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Developing a Supportive Organisational Culture for Continuous Improvement in Manufacturing Firms in Saudi Arabia

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Abstract

Continuous improvement (CI) is vital for Saudi manufacturing firms to remain competitive in the global market. However, cultural factors significantly influence CI adoption. This qualitative study, involving 28 interviews and focus groups with employees from five local manufacturing firms, explored these factors. Seven key cultural themes emerged, including communication, employee wellbeing, talent management, ethics, top management support, organisational learning, and compliance. A conceptual framework was developed to assess a firm's cultural proximity to an ideal CI state. This framework integrates a diagnostic tool to guide firms in evaluating their cultural landscape and implementing targeted interventions for successful CI adoption. Future research should explore the long-term impacts of cultural shifts on performance and competitiveness.

Keywords: organisational culture; continuous improvement; operational efficiency; manufacturing firms; competitiveness; Saudi Arabia

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1. Introduction

Continuous improvement (CI) initiatives like lean manufacturing and Six Sigma have become essential for companies to enhance productivity, efficiency, quality, and performance in today's competitive global landscape (Vinodh et al., 2021). However, research emphasises that developing a supportive Organisational culture is critical to effectively implement and sustain CI programs beyond just tools and techniques (Hardcopf et al., 2021). Organisational cultures that foster engagement, teamwork, adaptability, and open communication support successful CI adoption by encouraging innovation and improvement at all levels (Gorzelany et al., 2021). In contrast, rigid hierarchies, individualism, disconnected teams, and resistance to change present that severely inhibit improvement programs (Anastassiu & Santos, 2020). Organisational culture in Saudi is affected by the local national culture, shaped by collectivism, Islamic beliefs, and traditional practices (Karolak & Allam, 2020). CI refers to ongoing incremental innovations across processes to optimise performance and success while reducing failures (Singh & Singh, 2015). Enablers of a CI culture include goal setting, training, recognition, and organisational learning, while inhibitors encompass regulations, resistance to change, and lack of commitment (Tavana et al., 2021).

This research aimed to explore the cultural factors that positively or negatively influence CI initiatives within Saudi Arabian manufacturing companies. While Saudi companies have increasingly adopted CI techniques, many have struggled to create environments that support sustainable success, facing challenges like resistance to change, insufficient

leadership support, and failure to enable knowledge transfer (Alkhoraif & McLaughlin, 2018). Thus, this study investigated strategies for Saudi manufacturers to proactively develop organisational culture to promote and support CI. It addresses the growing need to focus on the cultural aspects of CI, shifting away from predominantly technical elements (e.g., manufacturing protocols).

Examining the distinct Saudi context is critical given the cultural dynamics influenced by national and regional factors (H. S. Alotaibi & Campbell, 2022). This research offers an innovative, context-specific perspective into Saudi Arabia's industrial sector, addressing a gap in studying CI culture within this setting (Albliwi et al., 2017; M. S. Alotaibi et al., 2019; Elabd, 2022; Faisal & Naushad, 2020). By focusing on underlying human and social dimensions rather than just technical factors, the study provides novel insights to help Saudi manufacturers purposefully cultivate the cultural foundation necessary to impactfully and sustainably implement improvement methodologies, ultimately enabling strategic competitive advantage.

The remainder of this paper is structured as follows: Section 2 reviews the literature on the relationship between organisational culture and CI, CI in Saudi Arabia, and gap analysis and research objective. Section 3 introduces the methodology used to formulate the framework. The collection and analysis of data are detailed in Section 4. Section 5 provides research outcomes and their discussion is provided in Section 6. Section 7 concludes the paper.

2. Literature Review

2.1. The Relationship Between Organisational Culture and Continuous Improvement

Continuous improvement is defined as the intentional process of optimising production and improvement of the quality of products through the elimination of wastage and non-value-added activities (Rodgers & Oppenheim, 2019; Thürer et al., 2017). The various methodologies that can be adopted in the development of CI include total quality management, six sigma, and the lean principle Jimoh et al. (2019). The link between CI and organisational culture has been widely acknowledged in the past literature. Drawing on Weber (1978) foundational analysis of bureaucracy and rational–legal authority, we recognise that an organisation's formal structures both embody and perpetuate its cultural norms, thereby influencing the mechanisms and outcomes of continuous improvement. Evidently, organisational culture establishes enablers and inhibitors that have the potential of influencing the implementation of CI in an organisation (Sanchez-Ruiz et al., 2022). Ohiwerei and Onimawo (2016) argue that various elements of organisational culture such as collaboration and employee empowerment positively impact improvement initiatives in an organisation. In this regard, the most noticeable cultural dimensions that enable CI include innovation support and risk –taking initiatives (Ohiwerei & Onimawo, 2016). Additionally, an organisational culture that promotes employee engagement enhances their commitment to CI practices (García-Alcaraz et al., 2017), which is consistent with the findings by (Jimoh et al., 2019), indicating that CI thrives more where the leadership offers the desired support and employee development. Moreover, evidence indicates that the organisations that encourage open-sharing of information and collaboration among the employees and management establish positive grounds for the success of CI (Zhang et al., 2012). This is feasible as such collaborations enhance the identification of the key areas for improvement, which are the basic ingredients of CI (Panuwatwanich & Nguyen, 2017).

This evidence suggests that a supportive organisational culture can drive meaningful reforms that facilitate continuous improvement. On the contrary, an organisational culture that is characterised by resistance to change, fear of failure, and detrimental thinking can hinder the adoption and sustainability of CI (Hartnell et al., 2011). Thus, it is evident

that the relationship between organisational culture and CI is intricate to the extent that deficiencies in the former can highly impact the attainment of the latter.

2.2. Continuous Improvement in Saudi Manufacturing Firms

In Saudi Arabia, most of the manufacturing practices are aligned to Vision 2030 (Aljuaid et al., 2024). The Kingdom has seen tremendous growth in food production and petrochemical industries in the recent times especially following the launch of the National Industrial Society in 2022 with the aim of increasing manufacturing by 200% by the year 2035 (World Bank, 2025). The national culture plays a significant role in enhancing CI in Saudi manufacturing firms to imply that there exist positive trends in promoting CI in these organisations (H. S. Alotaibi & Campbell, 2022). There is also the adoption of positive leadership styles and organisational culture that ensure the success of lean management practices especially in the healthcare sector, which is a depiction of the desires to implement CI (Nogueira et al., 2018). However, despite the progress being made in Saudi Arabia, the manufacturing sector still faces challenges. For instance, according to Maware et al. (2022), there is a shortage of skilled personnel in Saudi Arabia who understand the concept of CI and how it can be applied to enhance the success of an organisation. Another impediment in the adoption of CI in Saudi companies is that family-owned businesses are dominant, and thus, decision-making is limited to family entities (Sarbah & Xiao, 2013). Nevertheless, the literature base in this area is still underdeveloped, and thus, it is not readily possible to determine the extent to which CI has penetrated the Saudi manufacturing sector.

This research offers an innovative, context-specific perspective into the organisational culture dynamics influencing continuous improvement in Saudi Arabia's industrial sector. The majority of research on CI culture has focused on Western settings or other fields, leaving a gap in the study of continuous improvement within the Saudi Arabian manufacturing context (Albliwi et al., 2017; M. S. Alotaibi et al., 2019; Elabd, 2022; Faisal & Naushad, 2020). By focusing on the underlying human and social dimensions, rather than just technical factors, this study provides novel insights to help Saudi manufacturers purposefully cultivate the cultural foundation necessary to implement improvement methodologies in an impactful and sustainable manner. This cultural understanding can ultimately enable companies to gain a strategic competitive advantage.

2.3. Gap Analysis and Research Objective

Most researches discussed in the literature have focused on the effects of organisational culture on organisational growth. Although studies about the effects of organisational culture are important for understanding productive organisational practices, there is a gap in the literature regarding the frameworks that can be used to establish cultures that encourage the establishment of sustainable organisational growth for long-term prosperity. While there are different models for the establishment of productive organisational culture, there are no studies that have been conducted on the development of effective frameworks that support the creation of organisational cultures that support continuous improvement. Additionally, a gap exists in the literature regarding how the culture that supports continuous improvement in Saudi Arabian local manufacturing companies can be created. Researchers have focused on specific strategies and behaviours that can be applied by organisational leaders to create an ethical and productive culture. Therefore, there is a need to examine the creation of a framework that can facilitate the creation of organisational cultures that support continuous improvement. This study aims to fill this gap by developing an effective framework for creating a culture that supports continuous improvement, specifically in the context of Saudi Arabian local manufacturing organisations. Furthermore, this study is one of the first studies to develop an effective framework for

creating an organisational culture that supports continuous improvement in the context of Saudi Arabian local manufacturing organisations and solve the research problem. Thus, the objective of this study is to develop a conceptual framework to facilitate an Organisational Culture that supports continuous improvement in the local Saudi manufacturing firms.

3. Methodology

This section addresses the philosophical foundation of the research and justifies the methodological design pertaining to the research question and aim. Additionally, it also explores the actions that the researcher will undertake to attain rigour and trustworthiness. The paradigm on which this study is based the interpretivist paradigm posits that no objective knowledge exists independently of the researcher's interpretation (Weick & Weick, 1995). The present research is exploratory in nature, and interpretivism is the most preferred philosophical paradigm to achieve the aim and objectives of the study. Grounded theory enables the researcher to develop theories that are grounded in the collected data (Teherani et al., 2015). This is the most suitable approach to be applied to this study in building theory, which will be applicable to other contexts that share the same social settings, and in this case, manufacturing (Alkhoraif & McLaughlin, 2018; M. S. Alotaibi et al., 2019). The outcome of this grounded theory process is a conceptual framework that captures the cultural dimensions influencing CI in Saudi manufacturing firms. The ontology of constructivism is chosen as a research position, representing reality as socially constructed with interpretivist epistemology. The interpretivist paradigm enables exploration of subjective social realities Saunders and Lewis (2014). Grounded theory will be utilised to explore how organisational cultures impact CI by developing theory inductively from data (Charmaz, 2006). Evaluation of subjective information from research subjects is essential as they interact with the phenomenon's environment. Inductive reasoning achieved through the interpretivist paradigm suits the exploratory nature of this research. The research's design is outlined in Figure 1.

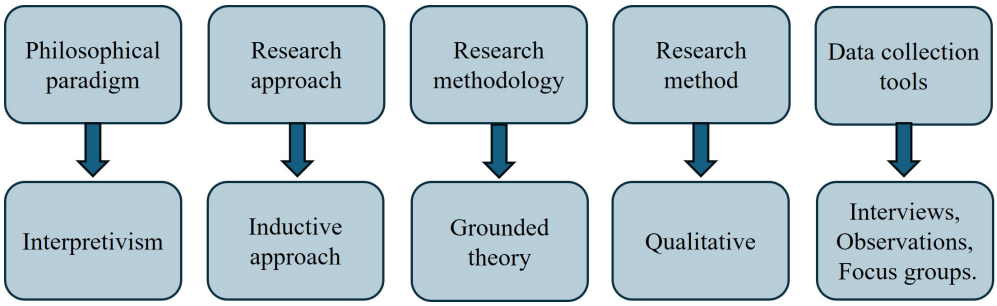


Figure 1. Research design.

Grounded theory leads to theory generation from systematically collected and analysed data. Literature review identifies gaps, consulted during analysis to confirm emerging findings and enable understanding the process (Corbin & Strauss, 1990). Three main schools of grounded theory exist—classic, interpretive/Straussian, and constructivist (Hunter et al., 2011)—which differ in analysis, coding, participant relationships, and evaluation. Straussian's structured coding suits the research paradigm (Corbin & Strauss, 1990). Inductive data collection derives patterns from data, suitable for complex topics (Tie et al., 2019). It involves interviews, observations, focus groups and self-assessment for diverse perspectives through open-ended questions and continues until saturation, with systematic analysis—coding, categorising, and conceptualising. Grounded theory prioritises theory generation from data, ensuring research rigour (Coghlan, 2021). Rigour leads to trustworthiness—transferability, credibility, confirmability and dependability (Guba et al., 1994). Action research emerges within practical contexts, causing intentional transforma-

tion. It is characterised by planning, acting, observing and addresses real-world problems, encouraging stakeholder engagement for context-specific knowledge (Ollila & Yström, 2020). Focused investigation delves into specific research questions or phenomena. It allows comprehensive understanding, uncovering intricate details and nuanced insights. Findings may lack generalisability hence should be complemented (Greenhalgh et al., 2018). Additional rigour was enhanced through semi-structured interviews. Interaction was guided by flexible protocol for open-ended data (Seidman, 2006). Steps included approval to participate, 45-min focus interviews recorded, careful transcription/translation from Arabic, Nvivo coding, and literature comparison. Theoretical sampling elaborates and refines categories in emerging theory (Charmaz, 2006). It is flexible to suit emerging theory, not forcing preconceived ideas, and reveals variations and relationships, contributing to credible, authentic theory.

Drawing on the authors' positionality, the first author is Saudi, fluent in Arabic, and familiar with local cultural norms, which facilitated building rapport with participants and understanding language nuances during interviews. Although not an employee of a manufacturing firm, their academic engagement with Saudi industry through prior fieldwork and literature review informed sensitive questioning and interpretation. The second author, based outside Saudi Arabia, brought an outsider perspective that helped challenge assumptions and broaden analytical reflexivity. Both researchers kept reflexive journals throughout data collection and analysis, noting instances where cultural proximity might lead to over-familiar interpretations or where outsider status risked misreading context. Regular debriefing sessions—with each other and with independent peers—ensured that emerging codes and themes were interrogated from multiple vantage points, strengthening the study's credibility and transparency.

Saturation determines sample size sufficiency, occurring when new data provides no new concepts or categories (Charmaz, 2006). It is essential for qualitative rigour; studies show saturation with 12–40 interviews (Guest et al., 2006; Hagaman & Wutich, 2017). Inter-rater reliability ensures coding consistency, measured by Cohen's kappa coefficient considering agreement beyond chance (McDonald et al., 2019). Perfect agreement is 1, chance is 0; guidelines and training enhance consistency. Other measures include percentage agreement and intraclass correlation coefficients. The research involves human participants, so ethics approval was obtained from university committee following standards review.

4. Data Gathering and Analysis

This section highlights systematic methods of analysing qualitative data, then presents the findings from an analysis of the theme patterns of the qualitative comments made by interviewers. A systematic data analysis process was conducted using the grounded theory procedures of coding and categorising described in the methodology earlier.

4.1. Data Gathering

4.1.1. Participant Description

A total of twenty-eight participants are sampled from five companies in Saudi Arabia, shown in Table 1, which summarises key characteristics of the 5 Saudi manufacturing companies that participated in the research, including number of employees, organisation size, and annual turnover. The companies ranged from large corporations with thousands of employees to small-to-medium enterprises with 100–200 employees (Sackmann, 1991). The participants are grouped based on factors in Table 2, which outlines the 28 research participants sampled from the firms, categorised by position, years of experience, and

education level. The range of employees included roles from senior directors to production supervisors, with years of experience spanning 3–15 years.

Table 1. Data sample.

Company Name	Numbers of Employees	Organisation Size	Turnover Million ($)
The National Agricultural Development Co. Nadec	4175 employees	Large	95.5 m
National Food Company	1000 employees	Large	92.2 m
Saudi Modern Foods Factory	111 employees	SME	4 m
Al-Taif National Dairy Factory	100–200 employees	SME	25 m
National Food Industries Company (Luna)	1000–5000 employees	Large	521 m

Table 2. Composition of participants.

Position	No	Interviewees Experience	Interviewees Education
Senior Director of Operations	5	10–15 years	Higher education (Master's degree)
Team Leaders	4	8–10 years	Bachelor
Quality Control Managers	3	5–10 years	Bachelor
Process Supervisors	11	3–8 years	Bachelor
Production Supervisors	5	4–6 years	Bachelor

4.1.2. Pilot Study

A pilot study was conducted with a small representative group of participants to gain preliminary insights into the context and refine the main research question focused on exploring aspects of organisational culture related to CI in Saudi manufacturing firms. Qualitative analysis employing grounded theory methodology was used in the pilot study as an initial exploration of cultural factors influencing CI (Corbin & Strauss, 1990). M. S. Alotaibi et al. (2019) is an example of a study that adopted grounded theory to investigate the impact of organisational culture on CI in Saudi universities.

4.1.3. Main Interviews Phase

The main interviews were conducted in two phases with the sample of 28 participants from Saudi manufacturing firms. Employing open, axial and selective coding, these interviews yielded 40 cultural factors related to CI, known as "lower-level codes" (Bruscaglioni, 2016). Once saturation was reached, indicating no new information was emerging, the process shifted to the next phase.

4.2. Data Analysis

4.2.1. Data Analysis Procedure (Stage One)

In the first stage of analysis, open, axial and selective coding was applied to the qualitative interview transcripts as prescribed by the interpretive grounded theory approach (Corbin & Strauss, 1990). Line-by-line open coding identified concepts which were then grouped into categories through axial coding. The process produced the 40 lower-level codes describing aspects of organisational culture influencing CI. Below are all the generated codes (forty low-level codes) described based on the participant's reports and ideas:

- *Enhancing communication for employee collaboration* was considered vital for continuous improvement. It enhances information sharing, productivity, and collaboration.
- *Cooperation towards formulation of new ideas* leads to innovation through diverse perspectives and an environment conducive to exchanging and implementing ideas.
- *Problem identification* involves seeking out issues, taking corrective actions, and educating operators to prevent recurrence. It contributes to effective problem-solving through soft skills like active listening, respectful communication, and cultural awareness.

- *Fostering positive social relationships within the organisation* develops CI by facilitating collaboration, communication, and innovation for efficiency. These connections enhance collaboration, innovation, open communication channels, mutual support and trust.
- *Facilitating collaborative team research* fuelled innovation, collaboration, and learning, with teams exploring new ideas and seeking enhancements. It leads to a sense of collective ownership and is a driving force for improvement.
- *Prioritising employee well-being* includes ensuring access to physical and mental health resources, promoting work-life balance, and cultivating an inclusive culture. It increases employee engagement, productivity, collaboration, creativity, and problem-solving capacity.
- *Maximising employees' efficiency* maintains effective performance through ongoing skill development in employees and a culture centred around efficiency, innovation and problem-solving.
- *Cultivating employee motivation* for CI mostly utilises methods like meetings and feedback channels. It enhances commitment to the organisation and to CI initiatives.
- *Employees' resistance to change* is a significant hurdle in the path of continuous improvement. Fostering an open, transparent, and trusting culture is essential to overcoming these barriers.
- *Establishing effective training programs for trainees* insures investing in comprehensive support, learning, and skill-building opportunities. It provides the bedrock of operational excellence and innovation through increased efficiency and adaptability.
- *Embracing flexibility in work conditions to foster improvement* allows many different perspectives and skills to enhance problem-solving, creativity, and innovation. It maintains employee focus and efficiency while accommodating personal needs.
- *The risk of expertise loss within the organisation* is a significant obstacle to continuous improvement. Strategies must be implemented to retain and transfer knowledge to mitigate the risks.
- *Shortage of workforce* presents a considerable challenge to CI efforts in operations. Focusing on flexibility, collaboration, and a learning-oriented approach helps overcome workforce limitations.
- *Implementing regular evaluation of organisational activities* is a key driver for CI in operations. It maintains a focus on goals and process optimisation.
- *Strengthening employee relations* is fundamental to driving CI in manufacturing environments. Healthy interactions enhance motivation, performance, and contribution to improvement initiatives.
- *Embracing employee diversity for improvement* significantly contributes to CI through enhanced collaboration, teamwork, decision-making and innovative solutions.
- *Promoting employee engagement in CI initiatives* empowers employees to address challenges head-on and encourages experimentation and innovation.
- *Creating a supportive work environment* prioritises employee well-being, growth, and success, enabling open expression and innovation without fear.
- *Addressing customer complaints as improvement opportunities* reflects an organisation's commitment to excellence and customer satisfaction. It instils responsibility and responsiveness in employees.
- *Implementing supplier engagement policies for collaborative improvement efforts* enhances product quality, efficiency, innovation and mutually beneficial relationships.
- *Establishing effective employee monitoring mechanisms* aligns employee performance with organisational goals and drives CI.
- *Lack of moral incentives* can lead to a decline in employee motivation and stagnation in improvement efforts.

- *Ensuring fair employee salary structures* promotes motivation, job satisfaction and dedication to the company's success.
- *Promoting ethical behaviour* guides employees to make wise decisions and adhere to ethical standards, maintaining integrity and progress.
- *Top management support for improvement initiatives* shapes the environment and culture of a company, fostering innovation and long-term success.
- *Encouraging employee independence in improvement processes* gives employees the independence to exercise decision-making, take responsibility, and contribute significantly to improvement efforts.
- *Ensuring high-quality standards in organisational processes* drives a culture of excellence and CI through responsibility, attention to detail and accountability.
- *Incorporating staff opinions in decision-making* promotes inclusivity, empowerment and innovation.
- *Implementing effective employee performance management strategies* ensures operations are aligned with organisational goals
- *Establishing clear goal setting for improvement* gives employees precise objectives that direct efforts towards key organisational objectives.
- *Cultivating a healthy work environment to enhance CI efforts* encompasses physical safety, work-life balance and positive relationships, fostering innovation and productivity.
- *Supporting risk-taking for innovation* encourages employees to challenge the status quo and provide novel solutions, fostering experimentation and learning.
- *Implementing a comprehensive system for tracking work progress from initiation to completion* ensures every phase is accountable, promoting transparency, efficiency, and timely decisions.
- *Conducting regular staff meetings* to facilitate facilitates communication, collaboration, problem-solving and a shared purpose.
- *Promoting effective planning strategies* to support CI is recognised as essential for operational optimisation.
- *Poor supplier relationships* can lead to delays and increased costs, hindering collaboration, innovation, best practice sharing.
- An *internal violation committee* maintains integrity by investigating and addressing policy or ethics breaches.
- *Promoting continuous learning* within an organisation keeps employees current on trends and advances knowledge and skills.
- *Emphasising data-driven decision-making* for CI facilitates systematic process improvements by identifying inefficiencies or quality issues.

The process for calculating the percentage agreement between two raters, as reflected in Table 3, is a method used to measure the consistency and reliability of ratings provided by different observers. The result for the percentage agreement consistency and reliability between the two raters is 92.5%. It was found by making a matrix Table 3 in which the columns represent different raters, while the rows show the aspects for which the raters had gathered. According to Dettori and Norvell (2020), a 92.5% agreement indicates that only 7.5% of the coding instances reflected divergence in interpretation between raters.

Inter-rater reliability assesses the degree of agreement among two or more evaluators (raters) when coding the same qualitative material (James et al., 1984; McHugh, 2012). It serves as one indicator of data-collection quality and coding consistency in social-science research (Gwet, 2008). To perform this check, an independent rater re-codes a representative sample of transcripts, and their results are compared with the primary researcher's coding (Gwet, 2001). Agreement is typically quantified using metrics such as percent agreement or Cohen's Kappa, which provide reassurance that emergent categories are co-constructed

rather than idiosyncratic. Within our pragmatist grounded-theory framework (Charmaz, 2006), this IRR check functions as a liaison tool, ensuring transparency in coding decisions without implying a single "correct" interpretation. It complements our broader trustworthiness measures, including peer debriefing, reflexive memoing, and triangulation, to establish credibility and dependability.

Table 3. Calculation of percentage agreement between two raters.

#	Aspects	Rater 1	Rater 2	Difference
1	Enhancing communication for employee collaboration	1	1	0
2	Cooperation towards formulation of new ideas	1	1	0
3	Problem identification	1	1	0
4	Fostering positive social relationships within the organisation	0	1	−1
5	Facilitating collaborative team research	1	1	0
6	Prioritising employee well-being	0	1	−1
7	Maximising employees' efficiency	1	1	0
8	Cultivating employee motivation for continuous improvement	1	1	0
9	Employees' resistance to change	1	1	0
10	Establishing effective training programs for trainees	1	1	0
11	Embracing flexibility in work conditions to foster improvement	1	1	0
12	The risk of expertise loss within the organisation	1	1	0
13	Shortage of workforce	1	1	0
14	Implementing regular evaluation of organisational activities	1	1	0
15	Strengthening employee relations	1	1	0
16	Embracing employee diversity for improvement	1	1	0
17	Promoting employee engagement in CI initiatives	1	1	0
18	Creating a supportive work environment	1	1	0
19	Addressing customer complaints as improvement opportunities	1	1	0
20	Implementing supplier engagement policies for collaborative improvement efforts	1	1	0
21	Establishing effective employee monitoring mechanisms	1	1	0
22	Lack of moral incentives	1	1	0
23	Ensuring fair employee salary structures	1	1	0
24	Promoting ethical behaviour	1	1	0
25	Top management support for improvement initiatives	1	1	0
26	Encouraging employee independence in improvement processes	1	1	0
27	Ensuring high-quality standards in organisational processes	1	1	0
28	Incorporating staff opinions in decision making	1	1	0
29	Implementing effective employee performance management strategies	1	1	0
30	Establishing clear goal setting for improvement	1	1	0
31	Cultivating a healthy work environment to enhance CI efforts	0	0	0
32	Supporting risk-taking for innovation	1	1	0
33	Implementing a comprehensive system for tracking work progress from initiation to completion	1	1	0
34	Conducting regular staff meetings to facilitate communication	1	1	0
35	Promoting effective planning strategies to support continuous improvement	1	1	0
36	Poor supplier relationships	1	0	1
37	Internal violation committee	1	1	0
38	Promoting continuous learning	1	1	0
39	Empowering employees to implement improvement initiatives	1	1	0
40	Emphasising data-driven decision-making for continuous improvement	1	1	0
	Number of zeros			37
	Number of aspects			40
	Percentage agreement			92.5%

In line with our constructivist orientation, we interpret inter-rater agreement not as a measure of objective truth, but as an indicator of shared meaning-making and coding transparency.

This study utilised the kappa test to explore the degree of interpretive alignment between two coders, acknowledging that agreement reflects shared understanding rather than objective accuracy. It also aimed to evaluate the level of agreement between two raters who each categorised the aspects into mutually exclusive groups. The equation below reveals the process that was used to derive the kappa value for this study.

$$Po = \frac{\text{Number in Agreement}}{\text{Total}}$$

$$P(correct) = \frac{A+B}{A+B+C+D} * \frac{A+C}{A+B+C+D}$$

$$P(incorrect) = \frac{C+D}{A+B+C+D} * \frac{B+D}{A+B+C+D}$$

$$Pe = P(correct) + P(incorrect)$$

$$K = \frac{Po - Pe}{1 - Pe}$$

$$K = \frac{0.95 - 0.905}{1 - 0.905} = 0.0474$$

$$K = 0.925$$

From the above expression, *Po* refers to the level of interpretive convergence among the raters, whereas *Pe* is the hypothetical probability of chance agreement. The inter-rater reliability aims to assess the level of agreement between the choices made by the two selected independent raters. Intra-rater reliability assesses the level of agreement demonstrated by the same individual at a particular point in time. Table 4 illustrates the number of agreements and disagreements between the two raters.

Table 4. The process of deriving Cohen's kappa value.

		Rater 2	
		Correct	Incorrect
Rater 1	Correct	A = 37	B = 1
	Incorrect	C = 1	D = 1

Although the agreement is very high (92.5–95%), the kappa value of approximately 0.474 indicates only average agreement when taking chance into account. This is because the ratings are skewed (with most ratings being "correct"), resulting in a highly probable agreement and thus a lower kappa value. According to Dettori and Norvell (2020), a kappa in the range of 0.41–0.60 is considered average, which is acceptable given the nature of the data for this study.

Table 5 shows that while the percentage agreement value is 92.5%, Cohen's *K* score for the two raters is 0.9254447. Additionally, kappa values that are above 0.90 suggest that the confidence intervals of the derived kappa tests are sufficiently broad that a researcher can surmise that more than 90% of the data is consistent. Therefore, the kappa test results show that the data gathered in the study demonstrate a high level of interpretive coherence

between coders, suggesting that the identified themes are meaningfully grounded in participants' perspectives.

Table 5. Level of Agreement.

Level of Agreement	Number
Number of aspects approved by both raters	37
Number of aspects excluded by both raters	1
Number of aspects approved by only the first rater	1
Number of aspects approved by only the second rater	1
Cohen's kappa results	% of agreement: 92.5% Cohen's *K*: 0.9254447 almost perfect agreement

4.2.2. Data Analysis Procedure (Stage Two)

In the second stage, the 40 lower-level codes were synthesised into 7 higher-level themes through focus group discussions with study participants. These themes form the core structure of the conceptual framework developed in this study. The 7 interrelated themes encompass dimensions like communication, leadership, ethics, learning and talent management, revealing essential cultural enablers, barriers and focus areas for enhancing manufacturers' CI capabilities (Mishra & Dey, 2022; Tie et al., 2019). The lower-level codes were derived systematically through a grounded theory inductive analytical process of open and axial coding of interview transcripts to identify initial concepts and categories (Bruscaglioni, 2016; Corbin & Strauss, 1990). Their sequence reflects the frequency and connections between codes.

The codes were then synthesised into higher-level themes, revealing underlying relationships, consistent with grounded theory principles. The collaborative process of developing themes aimed to identify central, unifying concepts within the codes to enhance understanding of cultural factors enabling CI in Saudi firms (Vaismoradi et al., 2016). 40 key aspects were identified through focus groups with local manufacturers. Focus group members were selected from those participants who had previously participated in the interviews. The first focus group aimed to enhance and expand upon the results of semi-structured interviews concerning organisational culture (OC). Focus group two strived to merge the cultural aspects that have been developed into broader themes at a higher level. Table 6 describes the composition of the two focus groups conducted with 6 participants each to develop the lower-level codes into higher-level cultural themes.

Table 6. Composition of focus group participants.

Focus Group	Number of Participants	Job Titles	Years of Experience	Length of Time (h)
Session 1	6	Senior Director of Operations	12	4
		Quality Control Manager	10	
		Process Supervisor	8	
		Process Supervisor	6	
		Production Supervisor	6	
		Production Supervisor	4	
Session 2	6			5

Table 7 lists the 7 higher-level cultural themes constructed from synthesising the 40 lower-level codes through focus group analysis. It shows which specific codes were incorporated into each theme, demonstrating the systematic process of developing cultural factors into unified concepts.

Table 7. Developing the lower-level codes into higher-level themes.

Theme	Codes Incorporated within the Theme
Enhancing Communication and Collaboration	1. Cooperation Towards the Formulation of New Ideas 2. Enhancing Communication for Employee Collaboration 3. Facilitating Collaborative Team Research 4. Fostering Positive Social Relationships within the Organisation 5. Problem Identification 6. Strengthening Employee Relations
Employee Well-being and Performance Optimisation	1. Cultivating a Healthy Work Environment to Enhance CI Efforts 2. Cultivating Employee Motivation for Continuous Improvement 3. Embracing Flexibility in Work Conditions to Foster Improvement 4. Employees' Resistance to Change 5. Establishing Effective Training Programs for Trainees 6. Maximising Employees' Efficiency 7. Prioritising Employee Well-being
Ethical and Social Responsibility	1. Promoting Ethical Behaviour 2. Addressing Customer Complaints as Improvement Opportunities 3. Implementing Supplier Engagement Policies for Collaborative Improvement Efforts 4. Ensuring High-Quality Standards in Organisational Processes 5. Establishing Clear Goal Setting for Improvement 6. Lack of Moral Incentives 7. Embracing Employee Diversity for Improvement
Talent Acquisition and Retention	8. The Risk of Expertise Loss within the Organisation 9. Shortages of Workforce 10. Ensuring Fair Employee Salary Structures
Top Management Support and Employee Empowerment	1. Empowering Employees to implement Improvement Initiatives 2. Encouraging Employee Independence in Improvement Processes 3. Establishing Effective Employee Monitoring Mechanisms 4. Implementing Effective Employee Performance Management Strategies 5. Incorporating Staff Opinions in Decision Making for Continuous Improvement 6. Top Management Support for Improvement Initiatives
Organisational Learning and Development	1. Conducting Regular Staff Meetings to Facilitate Communication 2. Implementing a Comprehensive System for Tracking Work Progress from Initiation to Completion 3. Implementing Regular Evaluation of Organisational Activities 4. Promoting Continuous Learning 5. Promoting Effective Planning Strategies to Support Continuous Improvement 6. Supporting Risk-taking for Innovation
Compliance with industry standards and internal improvement	1. Creating a Supportive Work Environment 2. Emphasising Data-Driven Decision Making for Continuous Improvement 3. Internal Violation Committee 4. Poor Supplier Relationships 5. Promoting Employee Engagement in Organisational Improvement Initiatives

The seven higher-level themes constructed in this study are summarised and described in the Table 8 below.

Table 8. Summary and description of the seven higher-level themes constructed in this study.

Theme	Description
Enhancing Communication and Collaboration	This theme encompasses strategies and practices aimed at improving the exchange of information, fostering teamwork, and building positive relationships among employees within the organisation to facilitate continuous improvement efforts.
Employee Well-being and Performance Optimisation	This theme focuses on creating a supportive and healthy work environment, boosting employee motivation, and implementing flexible work conditions to maximise individual and collective efficiency and drive continuous improvement initiatives.
Ethical and Social Responsibility	This theme highlights the importance of promoting ethical conduct, addressing customer concerns, engaging with suppliers responsibly, ensuring high-quality standards, setting clear goals, providing moral incentives, and valuing employee diversity in the pursuit of organisational improvement.
Talent Acquisition and Retention	This theme addresses the challenges related to potential loss of expertise, workforce shortages, and the necessity of establishing fair salary structures to attract and retain skilled employees crucial for sustained improvement.
Top Management Support and Employee Empowerment	This theme underscores the critical role of leadership in empowering employees to take ownership of improvement initiatives, encouraging their autonomy, implementing effective monitoring and performance management, valuing their input in decision-making, and providing overall support for continuous improvement endeavours.
Organisational Learning and Development	This theme focuses on establishing mechanisms for regular communication, tracking work progress effectively, conducting periodic evaluations, promoting a culture of continuous learning, implementing sound planning strategies, and encouraging risk-taking to foster innovation and improvement.
Compliance with industry standards and internal improvement	This theme emphasises the significance of creating a supportive work environment, basing decisions on data, addressing internal violations, fostering positive supplier relationships, and actively involving employees in organisational improvement initiatives to meet external requirements and enhance internal processes.

4.2.3. Comparison with Other Studies

Table 9 details the literature used to evaluate the identified themes.

Table 9. Themes and Supportive Literature.

Themes	Supportive Literature
Enhancing Communication and Collaboration	Hasnat and Philbin (2021); Nikolic et al. (2021); Sande (2019); Schreiber and Melonçon (2019); Tavana et al. (2021); Terra et al. (2021)
Employee Well-being and Performance Optimisation	Ariawaty (2020); Khan et al. (2019); Pradhan and Hati (2022); Wieneke et al. (2019)
Talent Acquisition and Retention	Al-Halal (2017); Bubshait (2022); Fong et al. (2018); Narmadha and Vanithamani (2018)
Ethical and Social Responsibility	Ali et al. (2013); Alwagfi et al. (2020); Bikshapathi (2020); Habbash (2015); Hollingworth and Valentine (2014)
Top Management Support and Employee Empowerment	Alwagfi et al. (2020); Heyden et al. (2017); Hirzel et al. (2017); Pitoyo et al. (2019)
Organisational Learning and Development	Knol et al. (2019); Lau et al. (2019); Stativă and Todoran (2022); Tamayo-Torres et al. (2014)
Compliance with industry standards and internal improvement	Górny (2018); Henao-Hernández et al. (2019); Khan et al. (2019); Mburu (2020)

Based on existing scholarly research, an ideal state for CI culture was described encompassing practices and behaviours reflecting the 7 cultural themes (Wahyuningsih et al., 2019). It provided a set of criteria for an optimal CI environment in each of the aspects, described further.

Regarding *enhancing communication and collaboration*, the ideal state of a CI culture is defined by an environment where open, honest dialogue is the norm, and where employees are encouraged to bring diverse perspectives to the table. Clear and respectful communication channels in it facilitate the free exchange of ideas, breaking down silos within the organisation and enabling collaborative efforts and sense of safety and belonging through trust and mutual respect (Hasnat & Philbin, 2021; Hunter et al., 2011; Sande, 2019; Schreiber & Melonçon, 2019; Tavana et al., 2021).

When considering *employee well-being and performance optimisation*, the ideal CI culture prioritises the holistic health of its workforce. It maintains physical safety (Pradhan & Hati, 2022), work-life balance linked to satisfaction and productivity (Wieneke et al., 2019), and positive interpersonal relationships that foster innovation (Khan et al., 2019). Employee engagement and contribution to improvement increase when employees feel well-cared for (Khan et al., 2019).

In terms of *talent acquisition and retention*, an ideal culture for CI attracts and retains skilled professionals. It provides robust learning programs that support competitive advantage and retention (Bubshait, 2022; Paarlberg & Perry, 2007), engages and motivates a committed workforce (Finfgeld, 1999), and focuses on talent management for active contribution to company goals (Fong et al., 2018; Nogueira et al., 2018).

Considering *ethical and social responsibility*, the ideal CI culture operates with a conscience, guided by ethics and values. It tends to make a significant positive societal impact (Hollingworth & Valentine, 2014), integrates sustainable practices (Bikshapathi, 2020), treats stakeholders ethically Habbash (2015), and reflects social responsibility in operations (Ali et al., 2013).

In the realm of *top management support and employee empowerment*, a culture of CI is heavily influenced by leadership. Pitoyo et al. (2019) state that top management must provide clear direction and support to empower employees effectively. Alwagfi et al. (2020), emphasise the provision of resources and training, which Hyland et al. (2007) identify as critical for enhancing employees' ability to address and solve problems innovatively.

Regarding *organisational learning and development*, organisational learning involves the continuous acquisition and application of new knowledge, skills, and practices to enhance processes, products, and services (Stativă & Todoran, 2022). On the other hand, Organisational development focuses on enhancing an Organisation's overall effectiveness and adaptability. It involves interventions and initiatives to improve the Organisational structure, culture, systems, and processes. Organisational development efforts often match with CI goals as they seek to create an environment supportive to learning, innovation, and improvement.

In the aspect of Compliance with industry standards and internal improvement, an ideal CI culture is meticulously aligned with regulatory and ethical standards. Clear compliance policies are tools in guiding employee conduct and maintaining operational transparency, with continuous enhancement of CI processes through internal mechanisms, addressing deviations proactively, securing the organisation's reputation, and ensuring long-term success (Górny, 2018; Henao-Hernández et al., 2019; Khan et al., 2019; Mburu, 2020).

4.2.4. A Tool for Assessing the Proximity of Companies to an Ideal CI Culture State Across These Themes

This tool serves as a starting point to evaluate the CI culture in Saudi Arabia and provides local manufacturing firms with insights into the strengths, weaknesses and improve-

ment areas to make the sector strong. The chart below visually represents the distribution of the drivers of CI culture in the Saudi Arabian based on average scores on a 10-point Likert scale, shown in Figure 2.

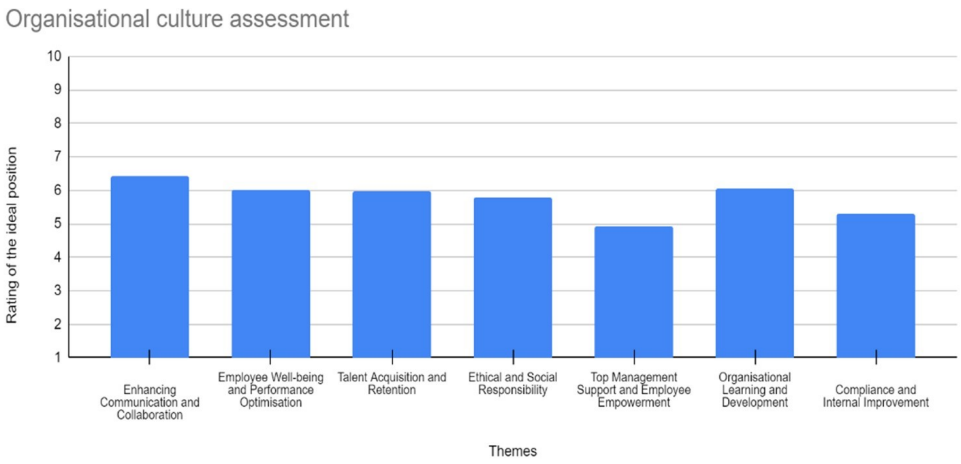


Figure 2. The average ratings associated with each theme.

Table 10 provides the specific average scores for each of the cultural factors (visualised in Figure 3). To pinpoint the gap between the current position and the ideal position, the researcher designed a survey featuring the ideal positions of certain themes and a seven-point scale from "strongly disagree" to "strongly agree" Munshi (2014). This survey is meant to gather participants' opinions on how close the current themes are to their ideal states, helping to identify where improvements are needed. The questionnaire utilised a 10-point Likert scale, to conceptualise an accurate representation of perceptions across the seven high-order themes. The insights garnered through the questionnaire were corroborated with insights from the focus groups and informed by an extensive literature review.



Figure 3. The average ratings associated with each theme.

Table 10. Themes and average scores.

Theme	Average Score
Enhancing communication and collaboration	6.4
Employee well-being and performance optimisation	6.0
Organisational learning and development	6.0
Talent acquisition and retention	5.9
Ethical and social responsibility	5.7
Compliance with industry standards and internal improvement	5.3
Top management support and employee empowerment	4.9

A set of concise statements for each of the seven themes was generated from focus-group discussions and a review of relevant literature to evaluate how Saudi manufacturing firms perceive their current CI culture relative to an inductively derived "ideal". Participants came from diverse roles and backgrounds, ensuring broad organisational representation. Grounded in established organisational-culture assessment frameworks (Bessant et al., 1994), the instrument was administered online via Google Forms™. Although respondents generally rated their firms' CI culture close to the ideal reflected in uniformly high mean scores across most themes, we deliberately refrained from computing statistical correlations or conducting hypothesis tests, since our goal was exploratory rather than confirmatory (Mays & Pope, 1995; Starks & Brown Trinidad, 2007). These preliminary insights highlight both strengths and areas for development and pave the way for more extensive future investigations.

5. Results

The major results and themes constructed from the data analysis provide an overview of the cultural factors enabling and hindering CI in Saudi manufacturing firms. The first key finding is that enhancing communication, collaboration, talent management, and organisational learning emerged as vital enablers of a CI culture. Open information sharing, teamwork, professional development, and knowledge exchange empower employees to drive innovation and enhancements. This finding is consistent with the argument by Hofstede (2011) that communication styles are impacted by the nature of power distance within an organisation.

The second key finding is that top management support, employee empowerment, and shared ethical values strongly influenced the efficacy of CI initiatives. Visible involvement of managers provides direction and resources, while empowered staff take ownership of improvements. Nevertheless, unclear goals from leaders and lack of autonomy contributed to change fatigue and burnout. This finding is in agreement with Chanani and Wibowo (2019), who stated that empowered employees are more likely to enhance the process of attaining CI in an organisation. The third finding is that while quality protocols and compliance provide necessary foundations, overemphasis on adherence restricted innovation and internal enhancements. The data showed a need to balance compliance with efforts to nurture employee creativity, experimentation, and data-driven decision-making. Gaps also existed in performance management practices, with opportunities to implement clear metrics and feedback systems to optimise contributions. There is consistency between this finding and what Hofstede (2011) terms as the importance of promoting adherence to the organisational norms and practices. The results are organised according to the key themes developed through rigorous coding and categorisation of the qualitative data gathered from interviews, observations, and focus groups with employees in local Saudi manufacturing firms.

5.1. Key Extracted Themes

5.1.1. Theme 1: Enhancing Communication and Collaboration

Enhancing communication and collaboration is crucial but currently inhibited by limited information sharing. Fostering open communication across departments and teams enables the free flow of ideas and collaborative problem-solving vital for continuous improvement Terra et al. (2021). However, barriers exist like knowledge siloes between departments and lack of platforms for information sharing.

5.1.2. Theme 2: Employee Well-Being and Performance Optimisation

Leveraging the preceding conclusions about enhancing communication and collaboration, the next part investigates employee well-being and performance optimisation. Supporting employee well-being and optimised performance systems drives improvement, but gaps exist in current practices. Deficiencies were noted in capability building, performance management, change adoption, and managing employee concerns. This is contrary to Pradhan and Hati (2022)'s argument that supporting employees promotes full potential and talent among employees.

5.1.3. Theme 3: Talent Acquisition and Retention

The next essential theme discovered is talent acquisition and retention, which significantly depends on employee well-being and performance optimisation. Acquiring and retaining talent aligned to a CI mindset is key, but deficiencies exist in current recruiting, development, and retention practices. Lack of growth opportunities and imbalance of compensation also impact engagement and retention of top talent. There is lack of evidence in this study indicating the role of competitive compensation and opportunities in enhancing talent acquisition and retention as outlined by Bubshait (2022).

5.1.4. Theme 4: Ethical and Social Responsibility

Behaving ethically and emphasising social responsibility enables an improvement culture, but mechanisms to surface ethical concerns need strengthening. Trust and psychological safety from fair practices allow employees to take risks and share ideas openly (Hollingworth & Valentine, 2014). However, insufficient means currently exist to surface and address ethical issues in the workplace.

5.1.5. Theme 5: Top Management Support and Employee Empowerment

Visible leadership commitment and employee empowerment are vital but change fatigue due to inconsistent direction from the top is a barrier. When managers actively participate, provide resources, and strategic guidance, it signals organisational commitment to improvement (Heyden et al., 2017). However, unclear priorities and constantly shifting goals from senior leaders contribute to change fatigue and initiative burnout.

5.1.6. Theme 6: Organisational Learning and Development

Organisational learning is crucial for improvement but is currently hindered by constraints on time, knowledge flows, and capabilities. While some training programs and peer learning exist with the intention of driving improvement (Knol et al., 2019), heavy workloads limit learning time. Knowledge hoarding tendencies and overreliance on external expertise also restrict building internal CI capabilities.

5.1.7. Theme 7: Compliance with Industry Standards and Internal Improvement

Compliance with industry standards and internal improvement practices enable enhancement but overemphasis on compliance hampers creativity. Adherence to quality protocols and regulations provides necessary foundations for internal improvements and

optimisation (Górny, 2018). However, the overfocus on compliance relative to innovation and staff creativity hinders continuous improvement.

5.2. Conceptual Modelling

The interaction between the themes can be summarised as follows:

- Enhancing Communication and Collaboration is foundational, influencing both Employee Well-being and Top Management Support.
- Employee Well-being directly supports Talent Acquisition and Retention, which in turn feeds into Organisational Learning and Development.
- Ethical and Social Responsibility underpins Compliance, ensuring integrity and alignment with standards.
- Top Management Support and Organisational Learning are central nodes, acting as bridges across multiple themes.

To further conceptualise the interrelationships among the seven cultural themes identified in this study, a Layered Onion Model was developed as a visual representation of the conceptual framework (see Figure 4). This model visually represents the hierarchical and functional structure of cultural enablers for CI in Saudi manufacturing firms.



Figure 4. The Onion Model for the themes affecting CI in the Saudi context.

At the core of the model lie Top Management Support and Organisational Learning and Development. These are the strategic enablers that form the foundation of a CI-supportive culture. The findings from interviews and focus groups consistently highlighted that without visible leadership commitment and a structured approach to learning, other cultural initiatives tend to lose momentum or fail to embed sustainably.

Surrounding the core is the middle layer, which includes Enhancing Communication and Collaboration, Employee Well-being, and Talent Acquisition and Retention. These operational enablers are directly influenced by the strategic core and are essential for translating leadership vision into day-to-day practices. For instance, effective communication channels and a focus on employee well-being were found to significantly enhance engagement and reduce resistance to change—both critical for CI success.

The outermost layer comprises Ethical and Social Responsibility and Compliance with Industry Standards and Internal Improvement. These boundary conditions ensure that CI efforts are aligned with broader societal expectations and regulatory frameworks. While these themes may not directly drive innovation, they provide the necessary guardrails that shape acceptable behaviour and reinforce trust within and outside the organisation.

This layered structure reflects the systemic nature of cultural transformation required for CI. It emphasises that improvements in outer layers are contingent upon the strength and coherence of the inner layers. The model also aligns with the study's findings that cultural change must be approached holistically, with strategic, operational, and ethical dimensions working in concert. Importantly, the Layered Onion Model is not intended as a static representation. Rather, it reflects a dynamic and evolutionary system in which changes in one layer can influence others over time. For example, improvements in outer-layer elements such as ethical and social responsibility or compliance mechanisms can reinforce inner-layer capabilities by fostering trust, legitimacy, and alignment with broader societal values. Conversely, weaknesses in the core, such as lack of top management support, can inhibit the effectiveness of outer-layer initiatives. This interdependence suggests that the model is best understood as an evolving cultural ecosystem, where feedback loops and mutual reinforcement shape the trajectory of continuous improvement. As such, the model supports both diagnostic and developmental uses, helping organisations not only assess their current state but also plan strategic cultural transformations. The interrelationship is further illustrated in Figure 5.

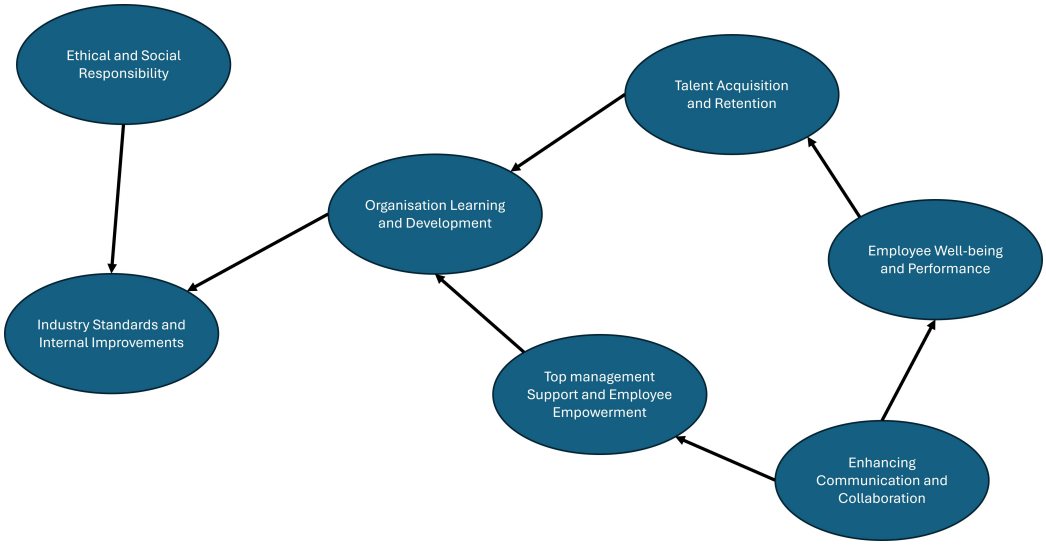


Figure 5. Themes interaction as a result of the analysis.

6. Discussion

6.1. Theoretical Positioning

The study positions itself within broader discussions of organisational culture and CI by aligning identified cultural themes with global trends. The conceptual framework developed in this study contributes to theory by offering a structured, empirically grounded lens through which cultural enablers of CI can be understood and assessed. For instance, the emphasis on collaborative communication mirrors the international shift towards inclusive workplace cultures (Chauhan et al., 2022), while the focus on talent management reflects a global emphasis on human capital development (Glawe & Wagner, 2020).

By providing a comprehensive cultural framework and diagnostic tool, this research not only fills a gap in academic literature but also serves as a practical resource for practitioners. The implications extend beyond local contexts, promoting strategies that foster supportive environments for CI. This research contributes to the theoretical landscape by shaping operational paradigms and encouraging inclusive discussions on organisational excellence, ultimately enhancing understanding of the dynamic interplay between culture and CI.

6.2. Novelty and Contribution to Knowledge

This research investigates the critical role of cultural themes in shaping continuous improvement (CI) within organisations. It highlights key themes such as top management support and employee empowerment as cornerstones for fostering a CI-oriented culture, where leaders enable change and innovation (Kotter, 1996). The study also emphasises employee wellbeing and ethics, demonstrating their importance in motivating the workforce and facilitating CI practices.

By adopting a qualitative methodology, this study bridges a gap in the literature by extending established cultural theories to the Saudi manufacturing sector, a non-Western context. The findings provide a framework for understanding cultural influences on CI, encouraging further exploration of how these themes affect CI practices globally. This work advocates for a more inclusive academic discussion on organisational culture, stressing the need for a global perspective that considers cultural nuances.

6.3. Theoretical and Practical Implications of CI Cultural Dynamics

The aim of this study was to explore the cultural factors that enable or inhibit CI in manufacturing companies in Saudi Arabia. Conducting this study was important as it will help to address the deep underlying issues concerning the organisational culture in Saudi Arabia. It is evident that, despite Saudi companies trying as much as possible to adopt CI techniques, many have struggled to create environments that support sustainable success, facing challenges like resistance to change, insufficient leadership support, and failure to enable knowledge transfer (Alkhoraif & McLaughlin, 2018). Hence, pursuing this research problem was essential to enhance the performance of these companies, form a cultural perspective, as well as establish the differences that exist based on what Hofstede (2011) termed as cultural dynamics that are influenced by national and regional factors.

According to the study, the enablers of a CI culture were enhancing communication and collaboration, talent management, and organisational learning. These enablers are consistent with the previous studies. For instance, as found by the previous studies, creating effective communication channels within an organisation creates a positive CI culture as it facilitates free exchange of ideas, promotes collaboration, and strengthens trust and respect among key stakeholders (Hasnat & Philbin, 2021; Sande, 2019; Tavana et al., 2021; Terra et al., 2021), which eventually enhance CI in the organisation. Moreover, as observed in this study, Saudi manufacturing organisations need to focus on talent management because it plays a key role in promoting CI because the provision of robust learning programs improve competitive advantage, motivate employees, and eventually lead to retention (Bubshait, 2022; Finfgeld, 1999; Narmadha & Vanithamani, 2018), which is essential for attaining the organisational goals. This enabler is also linked to the enabler of organisational learning and development that keeps employees at the forefront of industry trends (Knol et al., 2019). This will be highly beneficial to the Saudi manufacturing industry because it is dynamic and requires active participation of employees in demystifying the emerging trends and aligning them with the organisational goals.

Top management support, employee empowerment and shared ethical values were the other set of enablers of CI initiatives in the Saudi manufacturing companies. Top management support is key to CI because leaders need to provide a clear direction, resources, and training to enable employees be innovative in their problem-solving practices (Alwagfi et al., 2020; Hyland et al., 2007; Pitoyo et al., 2019). On the issue of ethical values, previous studies argue that ethical practices in an organisation are inevitable because of the associated social impact, sustainable practices, and social responsibility (Ali et al., 2013; Bikshapathi, 2020). This means that Saudi manufacturing firms should focus on these enablers, which can also be barriers to CI if not adequately implemented. For instance,

failure to empower employees or failure by the management to provide support may cause demotivation among employees leading to an impaired organisational culture that does not promote CI.

The findings of this study have both theoretical and practical implications. On theoretical implications, the findings address a key area that has been experiencing knowledge gaps, which is CI in the manufacturing sector in Saudi Arabia. For instance, the finding that, overemphasis on adherence restricted innovation and internal enhancements in the companies is a key theoretical contribution. Hence, based on this finding, there is the need for Saudi manufacturing firms to balance compliance with efforts to nurture employee creativity, experimentation, and data-driven decision-making. Regarding the practical implications of the findings, gaps existed in performance management practices, with opportunities to implement clear metrics and feedback systems to optimise contributions. Despite their significance in promoting CI, top management and employee empowerment scored the least in the ranking of enablers, therefore, it is recommended that the manufacturing firms in Saudi Arabia should focus on these enablers as much as possible. Where necessary, resources should be availed by the firms to promote these two enablers. Moreover, the findings will inform the development of organisational guidelines and policies leaning toward the implementation of key enablers by identifying and involving the relevant stakeholders in the whole process.

6.4. Repositioning the Assessment Tool and Researcher Reflexivity

CI in this study refers to the ongoing, incremental process by which every member of a manufacturing firm, across functions and levels, identifies inefficiencies, generates and tests enhancement ideas, and implements changes that cumulatively raise operational performance, quality, and competitiveness. Drawing on Kaizen and Lean philosophies (Bessant et al., 2001; Bhuiyan & Baghel, 2005), CI is conceived as a mindset embedded in daily routines characterised by shared values of learning, experimentation, open feedback, and employee empowerment, rather than a one-off project or checklist. Instead of treating our instrument as a rigid benchmark, we present it as a dialogical tool designed to spark organisational reflection and tailored action. Each of the seven "ideal" CI-culture dimensions (e.g., communication & collaboration; ethics & social responsibility; organisational learning & development) was inductively derived from our focus-group and interview data and then triangulated against established CI and culture frameworks (Bessant et al., 1994; Charmaz, 2006).

Considering the researcher's reflexivity, the first author states: "Conducting this grounded-theory study on CI culture in Saudi manufacturing firms has transformed my approach to qualitative research. Initially, I accepted participants' surface explanations, but through reflexive journaling, I learned to uncover deeper contextual meanings and to question my assumptions about hierarchy and decision-making. Whenever I noticed a bias in my coding, I paused to make a memo and re-examine the data. I now rigorously test whether qualitative evidence genuinely supports a theme before labelling it "strong" or "weak". Finally, integrating practitioner feedback underscored that our "ideal" CI-culture model must remain flexible, serving as a catalyst for ongoing organisational dialogue rather than a fixed standard, and motivated me to view publication as the start of a collaborative research journey".

6.5. Generalisability and Trustworthiness

Based on the convergence of the seven cultural themes across four distinct Saudi manufacturing sectors and their validation via two multi-firm focus groups, we contend that this CI–culture framework is likely to be applicable to other large-scale, hierarchical

manufacturing organisations within the Gulf Cooperation Council (GCC) region. Nevertheless, recognising the potential for cultural and institutional variation, we recommend that future research empirically tests and, where necessary, adapts this framework in non-GCC contexts (e.g., North Africa, Southeast Asia) and within small and medium-sized enterprises to fully establish its broader generalisability. The expectation that these themes may resonate across the GCC region is grounded in several shared contextual features. GCC countries, including the UAE, Kuwait, Qatar, and Oman, exhibit similar socio-cultural characteristics such as high power distance, collectivist orientations, and strong influence of Islamic values on workplace norms. These cultural dimensions shape organisational behaviour in ways that parallel the Saudi context, particularly in terms of hierarchical decision-making, emphasis on loyalty and group cohesion, and the centrality of leadership authority. Additionally, many GCC manufacturing sectors are undergoing parallel transformations under national visions (e.g., UAE Vision 2031, Qatar National Vision 2030), which similarly prioritise industrial diversification, workforce localisation, and operational excellence. These shared institutional and cultural dynamics suggest that the conceptual framework developed in this study may offer valuable insights for firms across the region seeking to embed continuous improvement within their organisational cultures.

While generalisability in qualitative research does not imply statistical representativeness, it remains an important consideration in terms of how findings may resonate with or be applicable to other contexts. In interpretivist research, this is often conceptualised as transferability, which depends on the depth, transparency, and rigour of the research process. For this reason, we discuss generalisability in tandem with the trustworthiness criteria—credibility, dependability, confirmability, and transferability—that underpin the methodological integrity of this study. By demonstrating how these criteria were addressed, we aim to provide readers with the necessary contextual and procedural detail to judge the relevance of our findings to their own settings.

6.6. Limitations

The study was limited by the small sample size of 28 participants from five Saudi manufacturing firms. Being a qualitative study, and with this small sample size, there will be the challenge of generalising the findings to the wider manufacturing sector in Saudi Arabia and beyond. Therefore, the future research should consider adopting quantitative/empirical methods involving a larger sample size involving diverse participants (not only employees as was in this study) from multiple manufacturing companies in Saudi Arabia to enhance the objectivity and generalisability of the findings. Through this approach, the impact of the enablers and barriers of CI can be quantified empirically.

7. Conclusions

The pursuit of operational excellence within Saudi manufacturing requires aligning organisational culture with CI principles. Critical cultural dimensions like management support, employee engagement, and collaboration foster a conducive CI environment. Integrated into the culture, these dimensions influence CI efforts. Findings suggest integrating such aspects into strategy is vital for advancing CI practices. As firms strive for excellence, insights point towards shifting from hierarchical models to more inclusive, dynamic cultures.

Implications extend beyond Saudi manufacturing. The conceptual framework serves as a blueprint for organisations seeking to embed CI into their core. Findings indicate that when employees at all levels contribute to CI, performance and innovation notably improve. However, this requires strategic alignment and re-evaluation of established norms. Transitioning to a CI culture needs consistent leadership support, trust, and

open communication, contributing to a flexible culture that resists market pressures while pursuing improvement. Thus, this study contributes to understanding the cultural levers facilitating a more receptive CI environment in Saudi Arabia's context.

Beyond its practical relevance, this study contributes to the theoretical discourse on continuous improvement by demonstrating how cultural enablers and inhibitors are shaped by national context, organisational structure, and leadership dynamics. The findings challenge the universality of Western-centric CI models and underscore the importance of culturally grounded frameworks. Moreover, the study illustrates the value of interpretivist inquiry in uncovering the nuanced, socially constructed realities that underpin organisational change. While rooted in the Saudi manufacturing context, the insights generated here may be transferable to other settings characterised by hierarchical structures, collectivist values, or rapid industrial transformation. As such, this research invites further comparative studies to refine and expand the cultural dimensions of CI theory across diverse global contexts.

While illuminating the cultural underpinnings essential for CI, this also calls for further investigation. Future research should examine long-term cultural shift impacts on performance and competitiveness. Investigating the expansion of CI culture across Saudi industries could provide broader insights into industrial evolution. Additionally, exploring national culture's intersection with organisational CI cultures may lead to a richer comprehension of the challenges and opportunities faced by Saudi firms globally. Pursuing a supportive CI organisational culture is an evolving journey. The findings serve as a starting point for further scholarly exploration and practical application in CI.

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Abbreviations

The following abbreviations are used in this manuscript:

CI	Continuous Improvement
GCC	Gulf Cooperation Council
SME	Small and Medium Enterprises

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Developing a supportive organisational culture for continuous improvement in manufacturing firms in Saudi Arabia

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