson Correlation	-.406**	-.474**	-.448**	-.469**	-.538**	1	-.419**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001		<.001
	N	160	160	160	160	160	160	160
REGR factor score for change adoption	Pearson Correlation	.579**	.857**	.781**	.640**	.747**	-.419**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	<.001	
	N	160	160	160	160	160	160	160

**. Correlation is significant at the 0.01 level (2-tailed).

Several factors showed a strong positive correlation, indicating that they are closely related and they increase together. Firstly, a strong positive correlation was seen between Employee Readiness and Change Adoption (r = .857, p < .001). The high correlation suggests that employees who feel prepared and confident in handling changes are more likely to embrace and adopt those changes successfully. This highlights the importance of organizational training programs and proactive communication in enabling smooth change transitions. It must be noted that this is the strongest correlation in the dataset. Secondly, a strong positive correlation was seen between Leadership Empathy and Psychological Safety (r = .828, p < .001). This strong positive correlation suggests that leaders who demonstrate empathy contribute significantly to a psychologically safe environment where employees feel comfortable expressing concerns about change.

The third strong positive correlation is seen between Organizational Support and Psychological Safety (r = .826, p < .001). A strong relationship indicates that when organizations provide adequate resources, clear policies, and structured support mechanisms, employees feel safer to voice their concerns and engage in the change process without fear of negative consequences. This confirms that structural and cultural support are important for fostering psychological safety in times of organizational transformations. The fourth strong positive correlation was seen between Organizational Support and Change Adoption (r = .781, p < .001). This significant correlation suggests that employees who perceive strong organizational support are more likely to adopt changes positively. This finding highlights the importance for companies to provide not only training and resources but also a supportive work culture that supports change acceptance. The final strong positive correlation was seen between Communication Effectiveness and Psychological Safety (r = .771, p < .001). This correlation highlights the importance of clear, transparent, and timely communication in reducing employee anxiety and fostering

a psychologically safe environment. Employees who understand the reasons behind organizational changes and feel heard are more likely to experience lower resistance and higher acceptance of change.

There were also several negative correlations. Resistance to Change showed negative correlations with all other factors, indicating that as supportive leadership, communication, readiness, and safety increase, resistance to change decreases. The first notable negative correlation was seen between Psychological Safety and Resistance to Change ($r = -0.538$, $p < .001$). A moderate negative correlation suggests that when employees feel psychologically safe, they are less likely to resist change. It can be assumed that this would support the idea that creating an open and trusting work environment can significantly mitigate resistance. The second notable negative correlation was seen between Employee Readiness and Resistance to Change ($r = -0.474$, $p < .001$). This means that employees who feel unprepared for change are more likely to resist it. Therefore, it can be safely assumed that strategies and interventions that can support employee readiness need to be implemented to reduce resistance. The third notable negative correlation was seen between Communication Effectiveness and Resistance to Change ($r = -0.469$, $p < .001$). This means that poor communication is associated with higher resistance to change. Based on this negative correlation it can be safely assumed that employees who feel uninformed or unheard are more likely to push back against new initiatives. The final notable negative correlation was seen between Change Adoption and Resistance to Change ($r = -0.419$, $p < .001$). This means that employees who resist change are less likely to adopt it successfully.

Thus the correlation analysis confirms that leadership behaviors, communication effectiveness, employee readiness, and organizational support are significant predictors of change adoption, while resistance to change is inversely related to these positive factors. By enhancing leadership empathy, providing adequate training, fostering a supportive

culture, and improving communication strategies, organizations can effectively reduce resistance and improve overall change adoption success.

4.4.9 Regression Analysis

Regression analysis was performed to evaluate the association between human factors and change adoption. Two regression analyses were performed. The first regression model did not include resistance to change, whereas the second model included resistance to change and following are the results:

Table 22: Regression analysis without resistance to change as mediator

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.894ᵃ	.799	.793	.45548574

a. Predictors: (Constant), REGR factor score for psychological safety, REGR factor score for communication effectiveness, REGR factor score for employee readiness, REGR factor score for leadership empathy, REGR factor score for organizational support

The first regression model, which included leadership empathy, employee readiness, organizational support, communication effectiveness, and psychological safety as independent variables, had an R-value of 0.894, indicating that there is a strong correlation between the predictors and change adoption. The R-Square value (0.799) suggests that approximately 79.9% of the variance in change adoption can be explained by these five factors. The adjusted R-Square of 0.793 further supports the model's robustness, with a standard error of 0.4555.

4.4.10 ANOVAa

The output of regression ANOVa is presented in the next table:

Table 23: ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.050	5	25.410	122.477	<.001[b]
	Residual	31.950	154	.207		
	Total	159.000	159			

a. Dependent Variable: REGR factor score for change adoption

b. Predictors: (Constant), REGR factor score for psychological safety, REGR factor score for communication effectiveness, REGR factor score for employee readiness, REGR factor score for leadership empathy, REGR factor score for organizational support

The F-statistic of 122.477 ($p < 0.001$) confirms that the overall regression model is statistically significant. This means that the independent variables collectively have a significant impact on change adoption.

4.4.11 Coefficients

The estimated regression coeficients are presented:

Table 24: Regression Coefficient

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.478E-17	.036		.000	1.000
	REGR factor score for leadership empathy	-.392	.068	-.392	-5.723	<.001
	REGR factor score for employee readiness	.752	.072	.752	10.465	<.001
	REGR factor score for organisational support	.096	.078	.096	1.231	.220
	REGR factor score for communication effectiveness	.010	.060	.010	.163	.871
	REGR factor score for psychological safety	.402	.083	.402	4.845	<.001

a. Dependent Variable: REGR factor score for change adoption

The above table shows that Leadership Empathy has a negative and significant impact on change adoption (β = -0.392, p < 0.001), suggesting that higher leadership empathy is associated with lower change adoption. Employee Readiness has the strongest positive influence (β = 0.752, p < 0.001), indicating that organizations with more ready employees are more likely to adopt change successfully. Psychological Safety also has a significant positive impact (β = 0.402, p < 0.001), implying that employees who feel psychologically safe are more likely to embrace change. Organizational Support (β = 0.096, p = 0.220) and Communication Effectiveness (β = 0.010, p = 0.871) are not significant predictors. This means that their influence on change adoption is minimal.

Table 25: Regression analysis with resistance to change as a mediator variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.895[a]	.802	.794	.45393633

a. Predictors: (Constant), REGR factor score for resistance to change, REGR factor score for leadership

e

b. mpathy, REGR factor score for organisational support, REGR factor score for communication effectiveness, REGR factor score for employee readiness, REGR factor score for psychological safety

After including resistance to change as an additional predictor, the model showed a slight increase in R-value (0.895) and R-Square (0.802), meaning 80.2% of the variance in change adoption is now explained. The adjusted R-Square remains stable at 0.794, with a slightly lower standard error (0.4539), indicating a small improvement in model fit.

Table 26: ANOVAa

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.473	6	21.246	103.104	<.001[b]
	Residual	31.527	153	.206		
	Total	159.000	159			

a. Dependent Variable: REGR factor score for change adoption

b. Predictors: (Constant), REGR factor score for resistance to change, REGR factor score for leadership empathy, REGR factor score for organizational support, REGR factor score for communication effectiveness, REGR factor score for employee readiness, REGR factor score for psychological safety

The updated model remains significant (F = 103.104, p < 0.001). This means that inclusion of resistance to change does not make the overall model weak.

Table 27: Regression Coefficient

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.359E-17	.036		.000	1.000
	REGR factor score for leadership empathy	-.406	.069	-.406	-5.886	<.001
	REGR factor score for employee readiness	.767	.072	.767	10.598	<.001
	REGR factor score for organisational support	.086	.078	.086	1.111	.268
	REGR factor score for communication effectiveness	.019	.060	.019	.314	.754
	REGR factor score for psychological safety	.437	.086	.437	5.068	<.001
	REGR factor score for resistance to change	.062	.044	.062	1.433	.154

a. Dependent Variable: REGR factor score for change adoption

Leadership Empathy remains negatively associated with change adoption (β = -0.406, p < 0.001), slightly increasing in strength compared to Model 1. Employee Readiness retains its strong positive effect (β = 0.767, p < 0.001), reinforcing its importance in change adoption. Psychological Safety slightly increases its influence (β = 0.437, p < 0.001), suggesting its role is still significant. Organizational Support (β = 0.086, p = 0.268) and Communication Effectiveness (β = 0.019, p = 0.754) remain statistically

insignificant. Resistance to Change ($\beta = 0.062$, p = 0.154) is not statistically significant, suggesting that while it is included in the model, it does not have a strong direct effect on change adoption.

On comparing two models it can be seen that the inclusion of resistance to change did not significantly improve the model's predictive power. There is only a 0.3% increase in R-Square. Leadership empathy, employee readiness, and psychological safety remain the key significant predictors of change adoption. Organizational support and communication effectiveness do not have a significant impact in either model. Resistance to change does not significantly mediate change adoption which implies that other factors might play a stronger role in moderating its influence. In order to further understand if the perspectives differ for male and female employees, independent samples t-test was performed and following results are shared in Table 28. As seen across all factors, males report slightly higher mean values compared to females. This suggests that male employees perceive higher leadership empathy, employee readiness, organizational support, communication effectiveness, and psychological safety, whereas female employees report slightly higher resistance to change. Female employees exhibit higher standard deviations across most factors. This suggests that there is a greater variability in their responses.

Table 28: Group Statistics

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
REGR factor score for leadership empathy	Male	100	.0623614	.91924075	.09192407
	Female	60	-.1039357	1.12225255	.14488218
REGR factor score for employee readiness	Male	100	.0584126	.87739438	.08773944
	Female	60	-.0973543	1.17803238	.15208333
REGR factor score for organizational support	Male	100	.0803365	.74629694	.07462969
	Female	60	-.1338942	1.31574553	.16986202
REGR factor score for communication effectiveness	Male	100	.0648470	1.05283977	.10528398
	Female	60	-.1080784	.90328914	.11661413
REGR factor score for psychological safety	Male	100	.0503288	.88648013	.08864801
	Female	60	-.0838814	1.16826455	.15082230
REGR factor score for resistance to change	Male	100	-.0462650	.99901426	.09990143
	Female	60	.0771084	1.00527670	.12978066
REGR factor score for change adoption	Male	100	.0225382	.93027709	.09302771
	Female	60	-.0375637	1.11376907	.14378697

Table 29: Independent Samples Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
						Significance		Mean Differenc	Std. Error Differenc		
		F	Sig.	t	df	One-Sided p	Two-Sided p	e	e	Lower	Upper
REGR factor score for leadership empathy	Equal variances assumed	4.401	.038	1.018	158	.155	.310	.16629711	.16328017	-.15619625	.48879047
	Equal variances not assumed			.969	105.841	.167	.335	.16629711	.17158345	-.17388967	.50648389
REGR factor score for employee readiness	Equal variances assumed	12.995	<.001	.954	158	.171	.342	.15576683	.16334588	-.16685633	.47838999
	Equal variances not assumed			.887	98.319	.189	.377	.15576683	.17557775	-.19264736	.50418103
REGR factor score for organisational support	Equal variances assumed	19.581	<.001	1.315	158	.095	.190	.21423072	.16292627	-.10756366	.53602511
	Equal variances not assumed			1.155	82.152	.126	.252	.21423072	.18553354	-.15484438	.58330582
REGR factor score for communication effectiveness	Equal variances assumed	.329	.567	1.059	158	.146	.291	.17292537	.16323658	-.14948191	.49533266
	Equal variances not assumed			1.101	139.248	.136	.273	.17292537	.15711006	-.13770428	.48355503
REGR factor score for psychological safety	Equal variances assumed	7.083	.009	.821	158	.206	.413	.13421023	.16346694	-.18865203	.45707249
	Equal variances not assumed			.767	99.714	.222	.445	.13421023	.17494524	-.21288832	.48130879
REGR factor score for resistance to change	Equal variances assumed	.229	.633	-.754	158	.226	.452	-.12337343	.16352097	-.44634240	.19959554
	Equal variances not assumed			-.753	123.743	.226	.453	-.12337343	.16377825	-.44754310	.20079624
REGR factor score for change adoption	Equal variances assumed	4.306	.040	.367	158	.357	.714	.06010187	.16374548	-.26331052	.38351426
	Equal variances not assumed			.351	107.505	.363	.726	.06010187	.17125667	-.27937626	.39958000

As seen above, the p-values (Sig.) are all above .05, indicating no statistically significant difference between male and female employees across all factors.

Table 30: Independent Samples Effect Sizes

Independent Samples Effect Sizes

		Standardizare[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
REGR factor score for leadership empathy	Cohen's d	.99988274	.166	-.155	.487
	Hedges' correction	1.00466052	.166	-.154	.484
	Glass's delta	1.12225255	.148	-.174	.469
REGR factor score for employee readiness	Cohen's d	1.00028517	.156	-.165	.476
	Hedges' correction	1.00506487	.155	-.164	.474
	Glass's delta	1.17803238	.132	-.189	.453
REGR factor score for organisational support	Cohen's d	.99771557	.215	-.107	.535
	Hedges' correction	1.00248299	.214	-.106	.533
	Glass's delta	1.31574553	.163	-.159	.484
REGR factor score for communication effectiveness	Cohen's d	.99961585	.173	-.148	.493
	Hedges' correction	1.00439235	.172	-.147	.491
	Glass's delta	.90328914	.191	-.131	.513
REGR factor score for psychological safety	Cohen's d	1.00102648	.134	-.187	.454
	Hedges' correction	1.00580973	.133	-.186	.452
	Glass's delta	1.16826455	.115	-.206	.435
REGR factor score for resistance to change	Cohen's d	1.00135735	-.123	-.443	.197
	Hedges' correction	1.00614217	-.123	-.441	.196
	Glass's delta	1.00527670	-.123	-.443	.199
REGR factor score for change adoption	Cohen's d	1.00273216	.060	-.260	.380
	Hedges' correction	1.00752355	.060	-.259	.378
	Glass's delta	1.11376907	.054	-.266	.374

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

As seen above, the Cohen's d values for all variables are below 0.3, indicating small or negligible effect sizes. Although male and female employees show minor

differences in their perceptions, these differences are not large enough to be practically significant.

4.5 Research Question Three

The third research question (RQ3) at hand was that – What are measures of key human factors that influence change adoption applicable for ITES undergoing change from Industry 4.0 to Industry 5.0? Seven interviews were conducted and analyzed using Invivo to thematically analyse the interview transcripts that have been illustrated in the form of the most frequently used word or phrases in the first graph followed by the primary theme and the secondary theme synthesized from the interview content illustrated in a second graph.

4.5.1 Respondent 1

The respondent one shows that human decision making process is one of the key dimensions during the change management from Industry 4.0 to 5.0 that the ITES sector requires to focus on. With 13.46% the transition of change stages in its work methods and work processes require creative thinking and human decision making, from the information technology (technical) based changes. However, the respondents exercise on developing a thorough understanding about the 'change dynamics' at 8.23% accompanied by 'behaviour willingness' 7.95%, and focus on the 'design' of the entire change 7.38%. Therefore in order to understand these stages and the time resource and change complexities involved, human decision making supersedes the technology based changes and automated systems. Results show that thinking deeply at cognitive level and attacking a change problem 360 degree was highlighted by the respondents with 5.87% while the judgement of the algorithm suitability and feasibility in the ITES change project was related at 5.51%. The criticality of interventions in training about the change model process methods adopted by

the leadership and the employees is rated at 5.27% while the collaboration of humans across organisation hierarchy adding value to the change dimensions was rated at 4.47%. They responded that inherently they will be challenges, in the change process and change modelling perfection, with 3.98% agreeing to it while that transition to Industry 5.0 request 3.74%. The responded stated that the change is continuous process and the planned change and the actual change framework, however, require iterative smaller inputs and decisions made quicker to show success with all stakeholders showing 'openness to change' at 3.43%. In all the change activities performed, the leadership and the employees need fairness to respect the rules of bringing about change, to show empathy towards a collaborative human factor decision making process, for Industry 4.0 to Industry 5.0 transition to be smoother. Respondent stated that the ITES organisation required a third party change team which instils the culture of change to be embraced by all internal stakeholders emphasizing on the human factor and environment in making incremental valued even inputs for the change to be successful. The human decision making factors have been analysed from the respondent interview transcripts and clubbed into the following graph, where clusters of factors related to research dimension have been illustrated. The criticality of human decision making, during the change transition stages in ITES sector, require openness to change leadership guidance, empathy, addition of value, and woven through the organisational or team based culture. The design of the change system requires to be optimised against the uses of humans or IT based on technical efficiency, while the challenges faced during transition, is skill evolution and technical knowledge required for migration and transition of IT systems. The change process involves understanding the broader dynamics of change communication by the change team(s) with other internal stakeholders showing flexibility against rigidity, adopting shorter change cycles, transparency with all stakeholders, iterative change, bottom up

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feedback, and early planning of change stages. It is also important for humans to judge AI algorithms, as thinking deeply at cognitive level, while the change team requires diversity and inclusion for creative thinking and idea generation. Training interventions for adopting change or learning IT platforms is required for migration, quality analytics and audits are a part of the change stage system.
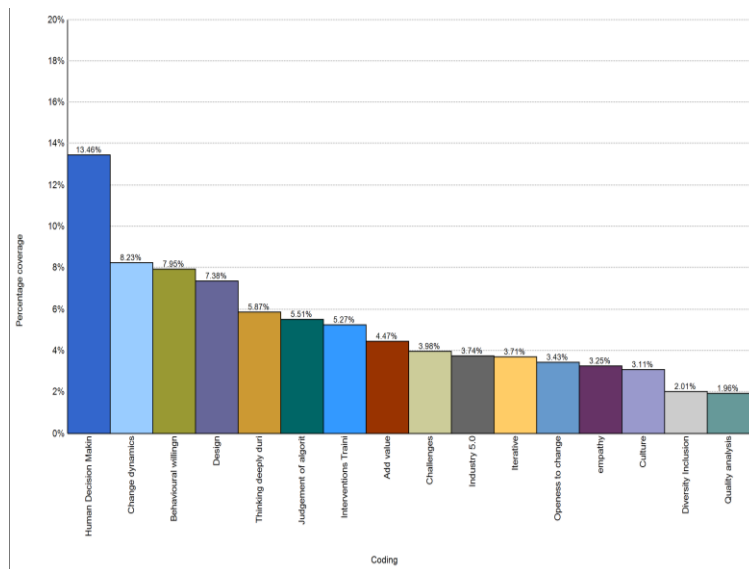

Figure 14: Interview 1- Senior Director - coding

Figure 15: Interview 1- Senior Director – themes

4.5.2 Respondent 2

Respond two in-charge of transformations project stressed on 12.54%, on the 'challenge' perspective which is a primary factor to be understood by everybody involved in the change process. From a team perspective, the human factor brings about change required to show openness to change from attitude and behaviour perspective with 10.8% transcript reflecting the same while responding also highlighted the 'change dynamics'- the length and breadth of Industry 4.0 to Industry 5.0 change within the ITES organisation 10.17% of entire transcripts supporting it. The confirmation of Industry 5.0 as the ultimate goal for the organisation has been proved with 8.56% of the discussion in the interview focusing on how human decisions in making the changes are important with 7.85% statements emphasizing it. As a transformation in charge the respondent stated that the skill evolution is required in order to bring about change with 7.12% of respondent statements supporting it while 'diversity inclusion' in the workforce is required for creative thinking and problem solving with 7.04% supporting it and the aggregate 'behaviour willingness' towards the change process at 7.04% to be very important. From a process perspective, the 'decision of human versus IT decisions impacting change efficiency' driving the planned change stages, came up in the discussion with 6.96%. The ITES sector change needs 'Technical knowledge about the various software and hardware platforms, and the advanced technology is like - AI, ML, bigdata, cloud integrated and converging towards assisting in the enterprise wide change process towards Industry 5.0. At micro level, the respondent in highlighted on the value addition 4%, to every change challenge and iteration process from all the stakeholders signifying the human thinking factor, embedded with 'empathy' 3.84% shown by leadership, guiding the workforce towards overcoming challenges in every change stage irrespective of the planned change design 3.37%. The relative importance of 'humans in judging the algorithm appropriateness' in the

deployment of advanced IT technology instrumental in bringing about the technical changes was highlighted with 3.02% while 2.98% of the discussion focused on audits and quality analysis for the planned change stages, along with training interventions for understanding change methodology adopted with 2.96% to be important. Feedback from the frontline employees across organisation hierarchy, which is the bottom of communication is important to understand the challenges in change with 2.6% while iterative change with incremental small achievable goals in the change transition process was supported at 1.34%.

Clustering of the key dimensions of change and sub-clusters are illustrated below in the image below that shows the respondent focus on challenges where skill evolution in the workforce is a primary requirement along with the technical knowledge challenges that are important. Secondly, the change dynamics requires small identity changes in the plan change process and workforce adopting bottom up driven communication and real time to help the change capability model to succeed. Human decision making in the ITES sector during the transition phase of change requires empathy given approach from the leadership, the capability to generate 'value' in every change stage, and show the "openness and willingness'' in attitude towards and agreed change work model. The Industry 5.0 being the goal that requires required quality analysis, training interventions about change model and ITES technology and judgement of algorithm for initiating transitions in technical systems and compass by the behaviour willingness of the workforce to drive ITES change process.
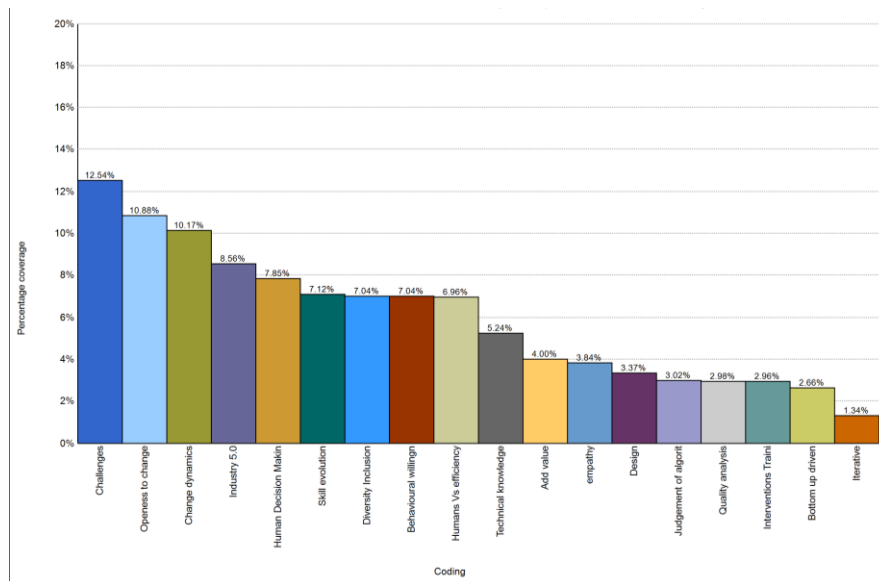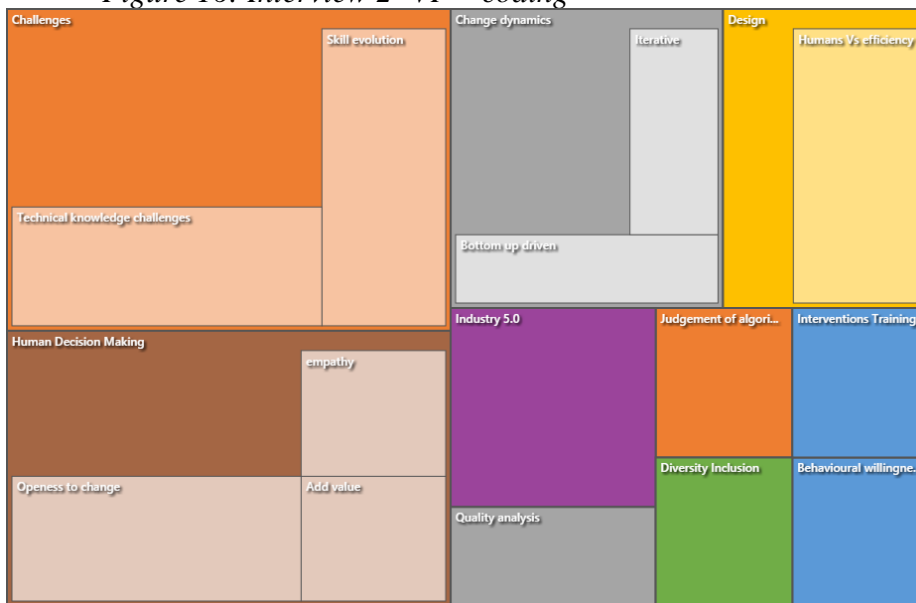
Figure 16: Interview 2- VP – coding

Figure 17: Interview 2- VP – themes

4.5.3 Respondent 3

Respondent who is a senior director showed that feedback from all the internal stakeholders were part of the ITES Industry 4.0 to 5.0 change journey and needed to show focused approach towards the feedback of the change stages with 17.07% of transcript discussion supporting it. 15.86% stated that the 'leadership' role, and changes are important while 12.79% stated that 'change communication in real time' is key for all the teams. At the process level, 'flexibility against rigidity' is required to bring the change goals to be achieved faster with 6.76% supporting it, and 'empathy in decision making' during the change process and 5.43% that is a critical enabler for the ITES organisation. 'Early planned stage' requires discussions outlining the plant change process stages with 4.90% of the discussion content highlighting it while the human decision making process is key to the success of Industry 4.0 to Industry 5.0 transactions with 4.38% supporting the discussion. Understanding 'change dynamics modalities' for all stakeholders is important with 4.08% supporting it while the challenges in change will be present with discussions highlighting it, at 3.11%. And the 'psychological safety' shown by the leadership and 2.5% directing the employees towards Industry 5.0 at 2.51% required the 'open this to change' in the workforce behaviour at 2.47%. you overcoming the changes 'thinking deeply' at cognitive level by the human factor at 2.47% shows that the usage of 'training interventions' to know the change methodology and/or advanced technology for supporting a guided change approach towards Industry 5.0. Overall, there should be 'transparency' between the change processes, visible by all stakeholders in real time at and 'ethical practices', in relation to the data used 1.49%, in order to achieve change efficiency during the change the respondent state that 'shorter change cycles', in the 'planned change process' help to expedite the entire process with 1.39% of the interview content supporting idea. The themes, sub-clustered into major and minor ones, in relation to the type of

respondent interview transcript show the following. Human decision making is a key dimension in this research phenomenon, that requires the 'leadership' directing the change process for the internal stakeholders explaining the change stages and agreed by all. This requires the entire stakeholder to be 'open towards the change' and contribute significantly in terms of 'value' addition in overcoming the challenges in change stages, showing 'empathy' during the change process 'transition' Industry 4.0 to Industry 5.0. The big part of the 'change dynamics', Is the 'change communication in real time' in the its firm, show 'flexibility against rigidity', 'transparency' for all the stakeholders during the change process, that respondent focus on 'continuous feedback communication', during the change stages to improve upon the challenges faced that is a part of the change design and also addressing the issues of decision making by humans vs decision making by the machines (IT). Additionally, there has to be behaviour willingness in workforce respect and fairness during the change transition process psychological attachment for adopting Industry 5.0 practicing ethical decision making. Challenges in the change process needs 'deep thinking' by humans, to master AI based decision, and hence training interventions about change and technology in ITES for achieving Industry 4.0 to Industry 5.0 success is required.
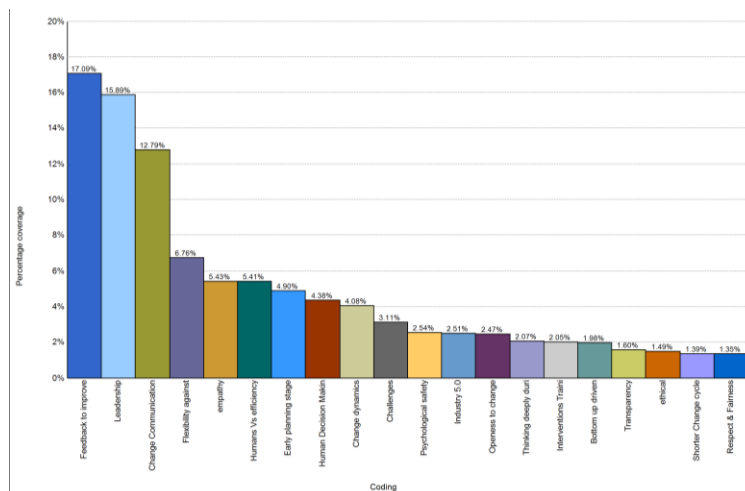

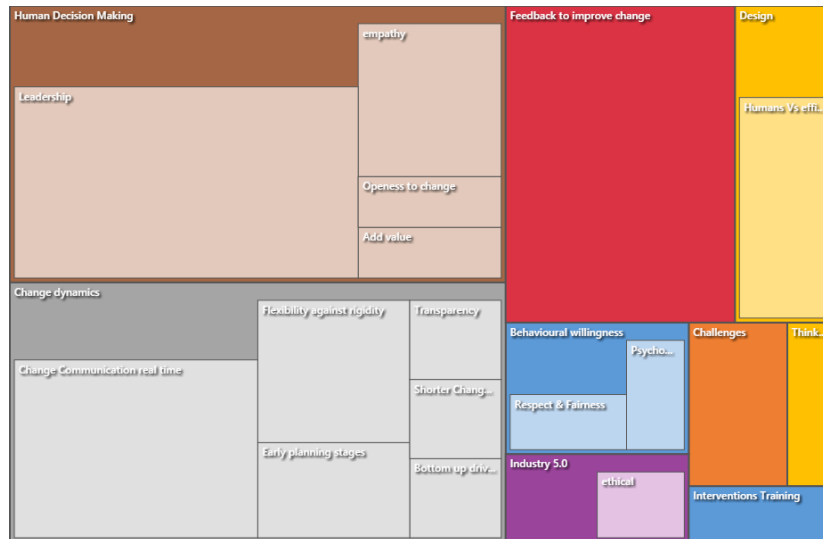*Figure 18: Interview 3- Senior Director – coding*

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Figure 19: Interview 3- Senior Director – themes

4.5.4 Respondent 4

The respondent emphasized on the 'human decision making' versus 'the IT based tools making efficient decisions' at 24.47%, for the change journey within the ITES organisation. 'Flexibility during change' is key as 'rigidity', during change decisions and stages at 23.61%. The 'change design' was discussed 22.26% times, where the 'change communication' at 15.49%, was considered to be very important during stages of change. The process perspective required 'shorter change cycle' with 15.05%, and 'training interventions' required at technical-change modalities at 14.77%. The respondent emphasized on the 'feedback from employees to improve', the change process with discussions around 14.66% confirming the same and at behaviour perspective they 'wanted to be open to this change' in the attitude perspective, with 14.47%. The change requires the inputs of every stakeholder and their contribution to add value to improve the change pathway overcoming the challenges with 11.05% supporting the transcript fundamental, and aspect of early planning stages showing methodological support 10.16%, and

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emphasis on human decision making 9.77% to be a critical factor for success. Industry 5.0 is the eminent coal with 9.66% confirmed in the ITES sector while the challenges in the change stages are likely to occur with 9.33% and the workforce adopting drivers where the diversity-inclusion helps in creativity thinking innovation for problem solution at 9.33%. The leadership directing the changes critical as 9.2 zero is part of the response while it is important to understand the challenges in change dynamics 8.12% and the change that is literature in nature 7.53%, empathy with employees in decision making during change at 7.31%, show behavioural willingness at 5.28%, and culture driven within the ITES organisation with 5.04%. The 'change dynamics' highlighted by the respondent is one of the key dimensions for the transformational change brought about by specific methods at enterprise level. Under this theme the 'change communication in real time' and adoption of early planning stages signifies the 'planned methodology approach' and the option of real-time communication to make changes in each stages as and when required. This modality of addressing change challenges also require 'bottom-up driven suggestions' from the employees, along with the 'iterative' nature of addressing change in each stages identified and adopting a 'shorter change cycle' within each change stage. There requires 'skill evolution' for bringing in change in 'Industry 4.0 to Industry 5.0', especially the ITES-sector needs platform based 'technological skills' to overcome the major and micro challenges. The third dimension or theme is human decision making for the 'Industry 4.0 to Industry 5.0', as it requires human decision more amidst the technological based changes in ITES platforms. Leading change needs 'empathy', driven by team and organizational culture, 'value adding processes' in each stage of change, and 'leadership' guiding the entire process of change methodology adoption, is critical to achieve the successive outcomes of the change goals. The stakeholder behavioral willingness need the internal individual level psychological conditioning towards change, change related intervention

trainings, and ethical. The workforce 'diversity inclusion' during the change stages, is needed more, with creative thinking, innovation in change challenges to be overcome. This is ethical as technical decisions in AI driven change strategies needed, a broader holistic change directives that only human empathy driven, ethical decision making can contribute for ITES firms embracing Industry 4.0 to Industry 5.0 .
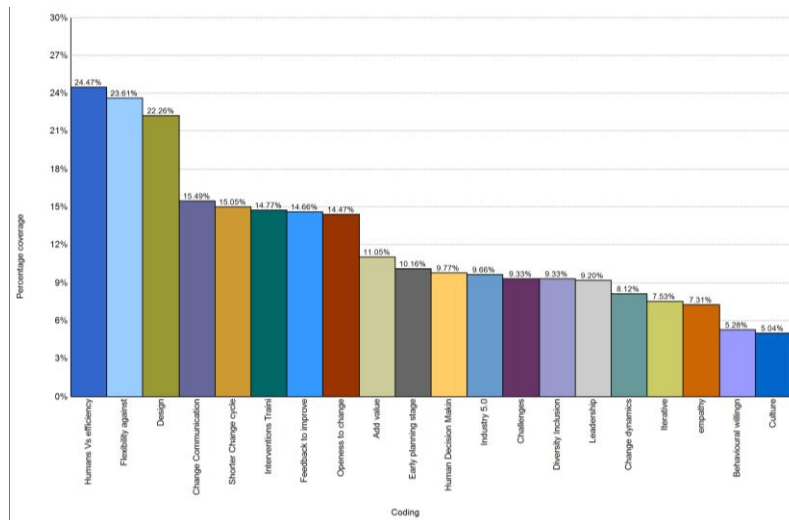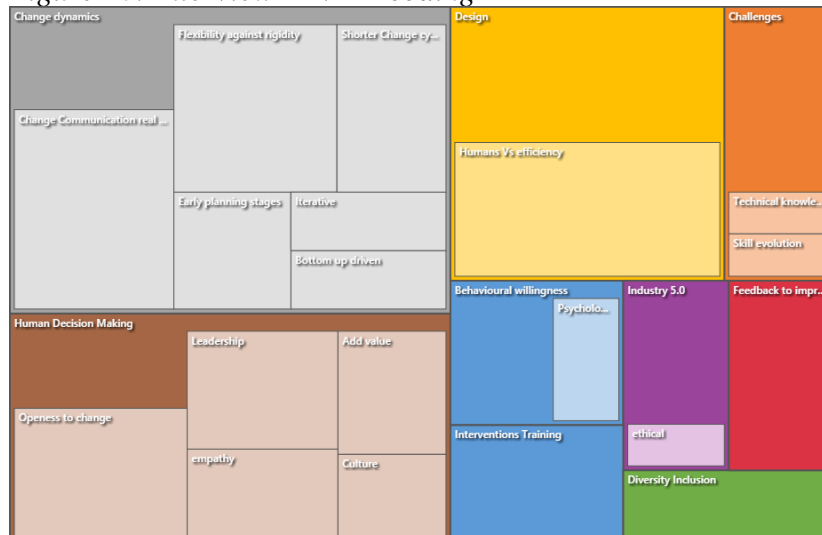

Figure 20: Interview 4- VP – coding

Figure 21: Interview 4- VP – themes

4.5.5 Respondent 5

The 'human decision making versus the machine based automatic decision making' makes change efficiency with 35.54% of the interview content revolving around it. The human decision making during the transition phase in the ITESs Industry from Industry 4.0 to Industry to Industry 5.0 requires 27.67% of the interview content supporting it. The 'value' factor during the change process is about understanding the macro and micro challenges that are overcome in each change journey. The ITES sector is dependent upon technology across locations and geographic, hence, the 'new technical knowledge' is required with 22.79% supporting the discussion and this overall challenge will include 'technical challenges' and 'business process challenges' with 21.90% supporting the discussion. The future goal of business and sector leadership leads to Industry 5.0 with 20.80%, and hence the change methodology required to create 'openness to change' 19.65% in the workforce. For the change process to be initiated in stages 'skill evolution' 19.46%. At the process level, change in ITES organisation needs 'flexibility against rigidity' 18.69% to overcome change challenges. The leadership and its relationship with employees in ITES firm undergoing Industry 4.0 to Industry 5.0, plays an important role 17.75%, and adopting 'shorter change cycles' in each change stage is required 17.13%. This relationship is required by human decision with 'empathy' 16.10% for employees taking part in change process. Their 'feedback to improve' incrementally from all employees, external stakeholders to improve systematically and overcome all challenges, 14.67%, with 'iterative' method of change '14.34%'. There has to be a distinct change culture 'team culture'. ' organisational culture', at 14.33%, with transparency at each change stage of the Industry 4.0 to Industry 5.0 at 14.26%. Therefore, the entire gamut of 'change dynamics' 11.86%, as there are 'judgement of algorithm' at 11.41%, and the issue of making the workforce adopt 'diversity and inclusion' at 10.95%. The entire story of

change is a 'design' factor of the entire change at elemental level and project level that requires a holistic approach.
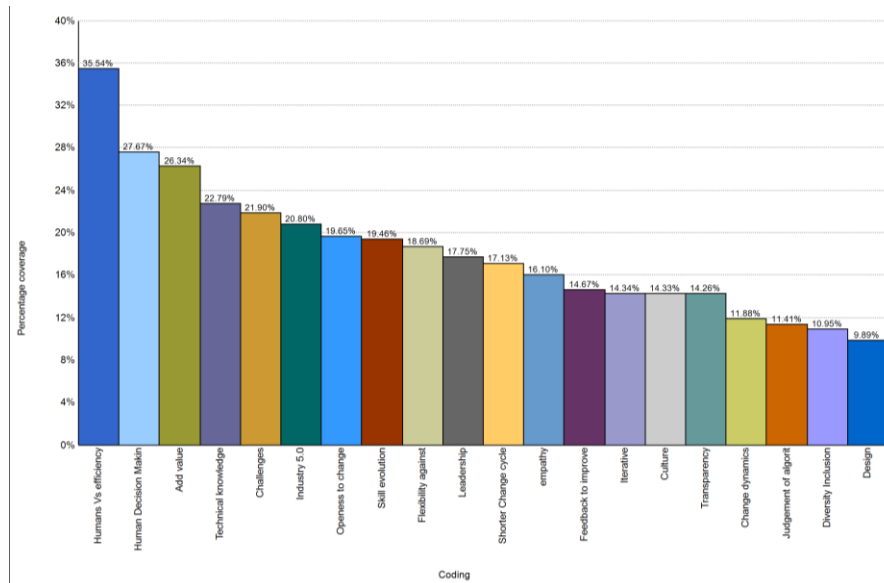

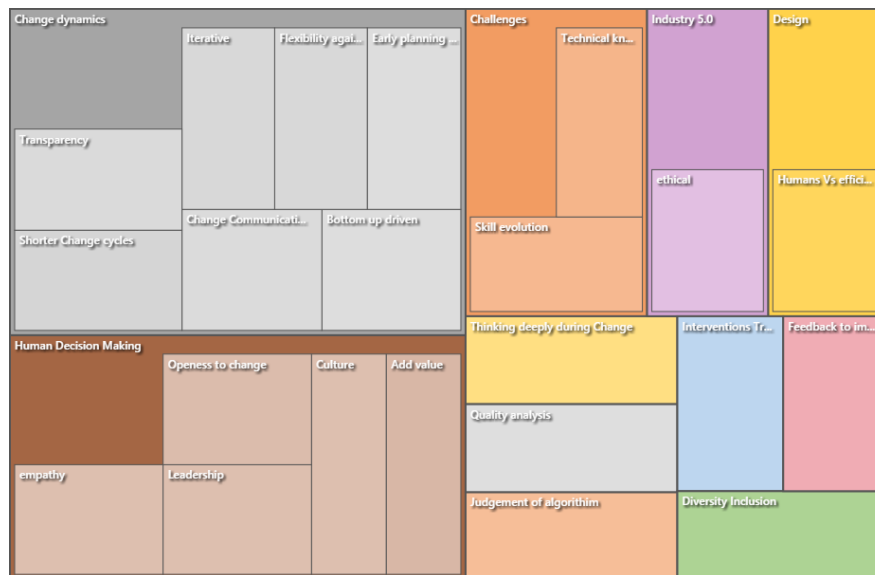*Figure 22: Interview 5- Senior Director – coding*

Figure 23: Interview 5- Senior Director – themes

4.5.6 Respondent 6

The respondent stated that adding value to the change process is one of the key dimensions 56.47%, that has helped with a data driven approach to address micro and macro challenges in the change journey. The ITES sector adopting Industry 5.0 as a business need showing respondent stating it 45.06% of the discussion and that the technology platform is also require to adopt advanced algorithm judgements with 39.70% discussion supporting the ITES Industry 4.0 to Industry 5.0 change process. The obvious point of Human decision making and machine based efficiency decision making comes into the picture of the discussion with 39.70% times that respondent highlighting this where the 'ethical decision' using the online data comes into the picture. The 'flexibility against the rigidity factor' during the change process is important as time resources and change methodology of deployment needs to be optimised with 35.22% of the discussion stating the same. Respondents stated it also important to use the feedback from each of the change agents and workforce engaged in the change pathway with 33.62% of discussions supporting it. It is said that 32.68% of the time that respondents exercise on human decision making to be priority for Industry 4.0 to Industry 5.0 change stages, and that transparency between the humans at internal and external stakeholder level requires to maintain that 32.4%. change design is very important and taking the stakeholder approach is the best route with 32.3 1% stating that a planned change method is required. The changes shortest cycle with 30.34% of the discussion stating that it helps in addressing challenges faster while 'thinking deeply during the change process was highlighted with 27.7 1% and the ITES transformation is 'data driven' with 27.64% of the discussion highlighting it. However the ITES sector requires technical knowledge has the entire business process runs on technology platforms and hence 25.99% highlighted on this issue in the interview while they also stated that the stakeholders open the to change from Industry 4.0 to Industry 5.0

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occupied the interview content with 22.7%. the success of the change is dependent upon the change communication in real time that must happen between the stakeholders with 21.62% of the discussion stating it while the workforce diversity inclusion for generating creative ideas to resolve challenge is resolutions show 18.56% of importance. the quality stages and the audit and quality analysis is also important at 8.32% and the bottom up communication with 5.45% is important for overcoming change related challenges.

The change dynamics is the major theme, that depends upon the transparency between the change team and the stakeholders during the change processes to establish and validate the change input factors and output factors to become visible to everyone. In addition, their 'shorter change cycle' is of critical importance to help make faster changes against the planned ones. 'Change communication in real time' is very important while the 'iterative change' working on each improvement process in the change helps critically and the employees with 'bottom-up approach' is necessary eliminating the organisation hierarchy, while 'early planned stages' are necessary even though the change improvement process will happen in the journey. Industry 4.0 to Industry 5.0 requires 'human decision making' as a key priority before allowing the algorithm or automatic ITES platform based changes within the organisations. Every stage of the change 'adding value' is a prerequisite that helps to remove the defects and make incremental changes, and while doing so it requires the 'team culture and organisational culture' to accept making changes again supplied changes proposed at the beginning of the project. Therefore, the behaviour across the organisation needs to be 'open' towards the change journey that is a critical part of the design. The change in design requires understanding human decision making versus the machine based algorithm based decision making, as the 'Industry 4.0 to Industry 5.0' transition requires to consider human decision making that is mostly data given transactional journey. Industry 5.0 requires 'ethical decisions', as ITES has client data

which needs human handling and machine based handling. The judgment of algorithm and 'thinking deeply at cognitive level' during the change process, challenges with 'technological knowledge requirement' during change, 'feedback from workforce' to improve change, 'quality analysis' through audits and 'diversity-inclusion' for higher inputs of creative thinking to resolve the ITES change transition process.
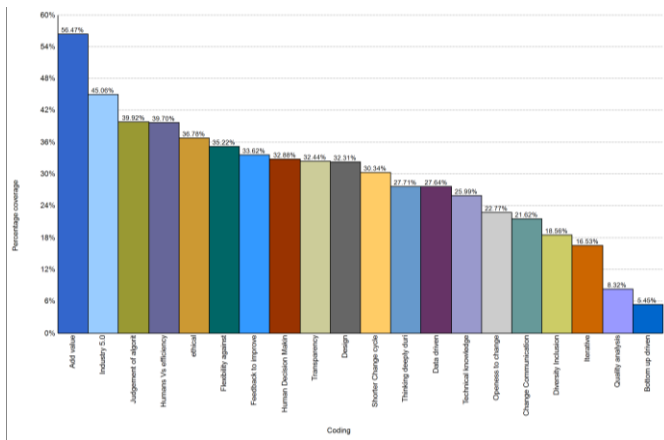

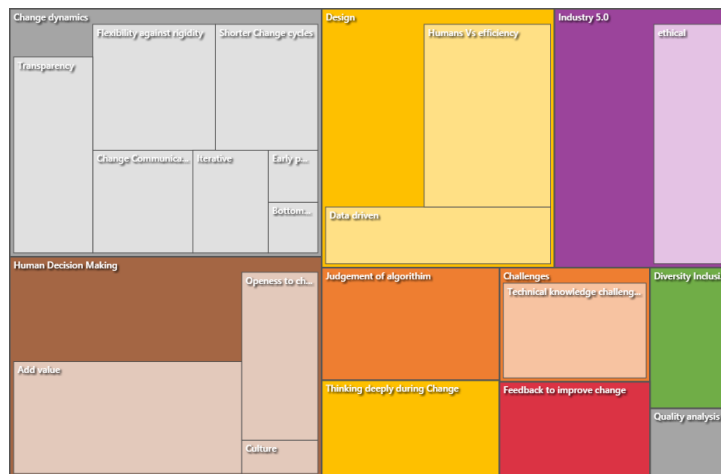*Figure 24: Interview 6 - Senior Director – coding*

Figure 25: Interview 6 - Senior Director – themes

4.5.7 Respondent 7

The respondent stated that pricicles of Industry 5.0 has acted as a guiding principle. Continuous feedback to improve the change journey for the ITES sector from Industry 4.0 leading to Industry 5.0 is voiced with 22.85%. It has been given by organisation culture with 21.66% of the discussions, while the data given approach towards its transition to Industry 5.0 was supported with 20.47% of the discussion. Human decision making process at 18.30% show that the transition change in ITES firm needs to adhere to the ethical practices in managing the customer data and how algorithms take decisions for the benefit of the customers, the change transition process and also save guarding the legal aspects with 17.10%. The change communication forms in real time that keeps transparency stakeholders holders involved with change 16.51% supporting it and transparency at 14.8%. The change design is very important that the respondent emphasized 13% 4% of the context and adding value to eliminate challenges essential at 13.74% and equally the human decision making and machine algorithm decision making and searching for efficiency during the change process is very important. The change dynamics at 13.56% is one of the key dimensions from micro and micro perspective with employees showing openness to change at 11.3 5%, and empathy driving the relationship between leadership and employees during the process of change pathway 10.76%. The respondents stressed on early planned stages with 9.71% and identifying the challenges with 9.7%, well respect for the internal external stakeholders 6.79% is important for decision and its quality to impact the final goal. The leadership role in driving the changes is very important with 4.56% and the issue to deal with change head on requires skill development at 3.96%.

The segregation of the themes below, human decision making in ITES transformational change is critical as it requires empathy between leaders-member taking decisions, organisational culture or team culture to drive the change stages. It requires the

value to impact the change in the ITES firm to overcome the problems/issues, that the leadership directing the entire change process is rolled out. 'Change design' is important as the ITES sector uses technological platform in the business operations as the 'data driven' approach to change. The dimension of human decision making vs algorithm based decision making is a key decision during the Industry 4.0 to Industry 5.0. The 'change dynamics' is important from the 'transparency' between the stakeholders, and 'communication during change in real time ', with the planned change approach. The Industry 5.0 platform requires 'ethical' approach and during the change stages it requires to honour customer data sets. The feedback during the change process help ITES firms to overcome challenges, however technical knowledge for ITES sector is needed, skill evolution for the existing workforce. The thinking matters most as the cognitive level about technology deployment and human thinking, leading to judgement about the algorithms used in the ITES technology workspace. However, the training interventions bring in competencies in the employees, to understand the stages and methodologies of the change process to take place. The stakeholders willingness has respect and fairness about the decisions taken during the change process, that is required for the behavioural level commitment.
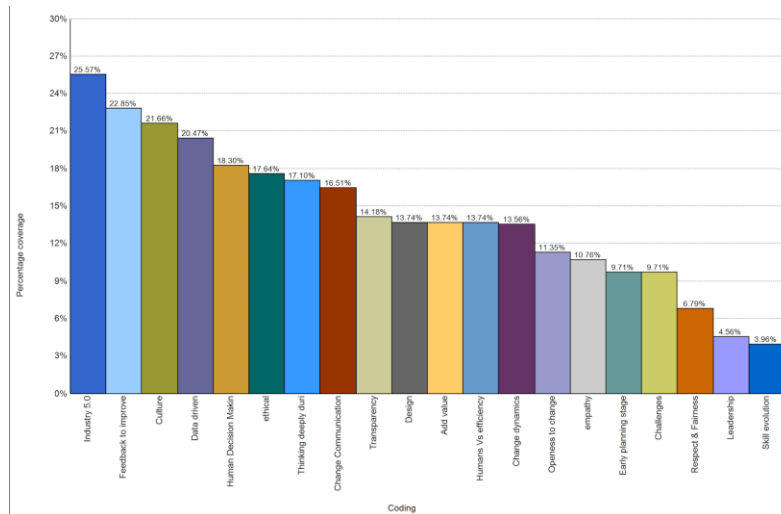
Figure 26: Interview 7 - Senior Manager – coding

Figure 27: Interview 7 - Senior Manager – themes

4.5.8 All Interviews codes mapped

The aggregate data points of the respondent interview data shows that some of the key dimensions for the ITES sector organizations transitioning from Industry 4.0 to Industry 5.0. The feedback during the change is important to bring about incremental changes, while human thinking based judgment, against the technology induced automated

judgment that is necessary. Diversifying workforce, helps creativity to impact the change design, thinking at deeper level for humans, especially for Industry 4.0 to Industry 5.0 transition for ITES sector. The most important key words in all the interviews from semantic perspective showed the above list to collate the highest usage in expression by all the respondents in relation to the research phenomenon. ITES sector has data of business operations for their clients and internal operations, and change is the key to achieve the Industry 5.0 goals. The employees are key to change design, while it is important for the employees, stakeholders associated to the change process. The Industry 4.0 to Industry5.0 is a new model, which is impacting the organization and the sector, as the role of human factor, human thinking which a key dimension is. The decision making process in the technology is critical, and leadership employee interaction require to show skill, will, empathy in the driving the aggregate change dimensions at macro, micro level during the stages of change. The empathy considers the holistic thinking as it helps the ITES organization to focus on planned changes, and also the incremental improvement during the change journey in the planned stages making the direction of change to be aligned. Empathy delineates the technology enabled AI based automated changes in ITES change design process, as it requires critical thinking that people (stakeholders) need to engage with bottom up communication, communication in real time, decisional quality of humans that directs the Industry 4.0 to Industry 5.0 change to happen smoothly.
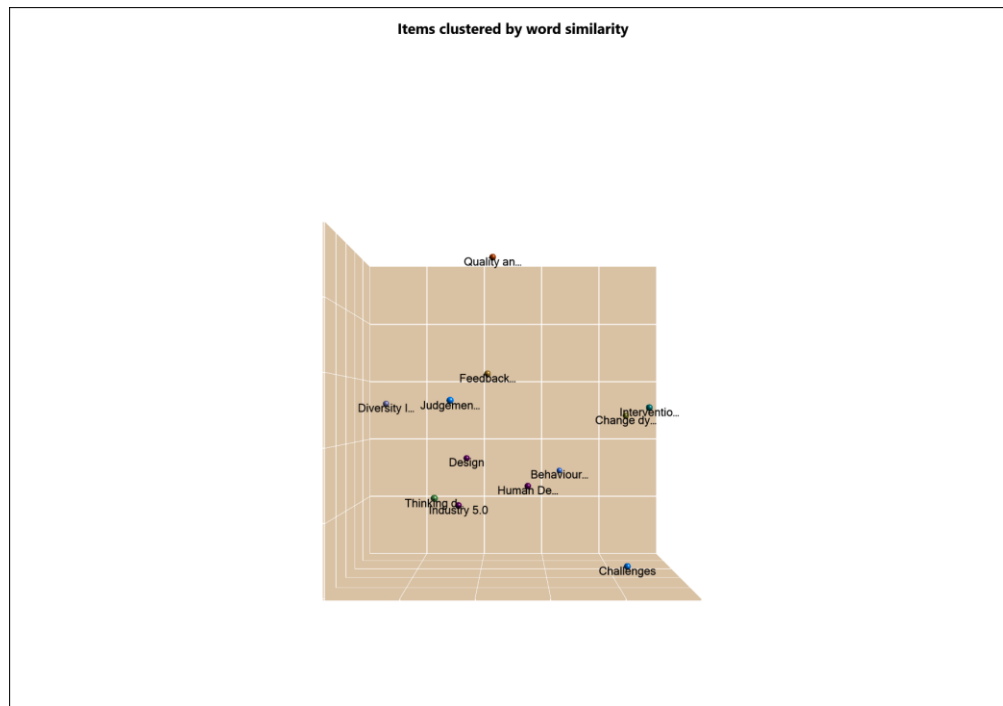
Figure 28: Items clustered by word similarity

Word	Length	Count	Weighted Percentage (%) ▽
data	4	316	1.76
change	6	308	1.72
employees	9	199	1.11
people	6	136	0.76
model	5	132	0.74
new	3	127	0.71
industry	8	122	0.68
human	5	113	0.63
real	4	112	0.62
rather	6	103	0.57
like	4	102	0.57
analytics	9	100	0.56
management	10	100	0.56
just	4	87	0.49
teams	5	87	0.49
one	3	84	0.47
adoption	8	83	0.46
feedback	8	83	0.46

Figure 29: Frequently used words in interviews

The most important key words in all the interviews from semantic perspective showed the above list to collate the highest usage in expression by all the respondents in

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relation to the research phenomenon. ITES sector has data of business operations for their clients and internal operations, and change is the key to achieve the Industry 5.0 goals. The employees are key to change design, while it is important for the employees, stakeholders associated to the change process.

Figure 30: Word cloud for ITES qualitative interview responses

The need of the hour is a new model as depicted in the above 'word cloud'. The decision making process in the technology is critical and leadership employee interaction require to show skill, will, and empathy in the driving the aggregate change dimensions at macro and micro level during the stages of change. Empathy considers the holistic thinking as it helps the ITES organization to focus on planned changes, and also incremental improvement during the change journey in the planned stages making the direction of change to be aligned. Empathy delineates the technology enabled AI based automated changes in ITES change design process, as it requires critical thinking that people (stakeholders) need to engage with bottom up communication, communication in real time anf decisional quality of humans that directs the change to happen smoothly.

4.6 Research Question Four

From the above synthesis of data from 2 responding groups it can be concluded that the ITES sector though is driven with technology platforms for business operations it requires human decision making, emphasize on real time communication, show flexibility and transparency in change methodology, project empathetic leadership, create employee readiness and foster organizational support with diversity inclusion for balancing iterative change to happen.

4.7 Summary of findings

The quantitative findings in this research has shown there is a significant factor of change dimension which is requiring the ITES sector to consider the human factor contribution especially when the Industry is moving from 4.0 to 5.0. A strong positive correlations tested statistically shows that the change adoption and the employee readiness is a key and a primary driver of successful organizational transition in the ITES context and embracing Industry 5.0 transitional journey. The role of leadership offering psychological safety and empathy for human decision making process helps to address the concerns in relation to the human in the change environment boosting collaboration trust communication in real time and aligning the planned change to embrace iterative change process. The organizational support plays a huge role during the change adoption methodology suggesting that both employees and the leadership require technical and non-technical support to embrace the Industry 5.0 change. While resistance is bound to happen the statistics showed negative correlation with psychological safety communication effectiveness and employed readiness that highlighted that that lack of psychological safety and poor readiness towards change significantly impacts the change adoption outcomes.

The qualitative research findings in the ITE sector shows that the leadership and the working professionals regard change to be methodical but had to approach the entire complex interplay of forces of human and technological factors to be critical .The central dimension, that emerges from the above analysis shows that Industry 4.0 to 5.0 transitional stages is typically embedded with information technology information system based automation practices. However the analysis highlights the criticality of human cognitive depth in thinking leadership employee empathy in decision making an ethical considerations of the ITES sector data set that requires the human judgment to supersede and validate against the algorithm based decisions. The dimension of change and it's dynamics during the transitional period of Industry 4.0 to 5.0, need employee to be able to contribute with bottom up communication and real time communication with all stakeholders allowing more flexibility in changing the change course planned before. This leads to adoption of shorter change cycle in methodology and adopting transparency of change dimensions for all the stakeholders directly and indirectly associated in order to overcome the aggregate complexities of the change transition during Industry 4.0 and 5.0. The organization culture plays a pivotal role as all the internal stakeholder and external stakeholder associated with the ITES enterprise wide change required team culture-department culture to permeate the change centric discussions enabling higher level of collaboration during the change process. The interaction between the leadership and the employee request to generate value in relation to the change methodology adopted and contribute significantly in understanding how the continuous ability to improve and overcome the change challenges helps in understand the economics of the change project positively. The leadership role and the interaction collaboration generating value addition to continuous improvement help the change process to be more data-driven and distinct with feedback loops and employee willingness towards change commitment shows how

incremental and shorter change cycles are successful in the ITES sector. Since its enterprises are technology driven hence skill evolution and technical knowledge are a part of the adaptability of the organization while embracing the Industry 5.0 requirements. Training interventions skill development technical knowledge which is required to understand and aid the migration process using advanced technologies while it is also important to use the human decision making for ethical considerations and bringing about a planned and iterative change bring more power to the change process itself to be holistic. It is evident that the technological advancement from Industry 4.0 to Industry 5.0 requires human centric factors in a value driven process, which ensures that the transition is ethical and efficient. The dimensions discussed above culminating into integrated human change model for the ITE sector undergoing Industry 4.0 to Industry 5.0 transition through regression analysis revealed that leadership empathy employee readiness psychological safety real time communication effectiveness and the overall organization support significantly influence the stakeholder change adoption.

In this chapter the synthesis of quantitative and qualitative data have been illustrated with appropriate graph tables and discussion, that helps to understand the primary data from two different respondent groups' perspective.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

This chapter outlines the discussions of quantitative results and qualitative results obtained using primary research answering the research questions, from two respondent groups in the ITES sector.

5.2 Discussion of Research Question One

From the correlation analysis, it can be interpreted that change adoption in an organisation and employee readiness have the strongest positive correlation (r = .857). This implies that rise in employee readiness can drive change adoption in an organisation (justifying the second research hypothesis). The internal contributors to employee readiness include organizational support (training, work flexibility), psychological safety and empathetic leadership initiatives. Moreover, communication also plays a crucial role in information sharing between the internal and external stakeholders in an organisation. Thus, it can be further assumed that transparent communication channels and proactive leadership approaches are the drivers to success organisational transitions. In the ITES sector, the empathetic leadership helps to understand the concerns and negative feelings of the workers.

This also aided the ITES leaders to plan motivational strategies for the employees who were resisting to be a part of the change transition. Moreover, the correlation analysis also highlighted that psychological safety and leadership empathy shared a second-most positive correlation (r = .828). Psychological safety in the ITES Industry improves the state of the mind of employees and this further aids in tackling unprecedented challenges and resistance to change behaviour. Thus, empowering the employees, raising their voices and

trust development are the outcomes of leadership empathy in the ITES Industry. Thus, both factors, "leadership empathy" and "psychological safety" are the contributors to organizational change adoption (this justifies the objective 1 of the study). Moreover, the correlation analysis highlighted that psychological safety and organizational support have the third-strongest correlation in executing a successful change transition (r = .826). For example, Training and development, upskilling opportunities, induction training allows employees to fill senior-level positions. Thus, organizational support helps to address the job insecurity issues and further, promote psychological safety in the ITES sector. From the perspective of Lewin's Change Management Model, it can be said that organizational support, leadership with empathy, and psychological safety assist in executing the intended change in the organisation. Similarly, the presence of human factors in Organisational support strengthens its correlation with Change Adoption (r = .781).

From the above findings, it can be further interpreted that ITES employees who have received organisational support are intended to support the change adoption. However, "Resistance to change" shared a negative correlation with "Psychological Safety". This implies that employees working under a low psychological safe environment in the ITES Industry are more likely to resist any process or system-oriented change in the organisation. Similarly, "resistance to change" also shares a negative correlation (r = -0.474) and (r = -0.469) with employee readiness and communication effectiveness respectively. Hence, resistance to change, low psychological safety and poor employee readiness are the identified roadblocks to change management framework implementation in the ITES sector.

A change model where the human factor is considered plays a vital role to smoothen the change transition process by addressing the above constraints. From the regression analysis, it can be interpreted that an employee's change in adoption behaviour is

dependent on employee readiness, leadership empathy, psychological safety, communication effectiveness and organisational support. But among the above factors, only leadership empathy might affect the change adoption objectives in the ITES organisation. For example, a higher degree of leadership empathy might be useful in improving the mental health and wellbeing of employees. However, it might cause distraction to the leaders to focus on the change transition rather than solving the challenges faced by workers. While considering the "Resistance to Change" as moderator variable, the predictive power of the model 1 was merely affected by the inclusion of the moderator variable. Similarly, it was also observed that communication effectiveness and organisational support might reduce the negative influence of "resistance to change" on organisational change adoption.

5.2 Discussion of Research Question Two

Human factors significantly influence an organization's ability to adopt change, impacting revenue growth, employee satisfaction, and overall transition success. A human-centered approach ensures that change aligns with employee well-being, fostering flexibility and agility in adaptation. This supports the notion that there is a leadership's role in shaping organizational attitudes toward change. Errida and Lotfi (2021) further argue that empathy-driven change management enhances workforce resilience. However, some organizations prioritize profits over people, contradicting them, who stress balancing employee needs with corporate goals. Strengthening leadership involvement and decision-making autonomy can improve change adoption outcomes.

The presence of a robust and loyal workforce guides alignment with new governance policies concerning individuals, not technology. The centre of organizations is towards people despite profits and inefficiencies as individuals help them to achieve their

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objectives within a given time frame. A human-centric approach is being utilized for engaging employees and for the creation of an effective stakeholder experience that results in the enhancement of organizational reliability. Innovation and creative differentiation are being utilized by organizations to enhance the standard of their product offerings. Innovation guides them to approach new markets and drive multiple changes simultaneously. A holistic and integrated approach is being utilized to enhance the success of each initiative that is being launched by an organization.

Change management guides that change is a multi-dimensional phase and it aligns with human centricity and perspective. Perspectives need to be changed regularly that guide organizations to operate within their ecosystems. The well-being and mental health of employees are important aspects for establishing alignment with sustainability that helps to enhance the standard of organizational strategy for the long term. Human factors include leadership that guides them to evaluate the attitude of an organization while approaching change. Change management guides organizations to assess their performance regularly and to acquire the best mechanisms that will support employee development within an appropriate time frame. Assessment regarding critical fundamentals of organization is required for analyzing their perception towards change adoption. Decision-making rights are being provided to employees so that they can focus on the development of organizational approaches by reducing the margin of hierarchical decisions.

Decision-making helps to enhance the efficiency of asset allocation and boost effectiveness. Organizational strengths are being leveraged by leaders that guide them to include elements that foster comfort in change and help to align with a bright future. Change management fosters alignment with diversification strategies that establish a sense of development within organizational culture for the long term. Concerning human factors, change adoption within an organization guides leaders to communicate and direct change

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in an effective manner that will enhance its effectiveness and result in improvement in organizational dynamics. Prioritization and execution are being managed to ensure coordinated efforts to manage capacity effectively. Change management guides leaders to focus on strategy and development that helps to increase employee engagement.

Successful change adoption depends on addressing human factors such as motivation, training, and communication. It is often highlighted that emotions like anxiety and resistance can hinder adoption, necessitating clear communication and leadership support. Transparent discussions help employees understand the rationale behind changes, fostering trust and commitment. It is often emphasized by empowering employees in decision-making, ensuring smoother transitions. However, organizations often neglect user-centered design, leading to misalignment between employees and new systems. Strengthening engagement through personalized training, feedback loops, and inclusive communication strategies can enhance employee willingness to adopt changes effectively.

Clear communication and support are being utilized for adapting to change by conveying its long-term and short-term impact (Kadir and Broberg, 2021). User-centred design is being utilized for aligning with the requirements and working styles of users when changes are being implemented on a large scale. Adequate training is being provided to employees so that they can align with knowledge of new systems and processes. Knowledge regarding new systems and processes will help to establish a sense of confidence among employees that will foster long-term engagement with the organization.

Reasons behind changes are being communicated through open and transparent communication that highlights the benefits that are being obtained by implementing this change on a large scale. Leadership support is being fostered within the implementation of this change within organizational dynamics that helps to highlight commitment towards change and guides to inspire employees so that they can adopt it on a large scale and within

a short time frame. Perception regarding change affects change adoption in successful transitions that guide employees to view change as a positive aspect that will affect their willingness to adopt. Change management is important for aligning with the requirements of those employees who are focusing on the adoption of new technologies. Utilization of change management fails if employees do not have the appropriate skills to adopt this change on a large scale as this change may be concerning technology and collaboration.

Open feedback and collaboration are being encouraged through change management as it establishes a smooth transition towards the inclusion of new perceptions, beliefs and technologies. Personal motivation guides teams within an organization to align with their objectives and guides them to follow approaches that are required to achieve this objective on a large scale. Leadership guides to establish alignment with tough decisions that will foster a sense of diversification and guide to achieve desired outcomes (Chiou and Lee, 2023). Human factor guides empower employees so that it will be easy for them to align with change initiatives. Information regarding change initiatives is being conveyed through listening to their perspectives and obtaining insights that they have felt a sense of empowerment. Change is being driven by establishing a balance between decision-making and engagement that restricts making decisions that are not effective and that may hurt outcomes. Stakeholders need to be informed regarding decisions that are being taken by them that guide them to maintain momentum and support for the long term.

Organizational change affects employee well-being, influencing engagement, productivity, and job satisfaction. It is observed that employees with high well-being adapt better to changes, reducing turnover rates. It is oftern stressed that empathetic leadership fosters a supportive culture, helping employees navigate transformation. However, poor leadership communication increases anxiety, undermining employee trust. Organizations that promote flexible work schedules, mental health support, and transparent

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communication improve well-being. Ensuring leadership involvement in well-being initiatives fosters resilience, motivation, and long-term commitment, making organizational transitions smoother and more sustainable (Peng et al., 2021). The presence of high productivity and customer satisfaction helps to reduce the margin of turnover and health problems being faced by employees. A sense of positive well-being is being created within an organization for identifying the impact of changes and approaches that can be utilized for efficiently addressing these changes.

It is focused that the rationale of changes needs to be understood by employees that will help them to align with differences and similarities that are associated with an organization. Organizational change helps to increase motivation and engagement of employees which contributes to an important aspect of an organization. Due to the evolution and growth of the organization, a sense of motivation is being felt by employees who play an important role in organizational success. Opportunities are being provided to employees through engagement so that it becomes easy for them to give feedback and a sense of empowerment is being felt among employees in respect to a phase where it seems that their opinions play an important role. Organizational change helps to enhance the job satisfaction of employees as a sense of workplace happiness is being created through it. A sense of value and appreciation is being felt by employees when they gain benefits from changes that are being implemented. This change helps to boost their job satisfaction which results in increased productivity and enhanced work quality.

Leadership affects employees' well-being as it shows a sense of empathy and clear expectations are being provided through it. It guides understanding the concerns of employees that will guide them to implement effective strategies to enhance the standard of their well-being. It guides employees to align with a vision and empowers them to take ownership of decisions that are being made by them. Open communication is nurtured

through it that guides to creation of a culture where a sense of comfort is being felt by employees and it becomes easy for them to express their thoughts and concerns within a time frame and in an effective manner. Leadership promotes work-life balance by focusing on the inclusion of flexible work schedules and establishing realistic expectations. A trust of culture is being established through leadership that guides to align with a phase where employees feel valued and they are being respected by their leaders. Poor communication from leadership fosters a sense of misunderstanding that increases anxiety among employees.

Feedback loops play a crucial role in addressing resistance by fostering open communication and active listening. Many argue that valuing employee input enhances engagement, leading to better change adoption. Regular feedback mechanisms, such as surveys and discussions, allow organizations to monitor progress and adjust strategies. A multiple-channel approach, including video conferencing and team meetings, ensures that diverse perspectives are captured, enhancing trust. It is also emphasized that early identification of resistance points improves responsiveness. Strengthening these approaches can create a more inclusive, transparent, and adaptive change management process. It helps to understand the adaptability of changes and guides to respond to stakeholder requirements within a limited time frame. Utilization of feedback loops helps to monitor change processes and guides to identify areas for improvement that will establish a phase where it seems that change is adaptable. These loop guides address the demands of stakeholders and help to enhance employee engagement by participating in decision-making. Video conferencing and team meetings are being organized for addressing resistance to change that facilitate soliciting feedback regularly.

A multiple-channel approach is being utilized for addressing resistance to change as it guides obtaining input from stakeholders and helps to identify concerns at an early stage. It helps to adapt to the change management process within a small time frame and build trust. Responsiveness towards employee feedback is being demonstrated through this approach resulting in the smooth implementation of change (Tagliabue et al. 2020). Employee's voices are being empowered through this channel and their concerns regarding changes are being analyzed. Progress regarding changes are being monitored through it and a wide range of perspectives are being captured that help to address raised concerns within a short time frame.

5.3 Discussion of Research Question Three

The first emergent primary theme is around human decission making versus automation. The primary team in the ITES sector undergoing Industry 4.0 to Industry 5.0 change revolves around the human decision making and the automated decision making on the technology platform. In this context, the human judgment at deeper level driven by empathy between leaders and the employees helps in navigating the transitional journey in a much better way when compared to algorithm driven automated decision making.

Table 31: Discussion of Question 3

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5
Primary	Human Decision Making vs. Automation	Change Dynamics and Process	Leadership and Organizational Culture	Value Addition and Continuous Improvement	Skill Evolution and Technical Knowledge
Secondary	Real time feedback and Communication	Diversity and Inclusion	Ethical Considerations with empathy	Iterative Change	Continuous training Interventions

The second emergent theme is around change dynamics and processes. For all the stakeholders internal and external the capability understanding the change dynamic and the processes involved need to focus on real time communication during change plan change methodology flexibility and showing iterative improvement capabilities. At elemental level shorter change cycles transparency in communication and adopting real time communication with all the change along with bottom up feedback helps in successful transition.

The third theme is around leadership and organizational culture. While driving the change during Industry 4.0 to 5.0 the leadership role requires to foster empathy establishing our team culture and department culture to show the mental openness to embrace the change methodology. The leaders expect this from the internal stakeholders to show psychological safety and adopt ethical decision making with the data sets in its firm and also create an environment in aligning them to the enterprise level change process making the entire role of leadership to add value.

The fourth primary theme is on the concept of value addition and continuous improvement. The dimension of value in each plan stage of change identified and the incremental change happening in the organization request to address major and challenges with the options of bottom up feedback and incrementally improving the conditions adopting a data-driven approach and continuous learning.

The fifth emergent theme is surrounding the concept of skill evolution and gaining technical knowledge. The ITES sector is technology driven with its client and in internal business operations and any change leading to Industry 5.0 requires assessment of technologies involved, impacting the skill evolution. This requires adapting to training interventions and fostering the workforce capability towards higher level to embrace change design and process goals to be achieved.

Moving on to the first secondary theme it is noticed that real time feedback and communication plays an important and integral role. The change dynamics in Industry 4.0 to 5.0 requires extensive real time feedback from the employees bad communication is the key to understand the challenges faced in real time. Therefore the feedback loops and transparent communication forms a key to the change alignment and overcoming the challenges of planned change strategy diversions.

It is also seen that the concept of diversity and inclusion emerges as the next secondary theme. The criticality of the workforce diversity and inclusion during the Industry 4.0 to 5.0 change transition journey requires employee creativity innovation idea generation that directly impacts the problem solving capabilities. These are elemental and diverse perspectives which are essential for the ITES workforce balancing out the human resource issues and change management process to be fruitful in achieving the change design goals.

On similar lines the third cecondary theme to emerge is around ethical considerations lined heavily with empathy. Increasing emphasis in the machine based algorithm decision making process during Industry 4.0 to 5.0 requires data-driven decisions backed by ethical dimensions. This requires to safeguard the lacunae in algorithm transparency also addressed the data privacy issues and implementing empathy driven leadership directives helping human decisions towards holistic change design.

The fouth secondary theme to emerge is on agility and iterative change. The iterative change is required as it counters the planned change stages envisioned and still show the flexibility in bringing out minor elements that the Industry 5.0 achieves. This approach helps to move away from the rigidity state and embrace the flexibility in managing the change process and aligning the change strategy in achieving the Industry 5.0 in ITES Sector.

The fifth and last secondary theme to emerge is on continuous training interventions. The skill evolution is a major requirement and hence training interventions about the change methodology change process holds the key in change journey during Industry 5.0 transition stages.

5.4 Discussion of Research Question Four

The change in relation to ITES sector and in the context of Industry 4.0 to Industry 5.0 requires more dynamism in this approach to support iterative change that is dynamic offering real time solution to work on challenges at macro and micro perspective. The change requires change management strategies and direction and continuous monitoring of aligning the change strategies against the evolving needs of the ITES enterprise thereby requiring the leadership and the employees to continuously value add by overcoming changes using shorter change cycles.

CHAPTER VI:

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

6.1 Summary

The research study deploying both quantitative findings and qualitative findings presents a new finding for the ITS organizations willing to navigate through the transition of Industry 4.0 to Industry 5.0. At process level of change design, shorter change cycle, real time communication, bottom up communication help to align change transition iterative improvements. The Industry 4.0 to Industry 5.0 require human decision making to be prioritized, bringing in readiness towards change, psychological safety, data driven approach, critical cognitive level thinking to guide and validate human interactions with ITES business process change. Leadership need to show empathy for all stakeholders, adopt flexible stance, use employee feedback loops, with human resource teams diversity inclusion efforts for creative inputs towards change process.

Linking the theories of literature review with the results obtained in this research. The transitional journey for the specific change management involving Industry 4.0 to Industry 5.0 in the ITES sector is linked with the management theories where levin's change model advocates the unfreezing changing and refreezing stages. Application of this change model especially in the change design where iterative improvements during the change journey allows flexibility against the planned change which is necessary for the ITES firms. At individual level of employee undergoing the change the ADKAR model applies where awareness desire knowledge ability and redefines the employees readiness and likely to of skill evolution which is necessary for its platform based operations embracing Industry 4.0 to Industry 5.0 change. This also applies for the individual and team level application of ADKAR model helping to provide real time communication and feedback to the leadership in aligning the change strategy and change design and

overcoming the structural and process based challenges. The Kotter's eight step change model is a process based framework ideal for the its change agents or change management team who acts like a third party to the ITES firm. The results indicate that there are direct and indirect stakeholders associated with the its firm change model and quarters eight step change acts as a guidance for the plan change approach for each stakeholder. The appropriateness of stakeholder theory underscores the results of this research as all stakeholders associated with the ITES firm are interconnected system that require a holistic approach from systems employee leadership processes workflow methods smooth transition. The practicality of deploying systems theory discussed in the literature review show that while every department and management function have their own role in contributing towards the holistic enterprise wide change design model the robust approach stems from the systems theory where input processing output of the change goal an input factors need to balance the human and technology dimensions. At individual level the nudge theory shows how change methods and change model interventions influence the employee behavior and attract the leadership to find guidance and a pathway thereby supporting their psychological safety reducing the behavioral resistance towards change in the ITES firm.

6.2 Implications

The findings suggest that an change model while navigating the change from Industry 4.0 to Industry 5.0 must mitigate the constraints and challenges tied to transitioning from Industry 4.0 to Industry 5.0. The quantitative results indicate a need for strategic shifts within these organizations where prioritizing human decision-making and ethical data practices in technology-driven operations is essential. Leadership empathy is crucial for building trust and motivating employees to embrace change. The research shows

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that leaders and employees must adopt a readiness and positive attitude toward change where there is psychological safety. The quantitative findings confirm that structured training and upskilling programs help employees understand the technology differences between Industry 4.0 and Industry 5.0. Leadership empathy must be prioritized to address employee concerns, boost trust, and align with broader change goals. Open, transparent communication across all levels of the organization aids iterative improvements and helps navigate the complexities of Industry 5.0. In the proposed conceptual framework, several dimensions—Leadership Empathy (LE), Employee Readiness (ER), Organizational Support (OS), Communication Effectiveness (CE), Psychological Safety (PS), and Resistance to Change (RC)—collectively influence the dependent variable (DV) of change adoption. ITES leadership in India exemplifies these dimensions by supporting employees through the transformational journey from Industry 4.0 to Industry 5.0. Employees, in turn, exhibit openness to new processes, demonstrating self-determination in adapting to the challenges of the transition. Organizational support is evident through structured change methodologies and clear leadership-employee direction toward achieving change goals. Communication effectiveness (CE) plays a vital role in this process, ensuring transparency about the reasons for change and its impact on business operations. A culture that supports real-time communication and feedback, enabling quicker validation of iterative change cycles and prompt issue resolution is ideal. Psychological safety within many ITES organizations encourages both leadership and employees to value the transition from Industry 4.0 to Industry 5.0. This environment allows them to share uncertainties and learn from mistakes without fear, transforming potential negatives into positive outcomes and validating the conceptual model. Resistance to change is a natural response, but the proposed model demonstrates how addressing employee anxiety and clarifying new methodologies can minimize this resistance. The dependent variable—change adoption—

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reflects the organization's success in implementing new processes, employee motivation, and subsequent performance improvements. Model validation confirms the pivotal role of human factors, including creativity, innovation, and problem-solving, in harnessing advanced technologies. Leadership-employee relationships rooted in empathy and collaboration encourage a culture that respects past skills while moving toward a self-transcendence journey for Industry 5.0. While this applies to ITES firms and may extend to IT companies, as its dimensions foster a unified, human-centered approach. By maintaining leadership empathy, employee engagement, and a shared vision, ITES organizations can integrate technology solutions ethically and innovatively, ensuring that human creativity and collaboration remain central throughout the Industry 4.0 to 5.0 transition.

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6.3 Recommendations for Future Research

The findings of this research provide a good foundation for understanding the role of human-centric values in change management during rapid technological transitions. But, as with any study, there remain areas that warrant further exploration to deepen insights and broaden the applicability. While this study primarily contextualized the findings within technology-driven organizations there is scope to see its applicability across industries. Comparative studies across sectors could illuminate how cultural, operational, and structural differences impact the effectiveness of human-centric change management strategies. Change management is not a one-time event but an ongoing process, and the long-term impact of human-centric strategies could also be a further research area. Cultural and generational dynamics shape how employees perceive and respond to change. Future research should delve into the interplay of these factors, exploring how cultural norms, values, and generational attitudes influence the adoption of human-centric frameworks.

Future research could create and validate tools for measuring variables such as empathy-driven leadership, inclusivity in decision-making and adaptability in organizational processes. These metrics would not only enhance the rigor of future studies but also provide organizations with actionable insights into their performance and areas for improvement.

For Industry 5.0 as a change goal, human decision making requires to be prioritized. The ITES sector comprises of technological business operations with its clients require to adopt human judgment and decision making strategies taking precedence, over the algorithmic AI decisions, safeguarding the client data and also maintain the ethical standards.

The human decision requires depth at cognitive level in order to understand the change dynamics and explore those areas of ethical consideration involving creative thinking process. The real time communication and flexibility for the actors making the change happen requires to be in place across organizational hierarchy there by enabling the sharing collaboration function in communication channels leading to achievement of Industry 5.0 goals.

Inculcating the willingness to adopt change methodology learning through training and creating a culture of flexibility in fostering iterative improvements in the planned change process shortening the change cycles and being transparent about the change outcomes with all stakeholders is recommended.

The leadership role need to support empathetic relationship with the workers distributing the decision making, in overcoming the change challenges and building the psychological safety, through open communication during the change stages. From its enterprise perspective, the human resource policies need to support diversity and inclusion, for capturing employee contribution through creative thinking, innovation and supporting the workforce with necessary training interventions to understand the change pathway

using specific methodology. Both leaders and employees required to understand the power of iterative change, which opens opportunities to improve upon the challenges in the change journey to achieve Industry 5.0 goals.

All of this can be woven into place, with the leadership promoting the organizational wide culture to roll out the change methodology adopted and drive the change process end to end, fostering fairness, empathy and respect for all employees, and creating a culture of continuous value addition in every change stages.

6.4 Conclusion

Adopting a holistic approach in the ITES sector balances the technological dependency in Industry 4.0 and embrace a flexible and efficient transitional journey towards embracing Industry 5.0. The research helps to conclude that fostering a supportive organizational environment that supports creativity empathy deep thinking process, for humans ultimately drives the organization towards a successful Industry 5.0 transition through continuous value addition in iterative format. The role of leaders and the workers in this holistic integration of change methodology and adoption process need to systematically overcome the complexities, addressing both minor and macro challenges to be eliminated, and thereby creating high yielding change methodology and a prepared workforce.

APPENDIX A

SURVEY COVER LETTER

The following cover letter was shared to all participants who participated in the survey for the purpose of this research–

Dear Participant,

You are being invited to participate in a research study titled " THE HUMAN FACTOR IN DIGITAL TRANSFORMATION: AN EMPATHY-DRIVEN APPROACH TO CHANGE MANAGEMENT IN INDIA'S IT AND ITES ORGANIZATIONS" This study's findings have the potential to influence the practices and strategies employed by organizations embarking on transformation journeys. By bridging the gap between theoretical concepts and practical implementation, the research would advance the understanding of the employees mindset in achieving successful transformation outcomes. Your participation in this study providing your expert insights is highly appreciate and is voluntary. Please note personal identifying details will not be recorded and you can opt out of it any time. Your privacy and confidentiality will be strictly protected throughout the study. Any information collected during this research will be treated as strictly confidential and stored securely. Your responses will be anonymized and aggregated when reporting the findings, ensuring that your identity is not disclosed. The data collected in this study will be used solely for research purposes and will not be shared with any third parties without your explicit consent. Your decision to participate or withdraw will in no way affect your current or future relationships with the researcher or the institution involved.

Thank you.

INFORMED CONSENT

The following cover letter was shared to all participants who participated in the survey for the purpose of this research–

Dear Participant,

You are invited to participate in a research study titled " THE HUMAN FACTOR IN DIGITAL TRANSFORMATION: AN EMPATHY-DRIVEN APPROACH TO CHANGE MANAGEMENT IN INDIA'S IT AND ITES ORGANIZATIONS" where the principal investigator is Joie Bose is pursuing a DBA at Swiss School of Business & Management(SSBM). Please read the below information carefully.

If you agree to voluntarily participate, you will be asked to share your experiences and points of view regarding the research topic. You do not need to disclose any client sesitive information or organization related information. This will take a maximum of 60 minutes. You may decide to withdraw at anytime and your responses will de destroyed. While there are no known risks you may experience emotional discomfort or feel uncomfortable and if so, feel free to stop participating. While there are no direct benefits to this study, your opinion will help broaden the knowledge in this area and help the industry at large. Your responses and identity will be confidential and any identifying information will be removed from final reports.

Statement of consent: I am voluntarity agreeing to participate in the survey and understand the terms and condidtions.

Participant Sign:

APPENDIX C

INTERVIEW GUIDE

This is a semistructured interview. You will be asked to share your experience on the influence of human factors during change in particular referenceto the IT industry in India. The primary research questions are as follows:

- What are the human factors (Leadership Empathy, Employee Readiness, Organizational Support, Communication Effectiveness, and Psychological Safety) that influence change adoption from industry 4.0 to Industry 5.0?

- What the relationship between human factors and change adoption to determine their collective impact on successful transitions.in ITES change management systems?

- What are measures of key human factors that influence change adoption.applicable for ITES undergoing change from industry 4.0 to Industry 5.0?

- What does practical recommendations for organizations to improve change management strategies based on empirical findings

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