Editor in Chief

## Alaa Garad

IJSOL is an interdisciplinary and transdisciplinary journal dedicated to disseminating authentic knowledge and practices within and across all disciplines and trades. It aims to help all stakeholders learn about learning, strategies learning, and transform into learning-driven businesses. IJSOL published in online versions, our publisher is The Science Publishing House in the USA https://scipubhouse.com/   TSPH is an academic publisher of prestigiously peer-reviewed journals, covering many of academic disciplines.

**Volume 1 | Issue 2**

**Forward by Editor-in-Chief**

I am delighted to present Issue 2 of Volume 1. This issue exemplifies our commitment to advancing knowledge and fostering a deeper understanding of strategy and organisational learning. This issue's diverse and thought-provoking articles reflect the journal's mission to connect theoretical insights with practical applications.

This issue features five remarkable contributions that explore critical areas of strategy and learning:

1. **How Spirituality and Spiritual Intelligence Fuel Organizational Learning**: This paper introduces a novel framework linking spirituality and spiritual intelligence to organisational learning, offering insights into fostering supportive learning cultures that drive long-term success.

2. **Understanding Theory through a Metaphor: Leadership is like 'Driving a Car'**: This article uses the driving metaphor to elucidate the 'both/and' leadership perspective, emphasising flexibility and adaptability in navigating complex organisational dynamics.

3. **Organisational Learning: Foundational Building Block for Acquiring and Deploying Strategic Capabilities**: This study investigates how organisational learning is a cornerstone for strategic capability development, particularly in dynamic environments such as Saudi Arabia's transformative economy.

4. **Bridging the Gap: Integrating Learning and Workplace Experience**: Highlighting the disconnect between academia and industry, this paper explores strategies for aligning educational curricula with workplace demands to create a skilled and adaptable workforce.

5. **Collaborative Learning Ecosystems: Enhancing Communities of Practice in Digital Spaces**: This article examines how digital platforms can foster collaborative learning and transform organisational cultures through well-designed communities of practice.

These articles collectively address pressing challenges and opportunities in organisational learning and strategy, offering actionable insights for researchers, educators, and practitioners alike.

I extend my heartfelt gratitude to the authors for their exceptional contributions, the reviewers for their rigorous evaluations, and the editorial team for their unwavering dedication. Together, we ensure that IJSOL remains a beacon for scholarly excellence and practical relevance.

I hope this issue inspires new perspectives and stimulates meaningful discussions. Whether you are an academic, practitioner, or policymaker, I encourage you to engage with the ideas presented here and consider how they can be applied in your work.

Thank you for supporting the *International Journal of Strategy and Organisational Learning*. I look forward to your feedback and contributions to future issues.

With warm regards,
**Prof. Dr Alaa Garad**
**Editor-in-Chief**
**International Journal of Strategy and Organisational Learning**

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# Contents

# How Spirituality and Spiritual Intelligence Fuel Organizational Learning

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## Abstract

This theoretical review explores the interconnectedness of spirituality, spiritual intelligence (SQ), and organizational learning. We propose a novel framework that examines how cultivating these intangible factors fosters a supportive learning culture within organizations. This supportive environment, in turn, leads to enhanced knowledge creation, retention, and transfer. This focus on intangible factors strengthens organizational learning capabilities, fuelling improved performance and sustained growth. Drawing on organizational learning theory, the framework investigates how both spirituality and SQ contribute to key aspects of organizational success. We posit that spirituality promotes employee well-being and a sense of purpose, fostering a more engaged workforce. Furthermore, SQ equips individuals with the skills and mindset necessary for active learning. These combined effects contribute to leadership effectiveness by fostering a psychologically safe environment conducive to knowledge-sharing behaviours. This framework highlights how spirituality and SQ act as catalysts for a more robust learning environment. This review offers valuable insights for organizations seeking to enhance their learning capabilities and achieve a competitive edge. By recognizing the importance of spirituality and SQ, and implementing practices that cultivate these factors, organizations can create a culture of continuous learning and drive long-term success.

## 1. Introduction

Over the past decade, concepts like spirituality and SQ have emerged as significant areas of study in organizational behaviour. Spirituality, characterized by a sense of purpose, connection, and meaning, has demonstrated positive impacts on employee well-being and performance ( (Fry, L. W., 2013). Similarly, SQ, encompassing self-awareness, empathy, and meaning-making skills, equips individuals with leadership effectiveness and adaptability (Fry, 2010);

(Covey, 2004). Organizational learning, defined as the process of creating, retaining, and transferring knowledge within organizations, is essential for innovation and growth (Crossan & Berrett, 2010). Limited research explores how spirituality and SQ interact to influence organizational learning processes. This article aims to bridge this gap by proposing a framework that integrates these constructs within the context of organizational learning theory. This article aims to bridge these fields by exploring the interrelationship between spirituality, SQ, and organizational learning. We propose a novel conceptual framework that highlights their interconnectedness and potential to create a thriving learning environment. By understanding how these concepts can enhance learning processes, organizations can cultivate a workforce equipped for continuous development and contribute to sustained success.

## 2. Literature Review:

### 2.1. Fostering Employee Well-being and Engagement

Spirituality within organizations can cultivate a sense of purpose and meaning for employees, leading to increased well-being and job satisfaction (Fry, L. W., 2013). Research suggests that employees who experience a sense of purpose within their organization demonstrate greater engagement in learning activities (Dutton, Edmondson, & Bryant, 2017). This heightened engagement is crucial for effective knowledge creation and transfer within the organization (Easterby-Smith, Jackson, & Popp, 2010). Furthermore, SQ plays a vital role in fostering employee engagement. Individuals with high SQ exhibit greater self-awareness, allowing them to identify areas for personal and professional development (Garg, 2017). SQ also promotes a sense of meaning-making, which motivates employees to actively participate in learning initiatives that contribute to organizational goals (Fry, 2010).

### 2.2. Enhancing Leadership Effectiveness and Knowledge Sharing

Spirituality, by promoting core values like trust and honesty, fosters a foundation for effective leadership (Giacalone & Jurkiewicz, 2009). Leaders who embody spiritual values are more likely to create a safe and supportive environment where employees feel comfortable sharing knowledge and collaborating effectively (Fry, L. W., 2013). This open communication environment is critical for knowledge sharing and transfer, which are essential components of organizational learning (Crossan, M. M.; Berrett, D., 2010).

SQ further enhances leadership effectiveness by equipping leaders with strong communication and problem-solving skills (Fry, 2010). Leaders with high SQ can effectively articulate organizational goals and create a shared vision that inspires employee engagement in learning activities. Additionally, their strong problem-solving

skills enable them to navigate challenges that may arise during knowledge transfer processes (Fiol & Lyndenburg, 2015).

### 2.3. Promoting a Supportive Learning Culture

Both spirituality and SQ contribute to the development of a supportive learning culture within organizations. Spirituality fosters core values like trust, empathy, and psychological safety  (Fry, L. W., 2013). In such an environment, ideas and feel comfortable taking risks, experimenting with new ideas, and learning from mistakes without fear of judgment. This fosters a continuous cycle of learning that allows organizations to adapt and innovate (Kannan & Garad, 2021). SQ, through its emphasis on self-awareness and empathy, enhances collaboration within teams, allowing for better knowledge sharing and co-creation. Employees with high SQ are more likely to actively seek out learning opportunities from colleagues and share their knowledge for the benefit of the team (Crossan, M. M., & Berrett, D. M..

## 3. The Gap and Our Contribution

While existing research has explored the independent effects of spirituality  (Fry, L. W., 2013) and spiritual intelligence (SQ) (Wigglesworth & Mackey, 2014) on organizational learning, a critical gap remains. Limited research investigates the **synergistic** influence of these concepts on fostering a dynamic learning environment. This theoretical review aims to address this gap by proposing a novel conceptual framework. Our framework integrates spirituality and SQ, exploring their combined impact on cultivating a supportive learning culture and enhancing organizational learning processes. We posit that spirituality lays the foundation for a supportive learning culture by promoting core values like trust and open communication. These values create a safe space for knowledge sharing and collaboration, essential for effective learning (Gotsis, 2015). Building upon this foundation, SQ equips individuals with the skills and mindset necessary to actively engage in learning. By examining these concepts together, we offer a more comprehensive understanding of how intangible factors, like spirituality and SQ, can contribute to organizational learning and development.

## 4. The conceptual framework

This conceptual framework proposes a cyclical process where fostering spirituality and spiritual intelligence (SQ) within the workplace leads to a supportive learning culture, resulting in enhanced organizational learning and sustained growth (see Figure 1).

Spirituality lays the foundation for this positive cycle by cultivating a sense of purpose, meaning, and shared values within the organization  (Fry, L. W., 2013); (Giacalone &

Jurkiewicz, 2009). These core values, such as trust, honesty, and empathy, create a safe and encouraging environment where employees feel comfortable sharing knowledge openly, asking questions without fear of judgment, and taking calculated risks for learning (Easterby-Smith, Jackson, & Popp, 2010). These fosters open communication, a crucial element for knowledge sharing and collaboration, both essential for effective learning (Dutton, J. E.; Soane, D. C.; Kinicki, A. J., 2017).

Building upon this foundation, SQ equips individuals with the necessary skills and mindset for active learning (Fry, 2010); (Giacalone & Jurkiewicz, 2009). Self-awareness, a key aspect of SQ, empowers employees to identify their learning strengths and weaknesses, allowing them to seek targeted learning opportunities ( (Sianipar, Simatupang, & Purba, 2019). Additionally, SQ fosters critical thinking and problem-solving skills, which are crucial for effectively analysing information, evaluating new ideas, and adapting to changing learning environments (Kannan & Garad, 2021). The combined influence of spirituality and SQ leads to the development of a supportive learning culture characterized by trust, empathy, and psychological safety (Edmondson, 2019). Within this safe space, employees feel empowered to experiment, share ideas openly, and learn from mistakes (Dutton, J. E.; Soane, D.; Choi, D. Y., 2017). SQ further promotes collaboration through its emphasis on empathy, allowing for better knowledge sharing and co-creation within teams (Crossan & Berrett, 2010).

This supportive learning culture fosters a continuous cycle of knowledge creation, retention, and transfer within the organization (Easterby-Smith, Jackson, & Popp, 2010). Open communication channels and a collaborative environment encourage knowledge-sharing through activities like brainstorming, knowledge-sharing sessions, and cross-functional collaboration. Additionally, employees who are intrinsically motivated by a sense of purpose and connectedness fostered by spirituality are more likely to retain knowledge (Fry, L. W., 2013). Leaders with high SQ who model continuous learning behaviours can further encourage employees to actively retain and integrate new knowledge into their work practices (Giacalone & Jurkiewicz, 2009).

The effective transfer of knowledge throughout the organization is also facilitated by the open communication and collaborative environment fostered by spirituality and SQ. Employees are more likely to share their learning experiences with colleagues, fostering a collective learning environment (Garad & Gold, 2019). This continuous learning and development lead to a more skilled and adaptable workforce, contributing to improved employee performance (Fenwick & Bierema, 2016). Furthermore, a culture of continuous learning fosters creativity and innovation, allowing the organisation to adapt to changing market demands (Kannan & Garad, 2021). This innovation and improved employee performance contribute to long-term organisational success (Carmeli, Carmeli, & Tishler, 2010).
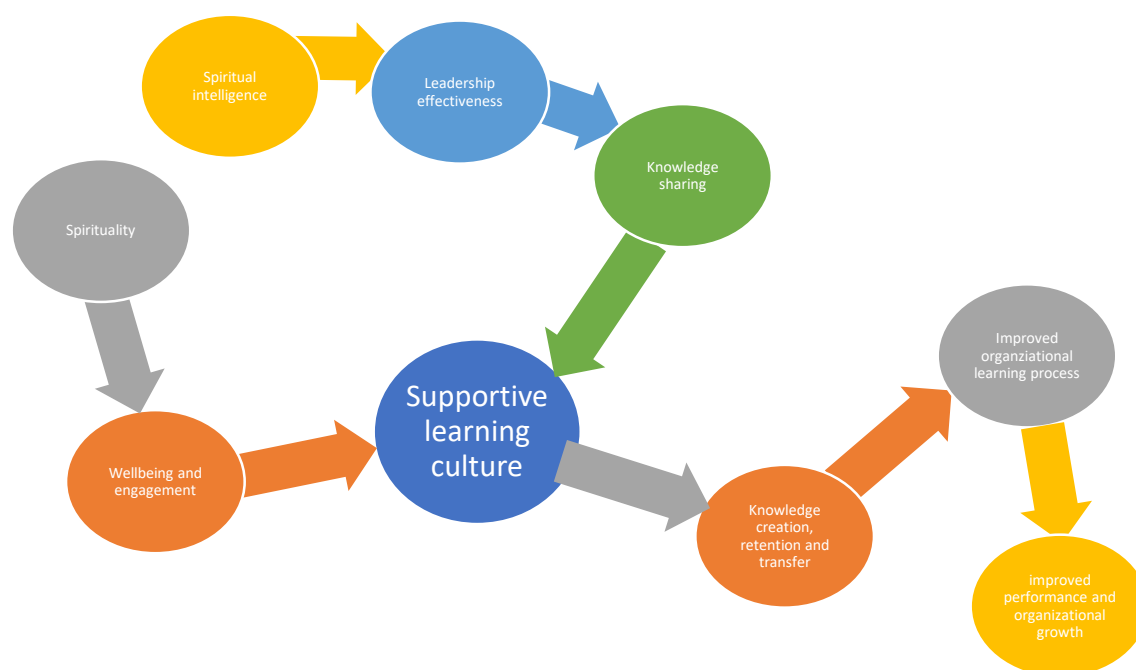
Figure 1

Spirituality and spiritual intelligence (SQ) within the workplace lead to a supportive learning culture, resulting in enhanced organizational learning and sustained growth.

## 5. Theoretical Framework

This framework explores how spirituality and Spiritual Intelligence (SQ) contribute to a supportive learning culture within organizations, enhancing organizational learning capabilities. The ever-changing market landscape characterized by intense competition and rapid technological advancements necessitates continuous learning within organizations (Kannan & Garad, 2021). Organizational Learning (OL) has emerged as a critical concept for knowledge-oriented organizations seeking to thrive in this dynamic environment (Easterby-Smith, Jackson, & Popp, 2010). OL refers to the process of acquiring, distributing, integrating, and applying knowledge within an organization (Argote & Fahrenkopf, 2006). It equips organizations with the ability to adapt to changing environments, navigate uncertainty, and improve efficiency (Fiol & Lyndenburg, 2015). Social interaction and observation play a crucial role in knowledge acquisition within organizations (Abougazia, 2024). Individuals learn by observing the behaviours, attitudes, and values of others in their work environment (Bandura, 2008). A supportive learning culture, characterized by shared values, open communication, and a sense of community, fosters knowledge sharing and learning (Garad & Gold, 2019).

Spirituality promotes core values like trust, honesty, and empathy, which align well with the principles of a supportive learning culture ( (Giacalone & Jurkiewicz, 2009). A shared sense of purpose, often fostered by spirituality (Fry, L. W., 2013), creates a context conducive to learning. Employees who observe colleagues upholding these values are more likely to adopt them themselves, creating a positive reinforcement cycle for learning (Bandura, 2008). Additionally, spiritual values cultivate a more psychologically safe work environment (Fry, L. W., 2013). This psychological safety encourages active participation in learning activities and open knowledge sharing without fear of judgment (Edmondson, 2019). Building upon this foundation, SQ equips individuals with the necessary skills and mindsets for active learning. Self-awareness, a key component of SQ (Giacalone & Jurkiewicz, 2009), allows individuals to identify their learning strengths and weaknesses (Covey, 2004). This self-awareness empowers employees to take ownership of their learning journeys and actively seek development opportunities aligned with their goals (Abougazia, 2024).

Furthermore, SQ fosters critical thinking skills essential for effective learning (Crossan, M. M.; Berrett, D., 2010). Individuals with high SQ can effectively analyse information, identify problems, and seek solutions (Giacalone & Jurkiewicz, 2009). These critical thinking skills enable employees to actively engage with new knowledge and apply it to real-world situations, enhancing the effectiveness of learning initiatives (Garad & Gold, 2019). Empathy, another key aspect of SQ, encourages knowledge-sharing and collaboration (Covey, S. R., 2004). Individuals with high empathy can understand and appreciate the perspectives of others, fostering stronger team connections (Giacalone & Jurkiewicz, 2009). This sense of connection creates a more collaborative learning environment where individuals feel comfortable sharing knowledge and experiences, accelerating the overall learning process (Easterby-Smith, Jackson, & Popp, 2010).

This framework posits that organizational learning is a dynamic process influenced by the interaction between individuals and their environment. Spirituality shapes the organizational environment by promoting core values that influence learning behaviours. SQ equips individuals with the skills and mindsets necessary to actively engage in learning activities within this supportive environment. This interconnectedness between spirituality, SQ, and a supportive learning culture fosters an integrated approach to organizational learning, leading to enhanced innovation and improved performance ( (Crossan, M. M.; Berrett, D. M. , 2010).

## 6. Discussion and Implications:

Our proposed framework sheds light on how spirituality and SQ act as powerful catalysts for organizational learning. By fostering employee well-being and engagement, these qualities enhance leadership effectiveness and promote a supportive learning culture. This translates into a more robust knowledge creation, retention, and

transfer process within the organization. As a result, organizations cultivate stronger organizational learning capabilities, leading to increased innovation, improved problem-solving, and enhanced performance and growth (Kannan & Garad, 2021).

This research underscores the importance of cultivating a work environment that nourishes both spirituality and SQ. Organizations can achieve this through initiatives that promote a sense of purpose and meaning in work. This can involve fostering a clear mission statement that resonates with employees or providing opportunities for employees to contribute to a larger cause. Additionally, encouraging open communication and collaboration, through regular team meetings or feedback sessions, can build trust and psychological safety. Furthermore, leadership development programs that emphasize values-based leadership and effective communication skills can further empower leaders to create a learning-conducive environment (Abougazia, 2024).

Our conceptual framework highlights the potential for spirituality and SQ to create a dynamic and thriving learning environment within organizations. By nurturing these concepts, organizations can cultivate a workforce equipped for continuous learning and adaptation in today's rapidly changing business landscape. However, it is crucial to acknowledge potential challenges. Integrating spirituality into the workplace requires careful consideration of diverse employee beliefs and cultural backgrounds. Organizations should avoid imposing specific religious practices and instead focus on fostering a sense of purpose and meaning-making that is inclusive of all employees (Abougazia, 2024). Similarly, measuring the impact of SQ remains a complex task. Further research is needed to develop reliable and valid methods for assessing SQ within organizational settings.

## 7. Conclusion

This theoretical review has shed light on the interconnectedness of spirituality, spiritual intelligence (SQ), and organizational learning. We have proposed a novel framework that highlights how fostering these intangible qualities can cultivate a supportive learning culture. This supportive environment, characterized by shared values, open communication, and psychological safety, empowers individuals with the skills and mindset for active learning. Consequently, organizations can harness the potential of SQ and spirituality to cultivate a more innovative, adaptable, and successful workforce. Future research can build upon this framework by empirically assessing its propositions and investigating potential moderating factors, such as organizational culture and industry type. Additionally, exploring the practical implications of integrating SQ and spirituality into organizational development strategies would be valuable. By recognizing the significance of these intangible resources, organizations can unlock a path towards sustained success in today's dynamic business landscape.

## 8. Limitations and Future Research Directions

This theoretical review lays the groundwork for further exploration of the interplay between spirituality, SQ, and organizational learning. While the proposed framework offers a valuable starting point, it acknowledges limitations. Firstly, the study relies on existing literature, highlighting the need for empirical testing to validate the framework's applicability in diverse organizational settings. Secondly, the framework does not account for potential moderating factors such as organizational culture or industry type. These factors may influence the strength of the relationships between spirituality, SQ, and learning outcomes. Thirdly, the cross-cultural dimensions of spirituality and SQ require further investigation. Understanding these nuances is crucial for multinational organizations seeking to foster a global learning culture.

Future research can address these limitations by pursuing other avenues. One direction involves empirical studies that employ quantitative or qualitative methods to examine the causal relationships proposed within the framework. Additionally, researchers could investigate the influence of national culture on the effectiveness of fostering spirituality and SQ in the workplace. This knowledge would be particularly valuable for global organizations navigating diverse workforces. Furthermore, future studies could explore the potential mediating or moderating effects of other variables on the proposed relationships. For instance, research could examine how leadership style or team dynamics influence the impact of spirituality and SQ on knowledge sharing or knowledge creation within organizations. By addressing these limitations and pursuing these future research directions, we can gain a deeper understanding of how spirituality and SQ can be leveraged to cultivate vibrant learning cultures within organizations. This, in turn, can empower organizations to build a more innovative and adaptable workforce, leading to sustained competitive advantage in today's dynamic business environment.

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# Understanding Theory through a Metaphor: Leadership is like 'Driving a Car'

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## Abstract

Abstract concepts, while readily described, can be difficult to truly grasp. Fortunately, strategies like the use of metaphors can bridge this understanding gap. This paper explores the claim by 21st-century management and leadership scholars that effective leaders must consider polarities. By drawing an analogy to driving, it clarifies the crucial 'both/and' perspective necessary for navigating the complex and often opposing forces. Just as driving requires constant adjustments—a driver cannot exclusively choose one action but skilfully navigates between multiple inputs to reach their destination—leaders face continuous tensions. These include (but not limited to) individual autonomy versus team cohesion and stability versus change. Leaders cannot simply choose one side of these polarities; they must integrate them, recognising the value of both. This 'both/and' approach fosters greater flexibility, adaptability, and ultimately, more effective leadership. The paper introduces the 'both/and' perspective, including the Competing Values Framework (CVF), developed to address the challenges of complex and rapidly changing environments. By clarifying the fundamentals of driving and establishing a clear link between driving and leading, this paper demonstrates the broader value of metaphors as a powerful tool in teaching and education. Furthermore, acknowledging the multiplicity of definitions of leadership — as Stodgill remarked *"There are almost as many different definitions of leadership as there are people who have tried to define it"* — this paper offers its own perspective.

**Keywords**: leadership, both/and perspective, driving a car

## 1. Introduction

Abstract concepts are easy to articulate but hard to understand. In this respect, scholars claim that people should make the concepts their own through some techniques (Konicek-Moran and Keeley, 2015). In other words, there are some techniques that people use to get ownership of the concepts, which is called 'conceptual understanding'.

One of them is 'finding a metaphor or analogy for it' (Konicek-Moran and Keeley, 2015, p. 6).

In this respect, this essay attempts to clarify and illustrate the both/and perspective by using a metaphor. As Morgan's initiative describes organisations, I would like to express how this perspective/theory can be understood through a metaphor, i.e., *driving a car*.

First, I will mention why it is not easy to understand 'abstract concepts' and explain the use of metaphor to ease the understanding. This will be followed by the concept, i.e., both/and, that I would like to illustrate what it is through a metaphor, i.e., *driving a car*.

## 2. Why is it hard to perceive abstract concepts?

It is claimed that since abstract concepts do not indicate physical entities, they are associated with fewer sensorimotor-introspective representations and rely more on language-like, dis-embodied representations (Löhr, 2022, p. 550). This lack of association makes abstract concepts hard to understand.

*"Concept is an abstraction,"* claim Konicek-Moran and Keeley, explaining how to understand a concept (2015, pp. 5-6):

> When students have an understanding of a concept, they can (a) think with it, (b) use it in areas other than that in which they learned it, (c) state it in their own words, (d) find a metaphor or an analogy for it, or (e) build a mental or physical model of it. In other words, the students have made the concept their own. This is what we call conceptual understanding.

Furthermore, Singh (2010, p. 127) asserts that when metaphors are used to clarify concepts, people can easily visualise the concepts so that abstract concepts are grasped better. In other words, using metaphors helps people understand the concepts that they have heard or been taught because they provide structures to facilitate thinking about highly abstract concepts (Taber, 2007).

In line with the purpose of this essay, metaphors are assumed to be helpful. In the next part, I will mention the concept that I am going to illustrate through a metaphor.

### 3. 'Both/and' perspective

The debate in the literature is whether it is possible to apply a similar model to the rest of the world because of global 'convergence'. In other words, scholars wonder whether organisations can use similar management models. According to them, country of origin and headquarters have become irrelevant, so products and companies have become denationalised (Dahles and Stobbe, 2004). A study, for instance, reviewing whether different competencies are required to succeed across cultures found no significant difference in what is expected of leaders across 40 countries (Gentry and Sparks, 2012). Similarly, Galan and Sanchez-Bueno (2009) reveal that large firms in industrialised countries follow a universal growth pattern. In other words, even if organisations are in different countries, their strategies and patterns are similar. That is called 'universalistic' theories of strategy and organisation, as postulated by Chandler (1962).

On the other hand, others emphasise the importance of 'national mindsets' (divergence) (Martin and Siebert, 2016, p. 14). In that regard, scholars who consider cultural differences state that international strategies fail unless host countries' cultural characteristics are understood (Martin and Siebert, 2016, p. 138), such as Wal-Mart's failures in Germany and South Korea (Martin and Siebert, 2016, pp. 145-146). In fact, those who support 'national mindsets' or divergence assert that cultures have become more relevant with globalisation because organisations that could survive without attention to the peoples' culture previously now have to pay great attention if they want to stay in business (Ntamere, 2018, pp. 234-235).

Notwithstanding, some critics contend that the convergence-divergence debate is not helpful because it draws a map in terms of an 'either/or' direction (Laleman, Pereira, and Malik, 2015). According to them, culture discussion is not binary; it should include grey zones. In that sense, they argue for a 'both/and' approach to how organisations deal with the tension between convergence and divergence. In other words, both arguments are correct or at least partially so (Dotlich, Cairo, and Rhinesmith, 2009, p. 77). The motto is 'think global and act local', meaning that global ideas are articulated in local languages, i.e., *glocalisation* (Martin and Siebert, 2016, pp. 146-147). In this respect, Caza and Posner (2017, pp. 58-60) point out that both convergence (etic) and divergence (emic) should be taken into account because the study reveals that while

less-experienced employees have been impacted by national culture, those who have spent more time in the workplace show similar expectations of their leaders.

The concept of both/and suggests that understanding polarities is the essence of leadership. In this respect, the Competing Values Framework (CVF) was developed to address the questions and concerns of a complex, rapidly changing environment (Quinn et al., 2011, p. 11). It is suggested that two core value dimensions, control versus flexibility and internal focus versus external focus, shape the cultural orientation of an organisation (see Figure 1). A flexible and internally focused organisation exhibits the 'clan' culture that succeeds through cohesion and morale, emphasising training and development, open communication, and participatory decision-making. A flexible organisation with an external focus, on the other hand, has an 'adhocracy' culture emphasising innovation and development, as well as a future-oriented outlook. A controlled and internally focused organisation is characterised by a 'hierarchical' culture. The main features are coordination, control, organisation, timeliness, and efficiency. A 'market' culture eventually develops in an organisation that is controlled and externally focused. It succeeds through competition and productivity, emphasising goal attainment.

However, none of them is adequate alone to solve the world's complex problems. This is because Quinn and colleagues (2011, pp. 10-11) argue, *"We have CVF. This brought the idea that we need to abandon the either/or understanding, embrace both/and perspective."* In other words, contrary to the prior assumption, remarking change and stability as mutually exclusive, i.e., either/or, CVF provides an integrated understanding, i.e., both/and (Quinn et al., 2011, p. 12). They define the issue as follows (2011, p. 329):

> In the introductory chapter to this text, we argue that to be successful, organizations and their managers must move away from the traditional either/or thinking of the past and embrace the both/and thinking required for success in dynamic, complex environment. Rather than seeing collaboration and competition as being diametrically opposed, master managers must be able to harness the power of both these approaches. Similarly, the need for control cannot be allowed to overwhelm the need for creativity and change. This reflects the essence of the competing values framework.

**Figure 1**. Competing Values Framework
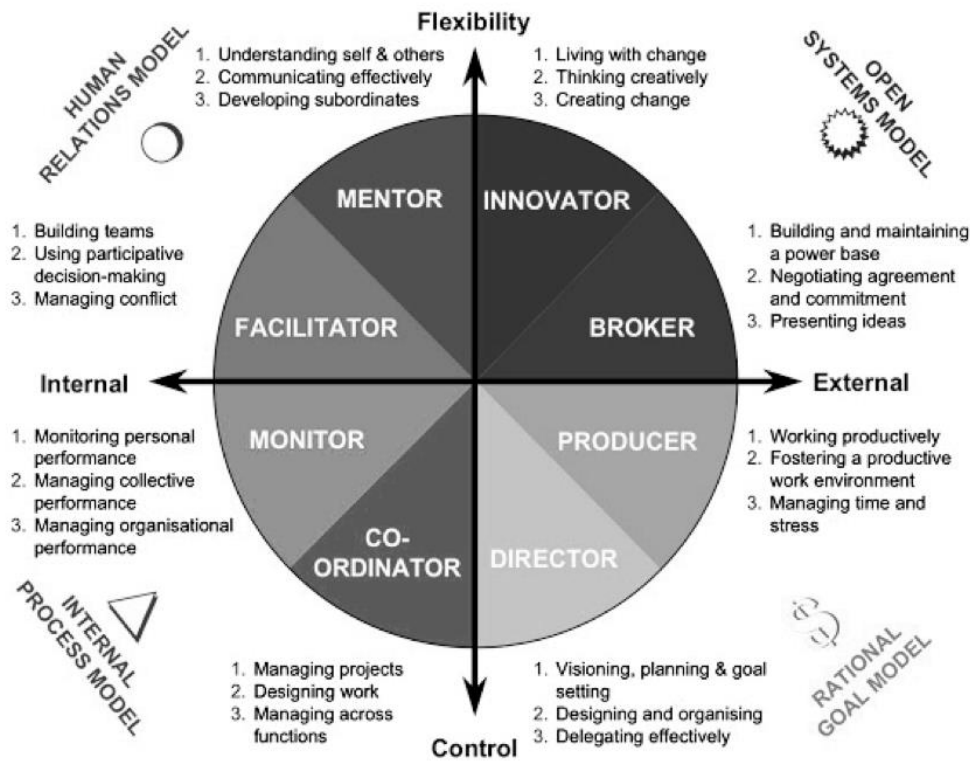


Therefore, 21st-century management/leadership scholars dictate that leaders should focus on polarities and not ignore one against the other. To understand what this means clearly, I will use a metaphor because, as claimed above, 'finding a metaphor or analogy for it' is one of the techniques that people use to understand a concept (Konicek-Moran and Keeley, 2015, p. 6).

4. **How is a car driven, and what is essential?**

Those who know how to drive will understand what I am talking about. However, for those who are unaware, let me explain the components of a car. Along with the widely known components, including gas, brakes, clutch, steering, and shift/gear lever, a car includes the engine, mirrors, headlights, signal lights, speedometers, seats, handles, and so on.

Although some components are more popular, others are not insignificant. As a driver, we must pay attention to even the handles because if we want to drive, the first thing we need to do is get into the car. That is only possible if the handles work properly.

Furthermore, if you don't feel comfortable in the seats, you will most likely get distracted, which affects your driving.

What we have been taught about driving is to turn on the engine and take it off. Manually speaking, you have to push the gas, but the clutch is as important as changing gears. The change of gears does not just mean driving faster; it also means releasing the car for better performance. In addition to these two pedals, there is another pedal that is as critical as driving faster and more effectively: the brake.

When and how we push these pedals, moreover, are related to other components. In this sense, we need to understand what our car needs by listening to the engine. This warning can be seen on the speedometer, which is behind the steering wheel. Where it is called 'dashboard meters', we have others such as the fuel gauge, tachometer, water temperature gauge, and oil pressure gauge. A driver is supposed to understand how to read the signals. This is because they explain if everything is okay in terms of fuel, oil level, water level, and so on.

Furthermore, as drivers, we need to care about our cars' general well-being. That is called car maintenance. Despite the popular 30-60-90 schedule indicating that cars need to be checked once every 30,000 miles, we should pay attention to our cars' well-being more often than that.

When do we use the brake, and how do we know that? For that, we need to understand other cars' positions and traffic. We must constantly check the mirrors, both the rear-view and outside mirrors, and observe what's going on through the windows.

When we are on the road, if we need to change lanes or turn right or left, we should make sure that other cars are aware of what we will do, so we must know how to use signal lights. For that purpose, our hands are always on the steering wheel to keep the car in the direction we set.

Even though GPS is not integrated into cars, we are useless without it today. We use GPS not only to find the address we want/aim to reach but also to show us alternatives. In other words, even if we have one destination to reach, we have many ways to go. In this respect, GPS helps us find the most available route, i.e., the most convenient route

to avoid traffic. Therefore, not only the components mentioned above, but we should also learn to use GPS to drive effectively.

### 4.1. **How can driving be related to leading?**

The gas, the break, and the clutch tell us how fast, safe, and effective we should run our organisation. Our goal cannot be achieved at the expense of safety or by focusing just on pace. Therefore, we should know how to manage the polarities.

For that purpose, we need to understand what other components, such as our employees, HR directors, and branch managers, are trying to tell us. Similar to a driver, as mentioned above, who must listen to the engine and understand what others want by constantly checking the dashboard meters, a leader needs to listen to people and consider their feedback regarding the organisation. Leadership, however, involves not just listening to employees (followers) but also caring for their well-being, which affects their performance in the workplace, as car maintenance would.

Identifying where the organisation stands and how it can be improved requires leaders to control the business environment. By doing so, leaders are able to assess whether there are any opportunities or threats, including what other organisations are doing. While a driver constantly checks the mirrors and observes what's going on through the windows, a leader needs constant analysis. In the event of an opportunity or threat, a leader uses signal lights to change directions. This is called leading the change.

Even if a leader has one destination to reach, there are many ways to get there. For that, s/he uses GPS to avoid busy or dangerous roads and to take the *blue* route, which can easily be seen on GPS. Therefore, s/he will perform better if s/he avoids the red routes and chooses the blue ones, as the leadership literature suggests.

If you think you cannot handle the gear lever, you can let the car do it, i.e., an automatic car. Or if you feel you are not skilled at parking, there are self-parking cars. That is the same for leadership. As a leader, you cannot be good at everything, but you should be good at one thing: Delegating. You don't have to do everything by yourself if you delegate tasks to people. It is a truism that leaders might want to be seen as the one. Still, the most important thing for a leader to run an organisation better is to ensure that people are included and feel valued because the literature suggests that if people feel

included and valued, their productivity increases and they show more commitment to the organisation.

### 5. Conclusion

This essay attempted to clarify 21st century management philosophy, 'both/and' perspective, with the analogy of driving a car because in the 21st century, leaders should be able to manage multiple issues simultaneously like drivers. Therefore, leaders, in this complex environment, cannot prefer one style at the expense of another, *either/or*, they have to embrace the *both/and perspective*.

Although using metaphor to define a concept, specifically leadership, may be considered non-academic, it can still be a valid way to explain a complex concept because, as articulated by Stodgill (Northouse, 2016, p. 2), *"There are almost as many different definitions of leadership as there are people who have tried to define it."*

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# Organisational Learning: Foundational Building Block for Acquiring and Deploying Strategic Capabilities

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## Abstract

The capability to acquire, disseminate and apply knowledge (organizational learning-OL) is of paramount importance for organizations in order to sustain long-term survivability and competitiveness. This paper examines, through the lens of the dynamic capability framework, the foundational building block for identifying, acquiring and building strategic capabilities in a specific context of high-level environment dynamism. The paper is based on a study of how organizations in Saudi Arabia deal with the transformative demands associated with high levels of complexity and dynamism in their business ecosystems. A mixed method of semi-structured interviews of senior managers of Saudi organizations and an on-line survey with a cross section of Saudis with extensive experience with Saudi organizations, was adopted to develop a rich narrative of context reality. The study uncovers distinctive features of OL suitable for the context, a causal relationship between organizational learning, leadership and culture as foundational building blocks affecting how strategic capability choices are made and adopted. Although limited in context, this study challenges some theoretical assumptions by formulating a number of research propositions, and proposes the practical implications extend beyond the Saudi Arabian context.

## 1.  Introduction:

The constant challenges of business environment uncertainty and ambiguity plus the inability to interpret new information on opportunities, threats and risks can often lead to conflicts in decision making (Joseph & Gaba, 2020).  According to dynamic capability theory (Teece, D. J.; Pisano, G. P.; Shuen, A., 1997), the long-term survivability of organizations and sustainability of competitive advantage, particularly during periods of high levels of environmental dynamism, is dependent on the organization's ability to make appropriate strategic capability choices that facilitates a continual alignment of their asset portfolio (tangible and intangible) (Khurana, Dutta, & Ghura, 2022).  This capability is dependent on organizations continually assessing the effectiveness of their processes that make sense of opportunities, threats and risks presented by the prevailing level of environmental dynamism, facilitate timely and effective decision making, and manage the realignment of their asset portfolio. However, how orgaisations respond effectively to context specific environment

challenges in order to develop strategic capability has not been adequately addressed.

The unique characteristics of the Kingdom of Saudi Arabia (KSA) make it an ideal context on which to base this study. KSA (thereafter refers to Saudi) is transforming its economy from almost complete reliance on stable and mature extraction industries (oil and gas, petrochemicals, and minerals) to vibrant juvenile industries that have growth and value-adding potential (KSA, 2030). The transformation is halfway through and there are early indicators of success that can be used as an interesting case to draw insights from (McBurney, 2023). In addition, Saudi organisations are experiencing high level of environmental dynamism affected by changing demographics, the geopolitical instability in the region, the global net zero environment pressure, the digital technology and AI disruption, regional conflicts, humanitarian crisis as well as social and societal changes (immigration, workforces, etc.). As such, KSA represents a unique international context to conduct this study.

The rest of the paper is structured as follows, next section provides a literature review of the key concepts and assumptions related to environment dynamism, the notion of building blocks for deploying strategic capabilities. Section 3 introduces the methodology and the data collection process. The qualitative results are presented in the subsequent section 4 with discussion of fresh insights on the relationships between the building blocks in light of (Teece, 2007) framework. Section 5 is devoted to theorize with a model and five propositions. The last section draws the conclusion with a note of limitations and direction for future research.

## 2. Literature review

### 2.1 Environment dynamisms of KSA

It is widely assumed that organisations need to effectively respond to the variety and the level of dynamism of the business environment in order to survive and sustain competitiveness. For example, in a relatively stable environment, the above assumptions may not hold true, because organisations operating in such environments can focus on internal operational efficiency to survive. Whereas with high level of environmental dynamism, the response mechanism could vary according to the specific context of the organisations and the environment they operate in.

There is a plethora of extant literature and theories on organisational responses to environmental challenges (Espejo & Harnder, 1989); (Auster & Choo, 1994); (Xu, Ong, Duan, & Matthews, 2011). This can be categorised broadly as organisational excellence approaches including organisational learning, leadership development, process reengineering, change management, dynamic capability, etc. The other is towards "variety reducer" (Beer, 1981) using management science, digital and AI tools to filter out the complexity of the environmental variables - include environmental information scanning (Daft, Sormunen, & Parks, 1988); (Xu, Kaye, & Duan, 2003), big data analytics, horizon planning, scenario simulation, digital transformation, and AI and machine learning (ML) in support human cognition, sense making and collective

decision making.

Given this ongoing strategic challenge that can be approached from wide perspectives, it is necessary to restrict the scope of this study, thereby we focus the enquiry on how dynamic capabilities shall be developed in a specific context with high level of environment dynamism. As noted earlier, the KSA represents such a unique context with environmental dynamics and challenges, as depicted in Figure 1.
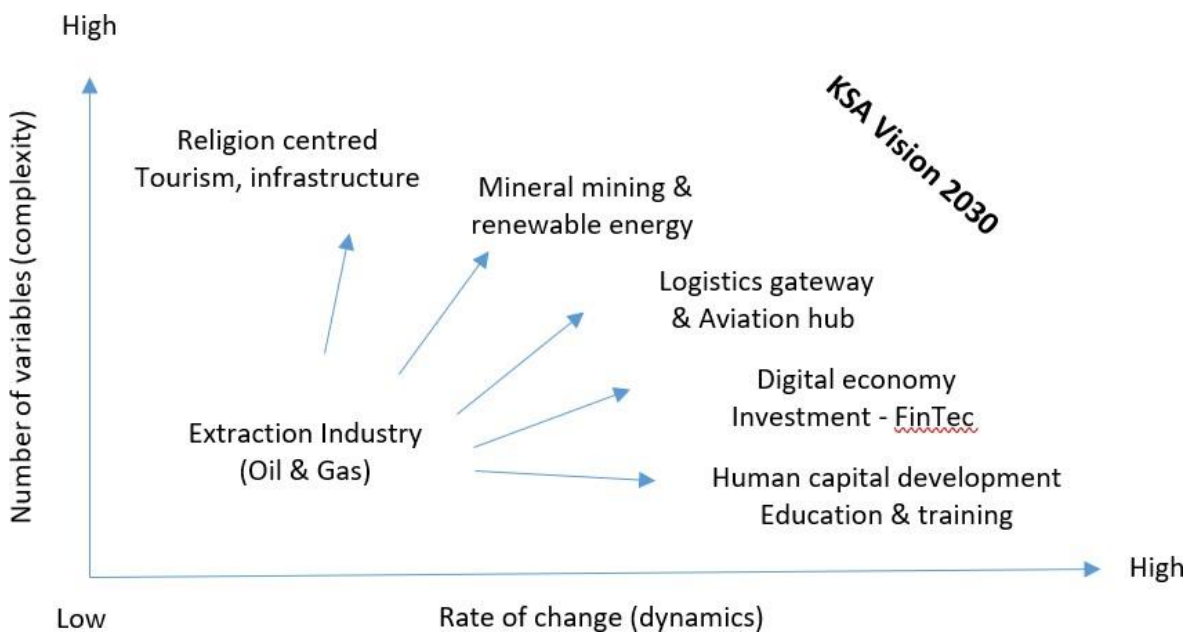


**Figure 1** Environment Sectors Dynamism of KSA 2030 vision

KSA has started a transformation journey towards the KSA 2030 Vision from 2017 that was initiated by the KSA government. The petroleum and adjacent downstream petrochemical industries in KSA have for several decades operated in a stable environment characterized by constant and predictable demand, large market share, and increasing profitability. This has provided the Saudi government with a reliable source of revenue to fund their "Five Year" development programs. However, recent global trends away from the use of fossil fuels towards increased use of renewable energy sources, has encouraged the transformation of KSA industries to renewable energy production, expanding into related mineral mining, and strategic diversification into new sectors in digital economy - for example, FinTech investment, global transportation hub, religion and Arab culture centre and the associated infrastructures. A consequence of the rapid transformation towards the new economy and sustaining competitive advantages, is that many Saudi business leaders are now being exposed to increasing complexities and rapid changes that they have not previously experienced. The interim success (McBurney, 2023) of transformation to the new industries provides a valid case to examine the building blocks of DC in a high environment dynamism context.

## 2.2 The Dynamic Capability Framework and Building Blocks

(Teece, 2007) DC framework provides a useful structure for examining how organizations identify threats, opportunities and risks in their operating environment, make strategic decisions, and realign their asset portfolio. The framework makes it useful in underpinning this study of how Saudi organisations identify, build/acquire and implement strategic capabilities. The components of the original dynamic capability framework included processes (managerial and organizational), position (assets - tangible and intangible), and paths (ways) to successful implementation of strategic choices. Subsequent variations to the framework enhanced the processes into three explicit clusters of capabilities: sensing, seizing, and reconfiguration capabilities ( (Teece, 2007) . In this research we focused on the three capabilities and consider them from a process point of view, in particular, we constrain our enquiry to the sequential logic between the three capabilities, i.e. sensing is the capability to learning (to know); seizing is the capability to make decisions (to decide); reconfiguration is the capability of making changes (to do) - agility to readjust resources and to make changes.

There are many variables that influence the creation, renewal or devolution of strategic capabilities (Ambrosini & Bowman, 2009). We argue that these variables are context specific and therefore should be considered when identifying the building blocks for developing an organization's ability to make strategic choices. A review of extant literature suggests that most variables are intrinsically available within organisations in the form of three essential building blocks, these are leadership capabilities ((Teece, 2007), organisational learning processes (Eriksson, 2014); organisational culture (Fainshmidt & Frazier, 2017).

### *Leadership capabilities*

Leadership serves as a key mechanism for assembling the repertoire required for developing sensing-seizing-reconfiguring capabilities. Leaders as decision makers, play significant role in knowing (sensing capability), deciding (seizing capability), executing decisions and making changes (reconfiguration capability). Therefore, leader's cognitive skills and styles impact DC building. A number of assumptions posit positive relationships between the two. For example, leaders galvanizes employees to a common set of shared values, goals and objectives ((Teece, 2007). Leadership theory suggests that leadership effectiveness is contingent upon organisational context (Fiedler, 1964; House, 1971; Sharma, 2018) and different leadership styles exist. According to (Bass, 1990) framework of leadership styles, top-level leadership can be classified into transformational leadership (TFL) and transactional leadership (TAL). Muhammad (Asif, 2021) further elucidate that transformational leaders, owing to their ability to inspire followers can have a profound effect on employee behavior and can stimulate innovation and new learning. Transactional leaders, on the other hand, who motivate the followers in the direction of established goals and clarify role and task requirements, can lead to improved work performance. A supportive leadership style can foster a

proactive dialogue with employees and establishes a trusting environment that facilitates the honest sharing of opinions and knowledge, ensuring access to all the resources they need in order to succeed. Leaders with strong *"paradoxical cognition"* are better at balancing the conflicting forces (Helfat & Peteraf, 2015). Entrepreneurial leadership is found important in confronting the inertia of existing systems and practices that support maintaining the status quo, adopting potentially costly and potentially risky radical change and willing to break existing obligations where necessary (Peteraf, Di Stefano, & Verona, 2013). In summary, strategic capabilities are inherently the result of proactive leaders who take a direct interest across all processes that build, renew, and reconfigure in order to maintain survivability (Feiler & Teece, 2014). The review suggests that organisational leadership, could affect every stage of the processes, specifically on seizing capability in human-based decision making organisations.

## *Organisational Learning*

(Schwandt & Marquardt, 1999) argued that the speed of change in the global marketplace makes it imperative that organizations match the speed of change with the speed and quality of their learning. Organisational learning is centered on knowledge acquisition, sharing, collective sense making, integration and exploitation processes in the development of managerial capabilities as well as organisational learning capabilities. Strategic capability building processes rely on the generation of knowledge from internal and external sources, the integration of knowledge and sense-making of new knowledge (Prieto, Revilla, & Rodríguez-Prado, 2009); (Nieves & Haller, 2014). Muhammad (Asif, 2021) refers to the seminal work of March (1991) to highlight two distinct types of organisational learning: explorative learning (ERL) and exploitative learning (ETL). The former is about seeking knowledge that is outside the current domain of an organization; it prepares the organization to address future challenges. The latter is about harnessing value from the current resources and capabilities (Gibson & Birkinshaw, 2004); Gupta et al., 2006; (Chandrasekaran, Linderman, & Schroeder, 2012). Organisations need both ERL and ETL for long-term success as well as to address current needs. These learning models are embedded in organisational structures, routines, behaviors, conventions, databases and interaction patterns among individuals.

Organisational leaning mechanism can be seen in different learning loops (Tosey, Visser, & Saunders, 2012), that learning to improve performance at an increasing rate refers to single-loop learning. Whereas learning to reflect on and inquiry into the governing variables, values and norms underlying organisational action, relates to double-loop learning. (Labib, 2016) summarises the first loop learning as preserving and improving status quo, whereas, second loop learning implies changing the status quo itself, hence adds a third loop of learning - altering rules for decision making assumptions through continually questioning the validity of such assumptions when the situation changes. We argue that the learning mechanisms and the loops are essential building blocks for DC development, specifically for the sensing capability.

## Organisational culture

Organisational culture refers to the *"whole of the organization's"* inherent willingness to accept and adopt change (Fainshmidt & Frazier, 2017). It is seen as the *"social fabric"* of organisations for developing strategic capability. Changes in culture are subtle but can be vital for long-term strategic capability development, however, it can be a constraint or a barrier to innovation and changes depending on the shared organisational values, norms and practices (Karimi & Walter, 2015). Values and beliefs are significant components of organisational culture that influence human behaviour. The level of trust reflects the organization's social norms. It is assumed that organisations with the highest levels of trust will normalise the sharing of opinions (positive and negative) and the free exchange of knowledge. High levels of trust will reduce the likelihood of misunderstanding of intentions and result in lower levels of conflict and dysfunctional behaviour, and ultimately lead to greater integration of effort and utilization of resources (Fainshmidt & Frazier, 2017).

Studies on culture and innovation (a capability to learn and change) reveals that an organization's values, norms, symbols, habits, language and history that trigger the firm to innovate, provides an atmosphere that fosters creative thinking and risk-taking in the interest of innovation (Weber & Heidenreich, 2018). It encompasses such diverse culture aspects as risk-taking, tolerance toward mistakes, openness to new ideas and technologies, autonomy and empowerment of employees, nonformal communication and flexibility. An innovative culture not only reinforces creativity but also effectively encourages employees to share their knowledge across the board, thereby shall be seen as a moderating factor, which is conducive to improved innovation performance (Martín-de Castro, Miriam Delgado-Verde, & Navas-López, 2013).

The efficacy of culture on capability building may differ due to different country culture. (Basahal, Forde, & MacKenzie, 2021) foregrounds the socio-cultural context of Saudi Arabia in which religious laws and dominant norms around the role of women in society continue to impact the operation of the labour market. For example, it is important to maintain physical segregation so as to meet Nitaqat regulation while achieving localisation by using more female workers. The Saudi nomadic and tribal culture could pose great challenges of culture conceptions on DC. We argue that a context specific conducive organisational, team and individual culture is an essential building block of DC development, specifically in facilitating changes and transformation, i.e. realising the reconfiguration capability.

The building blocks leading to strategic capabilities guided the research design, which is introduced next.

## 3. Research methodology

The literature suggests that the majority of empirical studies on the use of (Teece, 2007) framework, relative to strategic choices, used a mixed-methods approach for data collection (Eriksson, 2014). Previous empirical studies using DC framework provided the basis for the research variables and questions of this study (Garcia et al., 2014; (Chang, Chen, ray, & Huang, 2015); H.-F. Lin et al., 2016; (Zhang & Wu, 2016); (Saul & Gebauer, 2018). With both structured and open questions, the intention was to gain insights into the building blocks that facilitate the development paths for building strategic capability as well as barriers - hereby refers to "roadblocks" that hamper strategic capability development.

The sample population for this study was selected from Saudi organisations. Data was collected using mixed methods - semi-structured interviews and an online survey questionnaire. The interviews and survey questions aimed at discovering two components, how (processes) the respondents' organisations identified, built/acquired, and implemented strategic capability, and the influence that organizational learning, culture, and leadership (building blocks) had on those processes. As such, this study adopts an inductive approach in order to generate insight on the specific building blocks and paths leading to DC.

Participants for the structured interviews were selected using a critical purposive sampling approach. The inclusive criteria are senior managers with in-depth knowledge and experience in high- ranking positions in Saudi organisations, and included Chairmen, CEOs, VPs, and senior managers, who were knowledgeable and capable to articulate how Saudi organisations deal with opportunities, threats, and risks. On average, the interviews are around eighty minutes each. The interview questions contain a profile question and 11 open questions asking participants to give their views on the current and future priorities and capabilities of Saudi organizations concerning - sensing, seizing, and reconfiguration, and for their opinions on the extent that organizational learning, organizational culture, and leadership capabilities aided or constraints building dynamic capabilities. Table 1 shows the profile of the interviewees.

Using the same sampling approach, the survey sample were selected using the selection criteria - experience in Saudi organisations, in roles such as, but not limited to, executive management; strategic management; performance measurement; process improvement; R&D; marketing; change management; learning and development roles. The survey collected seventy-five (75) valid responses. Participants for both the interview and survey are ensured confidentiality, anonymity and data security. The survey questionnaire contains a profile question and eight questions with multiple measures for each question using a Likert scale 1-5, (Note this paper reports only the qualitative analysis from the two sets of data, other than the quantitative results, hence the quantitative analysis is intentionally omitted).

Table 1. Profile of Interviewees

| Interviewee | Age of organization (years) | Size of organization (employees) | Annual revenue (estimate $) | Industry sector | Job level | Time in role (years) |
|---|---|---|---|---|---|---|
| 1 | >10<=25 | >1000<=10000 | >1billion | Mining | Executive | <=5 |
| 2 | >25 | >10000 | >1billion | Services | Manager Mid-Level | <=5 |
| 3 | <=10 | <=1000 | <=100 million | Services | Executive | >5<=10 |
| 4 | >25 | >10000 | >1billion | Oil & Gas | Supervisor/ Team Leader | >10 |
| 5 | >10<=25 | >1000<=10000 | >1billion | Mining | Executive | >5<=10 |
| 6 | >10<=25 | <=1000 | <=100million | Services | Executive | >5<=10 |
| 7 | >25 | >10000 | >1billion | Services | Manager Mid-Level | >5<=10 |
| 8 | >25 | >10000 | >1billion | Oil & Gas | Executive | >5<=10 |
| 9 | >25 | >10000 | >1billion | Oil & Gas | Manager Mid-Level | <=5 |
| 10 | >10<=25 | >1000<=10000 | >100m<=1b | Mining | Executive | >10 |

The data was analysed using thematical analysis where themes were coded by NVivo. The coding allows new themes to emerge, and specific context in the KSA to be captured for explanation and discussion. Selected quotes are used as key evidence. The results are presented and discussed in the next section.

## 4.  Findings and Discussion

### 4.1 Organisational learning for Saudi Strategic Capability development

Findings from the interview not only confirm, but extend the survey results with contextual details. Some selected quotes are as evidences. The result shows OL as a positive building block to Saudi strategic capability development, but in specific ways as below.

### Individual 1$^{st}$ loop learning

Saudi organisations demonstrate individual first loop learning, i.e. individuals are usually responsible for their own professional development supported by large Saudi organisations. The training and development function in most Saudi organisations have retained their historical focus on teaching employees how to operate and maintain the existing asset portfolio, but have not matured in pace with what is required to cope with the number and rate of changes occurring within the Kingdom. Many large Saudi organisations have created learning and development centres for leadership training. The notion of the ability of an organization to develop DC is dependent on how well the

leaders are developed (Nieves & Haller, 2014) is supported. However, these centres rely on learning and development professionals yet with traditional curricula. This individual based personal development is related to the 'performance culture', which focuses solely on improvement of business targets - the nature of 1st loop learning. Some selected quotes are as below:

*'a focus on profitability has resulted in management being more concerned about improving existing processes rather than looking at whether those processes are appropriate for the future.'*

*'Most Saudi organisations strive to achieve perfection. As a consequence, they typically have a low tolerance for people making mistakes.'*

## Active absorbing external knowledge via external consultancy

Absorptive and transformative capabilities are critical to assimilate and merge new knowledge for innovation. While Saudi organisations have established repositories of knowledge from internal and external sources, our data indicates that less emphasis is on the internal sharing and socializing of new knowledge among employees and a reluctance to develop organisational wide absorptive capabilities. Interviewees agreed that the corporate 'body-of-knowledge' is typically underutilised and undervalued. Furthermore, the pool of knowledge held internally by employees, remains dormant and not actively sought out by senior management and incorporated into corporate decision-making processes. This is evident as below:

*'Knowledge and experience from the shop floor "experts" is rarely shared with senior management, who would prefer to bring in external consultants'*

*'Saudi organisations contain a high level of latent knowledge that typically goes underutilized.'*

*'There is no structured method for knowledge transfer between entities with the organization.'*

Knowledge acquisition in Saudi organisations tends to rely on external consulting companies, and joint ventures with leading international organisations as the primary sources of acquiring new knowledge. There are less connections and partnerships with the country's universities, research organisations, and centres of excellence for R&D. This may be explained by the unique leadership style and the Saudi nomadic and tribal culture.

*'The more we engage with external sources of knowledge, the more knowledge we have about potential opportunities, threats and risks.'*

*'Joint ventures with leading international companies have proven beneficial to Saudi organisations because the joint venture partner introduces technologies, knowledge, skills and operational capabilities that did not exist in the Kingdom.'*

As a result, there is apparently a lack of organisational wide structure and mechanism for knowledge sharing and deep loop learning. This has been commented by some of the interviewees:

> *'Saudi organisations lack specific structures and processes for capturing knowledge on new opportunities, threats and risks. The organization's size has a bearing onhow this process is performed and what capabilities are employed.'*

> *'The silo nature of many larger Saudi organisations results in limited knowledge flows across divisions within the organization, mostly knowledge flows are kept to within silos (divisions or departments). Most knowledge flows between silos and other entities is dependent on personal relationships and networks.'*

## Vocational vs tertiary training for future learning

A noticeable change for the future Saudi workforce has been the inclusion of females in tertiary education and a trend of sending young Saudis to universities abroad, which gave them the freedom to explore possibilities, and expand the range of experiential learning opportunities. These graduates become the driving forces to engage learning and changes, and challenge the current organisations' learning approaches when they become the decision makers in the organisations.

Considering roadblocks from OL perspective, the sensing on new opportunities appear rather limited by the current mechanism, despite a strong sense of dynamism from the external environment, perceived by the KSA managers.

> *"Saudi organisations have historically taken an insular view of the market and ignored regional and global opportunities."*

> *'Significant opportunities are perceived possible if the market was truly open, and the geopolitical situation in the region stabilised'.*

> *'The geopolitical risk in the region is extreme, and foremost in the minds of Saudi organisations.'*

The results imply that the current Saudi organisational learning building block is unique, yet inadequate towards building the sensing capabilities needed. This is explicitly demonstrated by individual-based learning development, but not systematic organisational learning.

## 4.2 Leadership for Saudi Strategic Capability development

The study data confirms the association of leadership style as both a building block and roadblock on the influence that organizational learning has on strategic capability development within the Saudi context. The Saudi leadership style was found to be

dominantly transactional, less delegative and participative according to the types of leadership style by (Lewin, 1997). In addition, Saudi leaders exhibit controlling behaviour, are coercive, 'risk adverse', are afraid of failure, and do not want their "view of the world" questioned by employees.

> *'Decisions are made by people because of the importance of their position, not because of their experience and knowledge, and not always for the benefit of the organization or its shareholders.'*

> *'Saudi management is perceived as being risk-averse and slow to make decisions'*

Mangers may feel uncomfortable when confronted with facts that do not match their preconceptions. Decisions are not data driven. On the other hand, it is arguable that a strong top- down, transactional leadership may be a positive contributor to Saudi business reconfiguration capability, because it can be effective in making quick (not necessarily correct decisions) and executing tasks fast. From the theoretical point of view, however, such a leadership risks in not becoming a visionary leader and not making right decisions for the organization. A less participative leadership style may require excessive resources in order to motivate staff, build trust and monitor performance of the workforce. When facing uncertainty in a dynamic business environment, collective sense-making is essential to eliminate noises and individual cognition bias. It is envisaged that the future capability of Saudi business would require a transformational change in leadership style - by nurturing a conductive employer-employee relationship, empowering employees to make decisions and taking responsibilities, becoming entrepreneur leaders to embark innovation, and adjusting management hierarchy to incorporate collective sensing making and decision making.

## 4.3 Organizational culture for Saudi Strategic Capability development

The study data confirms the association of organizational culture as both a building block and roadblock on the influence that organizational learning has on strategic capability development within the Saudi context. The specific culture elements affecting strategic capability development in the Saudi context include unique values and religion beliefs, lack of trust and respect, increasing female workforce, and tenure of employment. An example is the 'performance culture' which is explicitly prevalent, and failure to meet performance targets is considered a personal failure by individuals to 'keep their promises' and reflects on their calculus of trust. This performance culture can be vied from two folders, on the one hand, it seems a positive contributor to reconfiguration capability - as it enables effective executing tasks/orders - i.e. do things right in an effective manner. On the other hand, it is harmful on innovation and taking risky decisions - thus likely to weaken sensing and seizing capabilities.

> *'The lack of trust, exhibited by many Saudi top managements, in the opinions of others within their organisations is reflected by their almost 'addiction' like practice of engaging with external consultants.'*

This could be explained by the Paradox of Management Control of (Joseph & Gaba,

2020), who questioned if in some cases, decision-making biases may exacerbate due to management structure where workers may feel threatened by top management or by the centralized provision of feedback, because an organization's members may screen information in their reluctance to inform managers of bad news; hence lower-level staff may "sugarcoat" negative feedback and thus leave those managers with a distorted view of the organization's performance (Fang, et. al. 2014).

The study confirmed the rapid evolution of organizational culture that has occurred in Saudi organizations over a relatively short period of time compared to European and Northern American organizations, however it suggests that many of the traditional cultural habits and practices continue to prevail, and are reflected particularly in leadership style. On a cautionary note, recent, albeit anecdotal, evidence suggests that a generational change in leadership is removing many of the traditional cultural constraints.

## 5. The Model and Propositions

In light of the key findings, a model of building blocks leading to DC has been developed as shown in Figure 2.
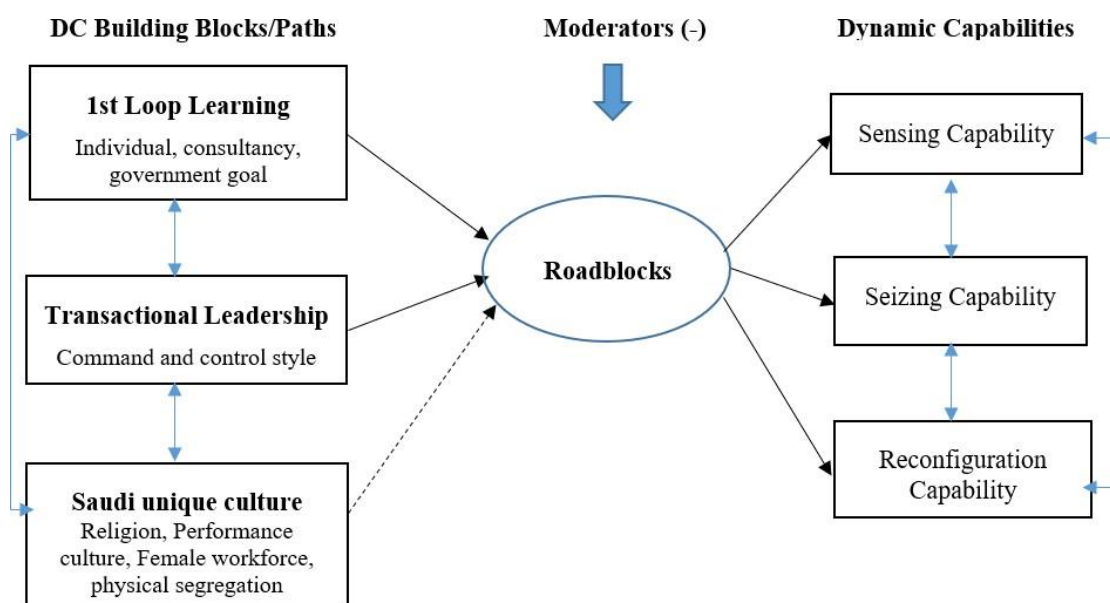


Figure 2 The Building Blocks-Paths to Dynamic Capability (DC)

On the relationships between building blocks and strategic capability development, the assumptions on organizational learning, leadership and culture that work for Western companies become mostly roadblocks in the unique context of Saudi business. For example, organisational wide learning and knowledge sharing, entrepreneurial leadership, collective decision making, and participative culture are rarely in existence despite being perceived important for developing capabilities. The three building blocks on the left of the model are rooted from the unique Saudi context, which pave the

pathways for Saudi strategic capability development. Whereas, some roadblocks could impose negative mediation effect of the DC development path. The model suggests a number of propositions that could potentially extend existing knowledge.

Firstly, learning for sensing capability is through individual development and education, external consultancy for knowledge acquisition and innovation, and embedding government development goals into business strategy setting. This leads to

*Proposition 1: Organisational wide learning mechanism and loops may be not important for sensing capability when there is a visionary leadership supported by effective professional development and external consultancy in an environment with strong government (or societal) goal influence.*

In the form of decision making for seizing opportunities/taking actions, a top-down command and control leadership style appears effective in this case. Entrepreneurial leadership and participative decision process are rare in Saudi organisations. This leads to

*Proposition 2: A top-down command and control leadership is effective for seizing and reconfiguring capability, but with high risk of not doing right things (e.g. missing strategic opportunities, choosing wrong options).*

The unique culture manifested by specifically the religion, performance culture (no mistake to make and report), female workforce, physical segregation, is a fibric influencing the three dynamic capabilities. As employees are less involved in sensing and seizing processes, the influence is indirect, whereas employees are part of the transformational change - reconfiguring process, culture exerts more direct impact on reconfiguration capabilities - in the sense of supporting changes. This supports

*Proposition 3a: Context specific culture dimensions indirectly affect sensing and seizing capabilities via individual learning and leadership influences, but have direct effect on reconfiguration capability.*

*Proposition 3b: In the case of strong leadership and weak organisational learning, the leadership capability has wider impact on the three capabilities than the learning and culture building blocks.*

Secondly, the three building blocks are interrelated and multivariant effect cannot be ignored when examining the relationships with strategic capability development. As aforementioned, the specific culture dimensions have apparent influence on the learning and leadership style in Saudi organisations. The individual learning and extensively using external consultancy for knowledge acquisition also help strengthen the command control leadership style. It is difficult to assert if the performance culture is a result of the control leadership or vice versa. Due to the multivariant effect from the three building blocks, also the negative effects from the roadblocks, it may not be possible to quantify the impact of each variable on each of the strategic capabilities. This leads to

*Proposition 4: Organisational learning, leadership and culture are interrelated*

*building blocks positively affect dynamic capabilities, however, they can be roadblocks imposing negative effect. Multivariate effect among the building blocks can amplify or weaken the overall relationships.*

Thirdly, in the case of Saudi strategic capability development, the sensing, seizing, and reconfiguration process clusters in (Teece, 2007) framework are also interrelated, and in practice, they may not appear as distinctive separate stages. What was witnessed from this Saudi case is that sensing and seizing activities are essentially performed by the leadership team, there are very limited employee participation in these processes. Reconfiguration is a process of continuous re-alignment of resources and changes that involve employees, their awareness and readiness is critical to the success of the transformational changes. This leads to

*Proposition 5: In a culture of less employee participation and engagement, sensing and seizing capabilities essentially reply on leadership quality and capability, whereas reconfiguration capability requires not only leadership capability, but also employee awareness and readiness for change.*

The propositions have wide implications to theories and practice. (Teece, 2007) profound dynamic capabilities framework model laid down the foundation of strategic capability development processes, but for each organization to find the appropriate paths to develop the sensing, seizing and reconfiguring capabilities, the specific context and the building blocks must be considered. This study suggests that organisational learning, leadership and culture are the essential intertwined building blocks that could enable or constrain strategic capability development. In the Saudi context case, leadership capability affects directly every stage of the strategic capability development processes, sensing, seizing and reconfiguration. Saudi culture as a social fibric, facilitates learning and leadership development, and directly influences reconfiguration. We argue that there is no one size fit all mechanism for strategic capability development, specific paths based on the three building blocks shall be identified. As an example, we suggest the following to Saudi business and the like as below:

On organisational learning, Saudi's current strategic capability development path can be described as strong individual learning via professional development and using external consultancy for sensing opportunities, bounded by government development goals. It is apparently lack of employee engagement and organisational wide knowledge sharing and learning. The learning loop is limited to target improvement, but this does not imply Saudi organisations shall transform to structured organisational learning by implementing knowledge sharing and knowledge exploitation technologies and mechanisms. Given the unique culture and tradition, it is important to develop further the capability of the leadership team, - their sensing ability, critical thinking and response ability. For example, initiating triple loops learning to change managers' mindset, to questiondecision assumptions, reflect and learn from failures/deficiencies of the current processes, systems and products. Adopting digital technologies and big data analytics to enhance management information provision.

On leadership, the current path is described as top down command and control

managerial decision making. It is suggested that collective sense making at management level and leveraging the benefits of using external consultancy could reduce bias and decision risks. It is a practice in other sectors that routine and structured decisions/tasks, are performed better by advanced digital technologies like AI and ML. These non-human entities in organisations can avoid potential conflicts with humans and culture, particularly in a context with strong religion and culture influence.

The Saudi culture on female work force changes is shaping how future learning and leadership will be, but the religion and performance culture cannot be changed in a short time, although it is evolving in the long term. Hence, any organisational mechanism aimed for strategic capability development must be designed to fit the dominating culture setting. It is worthy to note that transforming to a desirable strategic capability development orientated culture is part of an ecosystem of organisational change (learning, leadership), but it requires cultivation and influence.

## 6. Conclusion

This paper concludes that context specific paths should be identified for developing organisations' strategic capabilities. The paths are conceived from organisational learning, leadership and culture as building blocks that are intertwined to affect the sensing-seizing and reconfiguration capabilities. In the case of Saudi business operating in a dynamic environment, under the influence of its unique religion and culture, as well as strong government intervention, individual development coupled with external consultancy underpins the sensing capability, strong leadership with command and control style anchors seizing and reconfiguration capabilities development. The unique culture works like a social fibric affecting individual learning and leadership development.

This study makes contribution by theorization of a pragmatic approach that includes real-world considerations of the specific context when addressing strategic capability development. It also makes a practical contribution by setting some guidance for organisations to map out their current strategic capability development practices against a desired set of practices and processes. The Saudi strategic capability development paths appear different, yet effective responses to cope with the strategic challenges from both inside and outside their organisations.

A few limitations are noted for caution. Firstly, the Saudi unique context may not represent other context, hence the findings and the claims from this study may not be repeatable in other countries/organisations. However, this does not weaken the generalizability of the model components and the relationships discovered. Secondly, the sample size for the study is relatively small, and the nature of the qualitative data does not allow a quantified analysis of the strengths of the relationships and the multivariate effects among the building blocks as depicted in the model. Lastly, it is possible that there is a reverse impact of DC on the building blocks, which is outside the scope of this study. Future research could be conducted to validate/enrich the model elements, and the relationships with different contexts.

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# Bridging the Gap: Integrating Learning and Workplace Experience

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## Abstract

In response to the evolving needs of today's workforce, this paper delves into the imperative to integrate learning and workplace experience for enhanced employee performance and engagement. Highlighting the shortcomings of traditional training methods, the study emphasizes the benefits of fostering a dynamic learning environment conducive to employee growth. By aligning educational content with industry demands, organizations can ensure the employability of learners and cultivate future leaders adept at meeting strategic objectives. Despite challenges such as outdated curricula and technological advancements, strategies like simulated work placements and vocational skills programs demonstrate promising outcomes in bridging the learning-workplace gap. Through insightful case studies and best practices, the paper showcases innovative initiatives that propel students beyond conventional learning spaces and prepare them for real-world challenges. Ultimately, the collaboration between educational institutions and industries is underscored as pivotal in shaping a skilled and adaptable workforce that aligns with contemporary workplace needs. This research advocates for a proactive approach in integrating learning with practical experience, emphasizing the mutual responsibility of educators and businesses in driving systemic transformation towards a more competent and versatile workforce.

**Keywords:** Integrating Learning – Workplace Experience – Educational Strategies

## 1. Introduction

In the current fast-changing professional environment, the imperative for ongoing education is at an all-time high. Companies are progressively acknowledging that conventional training techniques are inadequate to address the requirements of a fluid workforce. With the transformation of industries driven by technological progressions and market fluctuations, embedding learning within the workplace has surfaced as an essential approach to promote employee development, boost productivity, and stimulate innovation.

"Bridging the Gap: Integrating Learning and Workplace Experience" investigates the relationship between educational theory and its implementation in organizational environments. This analysis focuses on the advantages of merging structured learning with practical experiences to foster a more integrated and efficient strategy for workforce development. Through a review of different integration frameworks, effective practices, and illustrative case studies, this research seeks to underscore the advantages of a comprehensive learning atmosphere that enables employees to excel in their positions. (Lizier & Reich, 2021)

As we navigate the complexities of modern work, understanding how to effectively meld learning with daily operations is essential for cultivating a culture of continuous improvement. This introduction sets the stage for a comprehensive exploration of the strategies and frameworks that can enable organizations to bridge the gap between learning and workplace experience, ultimately leading to a more skilled and engaged workforce.

One of the major dilemmas that we have encountered in extensively reading across the educational literature is the pronounced disparity—often discussed in many analysis and critiques—between "the market" and the actual classroom. our aim in this long and detailed article is to delineate the various ways in which college students can not only effectively learn their material in the classroom and achieve good grades, but also successfully apply that knowledge across a range of more general contexts, especially in the workplace and beyond. I firmly believe this is an issue that is very important to today's students, who often fear that they will be unable to "cut the mustard" in fierce competition with their peers not only in their own country but also with others across the globe, particularly in an age of increasing globalization.

## 2. The Importance of Integrating Learning and Workplace Experience

There are several reasons for aligning the knowledge and learning experiences of students with the world of work. Firstly, there is a recognition that with the increasing number of young people being schooled in higher education, there is a necessity to prepare them for the daunting task of searching for gainful employment in what is an increasingly competitive global market. Secondly, there is simply an array of problems associated with the continued interface between 'the emerging mind' of scholars and practitioners, namely the complaints regularly reported about the 'lack of relevance' or 'applied knowledge' presented in educational curriculums, which are often criticized for being too 'teacher-centric' and captivated by a theoretical approach that is no longer embraced by industry. Aligning the content of study programs would ensure that they meet the minimum requirements of the job market for the learner, ensuring employability. (Goulart, Liboni, & Cezarino, 2022).

Even for those who inquire about the underlying need to assimilate these elements of work into higher education, a persuasive case quickly emerges. Indeed, the years that a student will spend as a worker alongside their academic studies generate a more broadly

educated, adaptable, mature, poised, and capable worker with breadth, knowledge, personal fitness, and motivation that lies at the heart of all education, further or otherwise. (Naidu, 2021)

This results in graduates who are a much better fit with the strategic and operational requirements of a wide range of employers in the world of work. Furthermore, employers have the opportunity to assess the performance and potential of the combined managers of the future in-house development schemes, while at the same time delivering the improvements they want to see to make the 'ready-made' graduates generic to the company. (Kossek, Perrigino, & Rock, 2021).

Further benefits have also been reported in the form of a rise in job satisfaction, retention, and the length of service of the graduates taking these combined function courses. Creating school-employer collaborative initiatives or school-work mentorship programs is key to the integration approach. These create environments of learning that help transform the work environment into a community, which consistently contemplates, favors, and supports the integration of theory and practice. Education that fosters the pitting of ideas is often blamed for leaving graduates ill-prepared to confront the demands and potentially mundane realities of the workplace. As such, closer integration between education and the business world is required. Both education and business will equally develop innovation, ability, and agility. (Mantua, 2022)

For the learner, the benefits of integrating their training extend beyond simply securing a job as a result of work experience. On a practical level, he or she begins to appreciate the drive behind their vocation, professional identity, and career success. The doctrine of this vocational understanding becomes so deeply held and entrenched when applied to the job of working in what we know, that gradually a complete identity metamorphosis occurs—a 'habit of mind and duty' is instilled that is hard for one to shake. One comes to represent and embody the deeper principles associated with the application of one's professional or technical training. (Sitopu, Khairani, Roza, Judijanto, & Aslan, 2024).

## 3. Challenges in Bridging the Gap

Traditional university curricula often do not embrace the workplace or anticipated industry practices and therefore only flow to some extent information, knowledge, and skills required for work readiness at the end of the educational process. A time lag from the learning process to the workplace, assumed to be from three to five years, is often inadequate to prepare novices who add value at the cutting edge of practice. In cases where there might be recognition of this dilemma, there is often resistance to close partnerships with industry. Learners may not welcome learning models that do not have a strong theoretical foundation, and the workplace does not readily facilitate models that take a long-term investment approach. Employers are faced with decreased budgets for training and development. (Southworth, et al., 2023)

For the most part, students are not engaged in designing their learning and the configuration of the curricula. It takes time to adapt traditional institutions to be

responsive and settled into new functional requirements. Further, learners are biased towards fields of study that are not necessarily in high demand. However, barriers also emerge on the employer side, particularly in integrating learners into authentic work practices. Financial constraints and time constraints occur on the part of the supervisor in the workplace. (O'Connor, 2022)

In addition to these barriers, it should be noted that there are structural rigidities and design inconsistencies in implementing the following practices: the varying learning speeds and learning styles of learners have resulted in differing possibilities to engage in the integration practices. Furthermore, the shortage of access to resources is another barrier that results in disparities. Access to the internet has contributed to intense consideration of a student's capacity to engage in a community of practice. Lastly, the rapid advancement of technologies can rapidly render curricula and resources obsolete, especially in computer and information systems-related education due to the volatile and technology-driven nature of this specialization area. (Morgan, Sibson, & Jackson, 2022); (Michel-Villarreal, Vilalta-Perdomo, Salinas-Navarro, Thierry-Aguilera, & Gerardou, 2023)

## 4. Strategies for Effective Integration of Learning

One study reports a high level of satisfaction among current students with simulated work placements and industry internships. One of many ways in which learning can be integrally connected to the world of work is through experiential learning. The practices of engineering courses, medicine and nursing, some teacher training, and professional qualifications such as law, sports science, journalism, and information technology nearly all involve experiential learning. Students often take part in some of these placements as volunteers, but pressure is now increasing for all students to take formal placement semesters or two-year courses. Visibly cutting across all sections of the higher education system, there is a clamour, amplified by increasing competition for student enrollments, for heavy investment in innovative course design, especially the experiential learning that leads to close integration of learning and making, school and workplace, private and public spheres of activity. (Mensah, Azila-Gbettor, Appietu, & Agbodza, 2021)

The integration of learning with workplace experience is one of the principal objectives of vocational courses, but such skills programs are rapidly being extended to become integral to some non-vocational courses in higher education. Work experience, employment with the provider of a recognized qualification, can be made an intrinsic aspect of a whole course rather than integrated into particular units. This is a strategy for integrating learning that can be applied to the whole institution. Policy-makers advise a much greater mixing in class interactions between students in vocational and non-vocational courses. Charity and volunteer agencies are already being brought into work placement schemes to provide experiential learning in patriotism, national identity, and social responsibility. These and other similar strategies dismantle misconceived barriers between institutions and their hinterlands to help create a

university with a social goal that replaces success with money as the bottom line. (Kilag, Malbas, Miñoza, Ledesma, Vestal, & Sasan, 2024)

## 5. Case Studies and Best Practices in integrating learning and workplace

The websites of several educational, corporate, and professional groups share a wide variety of case studies, showing examples from different sectors. These case studies are drawn from different kinds of sources, including programs that have been evaluated, promising practices documents, and materials produced by stakeholders. They tell stories that can be used to illustrate and legitimate particular practices, about issues that might arise, and about possible artifacts to be developed. Developing case studies or obtaining permission to use materials from a best-practices initiative can help to add depth to decision-making. (Taherdoost, 2021)

• A program gives students of every faculty an edge in the job market by helping them develop employability skills through workshops and work or volunteer experiences in settings such as corporations, educational institutions, government, not-for-profit organizations, and start-ups. • Unique programming allows as many as half its students to volunteer in the community through most of their bachelor's programs, leading to the creation of a community-based curriculum as a tool to link "town and gown." • An institute and a core program show how intense faculty renewal and the development of new approaches can yield impressive results over a relatively short timeframe. • Highly innovative co-operative education programs are noteworthy for their impact on workforce development in the private and public sectors.

It is especially heartening to see rich and intense projects in which innovative education is so deeply grounded in the life of a community. The case studies give different examples of activities that move students out of institutionally organized spaces. However, no university in Ontario has yet attempted the comprehensive and radical approach that a town and gown project seeks to achieve by so deeply reforming curricular design and development. Consequently, the techniques used and some of the causal factors involved in the examples provided are uniquely mounted to a specific place. Whatever lessons are embedded in the description of these examples and case studies, they cannot be claimed to represent, in any way, a comprehensive or balanced set of influencing factors. To an extent, then, the case studies are like ethnography, pointillist art, or the expert example that seems to stand for a general principle in discourse. They are a form of rhetoric, which may persuade, illustrate, and legitimate. Frequently, they are useful to those who would like to see brought into focus those contributing elements that are most advantageous to an already favored course of action. (Mavragani, Errulat, Gálico, Kitos, Mansikkamäki, & Murugesu, 2021); (Thompson & Parent, 2021).

## 6. Conclusion

In this article, we presented a case for integrating learning with real-world workplace experience and acknowledged some of the challenges involved in doing so. Overcoming

these challenges is too important to disregard because they mean that students and workplaces are inadequately prepared for one another. Educational institutions must be more proactive, working directly with businesses and industries to guide, direct, and even staff educational and training programs with them, or delegate the process to them. But they must participate as critical partners in this activity. In any case, it is high time for both sides of the partnership equation to accept the shared responsibility for ensuring that educational programs align with current and future workplace needs and that students are able to access and make the most of real-world learning.

Students obviously stand to gain from the expediency of such alignment. For educational programs and schools, the uptake will have a number of benefits: assisting schools in articulating the purpose of what they do, beyond mere academic achievement; increasing collaboration and partnership; and further opening schools to the communities that can help them most. For workplaces, if work-integrated learning makes graduates more effective on entry, businesses can expect recouped investment in terms of shorter start-up times and better matching of people to needs. But what is critical about work-integrated learning is the slow but sure transformation of systems operated in businesses. Any such preparation for the world outside schools also needs to be designed for range and resilience, and to include the capacity to continue learning at an ever-increasing rate.

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# Collaborative Learning Ecosystems: Enhancing Communities of Practice in Digital Spaces

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**Abstract**

Exploring the intersection of digital spaces and peer collaboration, this paper delves into the evolving landscape of collaborative learning ecosystems and communities of practice. Drawing on theoretical frameworks rooted in socio-cultural traditions, the study investigates the implications of digital interactions on professional domains such as accounting, nursing, law, and social work. Through empirical analysis, the paper highlights the porous boundaries of collaborative learning activities within a broader learning ecosystem, emphasizing the significance of personal emotions and social relations in educational contexts. The concept of "community of practice" is examined as a catalyst for transforming organizational cultures and enhancing participatory communication in learning environments. By proposing design principles that prioritize intergenerational, mixed-class, and intersectional dynamics, the paper underscores the importance of diversity and authentic feedback in fostering effective collaboration. Case studies illustrating successful collaborations underscore the importance of clear communication, shared goals, and supportive cultures. Ultimately, the paper offers insights for educators and researchers seeking to leverage digital technologies for enriching collaborative learning experiences within diverse communities of practice.

**Keywords:** Collaborative learning – Ecosystem – Digital spaces

## 1. Introduction

There is growing interest in designing technology-mediated learning settings that engage learners in the practices and communities of experts, often framed in today's education as preparation for the future world of work. Given the recent shift towards collaboration in society, recognized in higher education, this blended focus becomes all the more significant as it runs throughout different communities interested in learning and is arguably a future-driven practice in itself. (Mayer & Schwemmle, 2023).

Supporting digital interactions that foster community and learning, along with communities of practice, raises questions that we seek to address in this paper. We build upon a small-scale pilot study aimed at exploring a personal learning ecosystem for a

small number of staff interested in learning technology, using a framework of community of practice in combination with collaborative learning and personal learning alongside digital and virtual boundaries. Key to this are the theory and practices of communities of practice, including collaborative learning and its underlying learning processes, and the social dynamics of learning that are universally amenable to nurture.

We argue that collaborative learning activities are to be seen as part of a broader context, specifically a learning ecosystem which is, in turn, part of a larger community of practice. Ecosystems, as we are looking to frame them, are not to be seen as the complex molecular systems they are in ecological science but at the level of relationship and activity. Drawing from empirical work, we begin our analysis by proposing how these boundaries are porous and consist of threshold concepts and practices that offer learning opportunities from multiple perspectives. Headings and subheadings are used to guide the reader through the paper.

## 1.1. Background and Context

In this section, We will begin by giving a brief account of the historical and theoretical frameworks that have developed around key concepts such as communities of practice. we will then consider a number of theoretical and practical models that also inform this work. It is important to look at these in detail in this paper so that the implications of undertaking this analysis in digital, as opposed to face-to-face spaces can be fully recognized.

Collaborative learning has been a consistent thread of educational practice, from early progressive models to contemporary learning communities. Over the last 20 years, we have witnessed a move towards greater recognition of the importance of personal emotions and social relations in the way we learn. Learning is always social - taking place as it does within a cultural framework. The most significant factor in this has, of course, been the increasing availability of, and reliance upon, digital technologies in many societies. The progression towards a society where most people live and work in city facilities that have grown out of techno-industrial production means fewer people have the experience of living in close proximity to food production. Similarly, most people participating in higher education will have less experience of living in face-to-face communities of practice at work. ( (Lämsä, Hämäläinen, Koskinen, Viiri, & Lampi, 2021).

Lave and Wenger were the first to articulate how a social perspective could transform the way we view learning in the broader community. They coined the term 'community of practice' to characterize this vision. They know a community is brought together by what they do and has often underplayed social relations, although the influence of a community on practice is significant. A community of practice is a group of people who work together on a similar task or pursue a common interest. (Lambert & Bouchamma, 2021).

Practice is produced in these continuing encounters aimed at getting better at that task or common interest. Providing an enriched environment can help a community of

practice in four crucial ways. First, it can provide a better frame of reference for critical inquiry and identity work. Second, it can help the process of boundary work with the outside world. Third, by intersecting multiple communities and sectors, it can provide rich, new content for practice. Fourth, it can create a critical discourse for the larger society. (Oliveira, Grenha Teixeira, Torres, & Morais, 2021).

This paper sits within current literature that investigates what implications the development of digital spaces may have for the project of peer collaboration. Theoretical frameworks that inform social learning, communities of practice, and digital interactions bring with them the influence of socio-cultural traditions. The study of collaborative learning was also considered within models of practice that inform human activity in professional, organizational, and management study in the accounting, nursing, law, and social work professional domains.

## 1.2. Research Objectives

The specific research objectives guide this inquiry centered on the examination of how Collaborative Learning Ecosystems (CESs) operate in digital spaces and their impact on Communities of Practice (CoPs). Our first major goal is centered on investigating the relationship between educational technologies and opportunities for interaction and collaboration.

A primary aim of the research is identifying practical strategies to foster collaboration in digital spaces that, in turn, enhance the quality of Peer-Facilitated Practices (PFPs) such as CoPs. Because of their powerful social learning possibilities, CoPs have been shown to have significant co-benefits in enhancing student learning in a university environment. As such, the establishment of highly functional and engaging CoPs should assist in generating diverse insights into broader benefits and concerns about learning in digital educational spaces. Much of the educational technology literature overemphasizes simple transactional, content-centered concerns, and we believe the project can significantly contribute to gaps in the educational technology research on CoPs. (Chen, et al., 2022).

In summary, our key research objectives are to examine how CESs operate within digital learning and teaching spaces and how they potentially enhance and shape the operation of CoPs. To guide this research, we are specifically interested in detailing strategies employed in enhancing collaboration through educational technology uptake. Throughout the inquiry, the usefulness of particular techniques in fostering interaction and collaboration will be assessed, as well as implications for the broader CoP practices. By investigating the connection of CESs in educational technologies and CoP development, we aim to contribute to both theoretical and practical knowledge in the area. Identifying the extent of current useful collaboration tools in educational technologies will be a major step forward in shaping how researchers can inform practice in digital contexts. In summary, we expect our project to make an original contribution to understanding the role and impact of contemporary learning technologies in fostering CoP development and function in digital spaces.

## 2. Understanding Communities of Practice

A community of practice may be defined as a group of people who carry out tasks or activities in order to meet specific preoccupations or solve recurrent problems, and, in so doing, organize a body of knowledge. Communities of practice transform the dynamics of learning. Firstly, they contribute to the empowerment of the groups who are part of them by making available the collective intelligence. Secondly, they contribute to individual learning through the exchange of experiences, mutual support, and knowledge. Learning is the fundamental purpose of communities and represents the mechanism for attracting and involving individuals for creating relationships that become, over time, a network of relations with significant effects. Key underpinning concepts of communities of practice consist of trust, engagement, collaboration, and sharing an understanding of ways of going about policy and performance tasks. ( (Niet, Shivakumar, Gardumi, Usher, Williams, & Howells, 2021).

At the core of the concept of a community of practice is the mutual engagement of members in the mission of the group and the exchange of ideas, advice, care, sharing, and collective work but, above all, in learning. Environment, contexts, and organizational systems, to a greater or lesser extent, mediate the development of communities of practice. (Haas, Abonneau, Borzillo, & Guillaume, 2021).

Moreover, the extent to which the informal community of practice can operate as communities of practice is also partly contingent upon practical factors such as how the structure of the wider environment connects with these informal groupings. This occurs through networking potential, learning, and enhanced performance might be significantly increased. Relevant conditions for successful communities of practice involve members, practice, content, and context. In particular, trust and technology are two empirical indicators that can be used as a measure for evaluating the growing level of communities of practice. Communities of practice have the potential to transform existing organizational cultures and participatory communication in learning practice. The predisposition of the team in the organization to accept this transformation is the most crucial element for a successful collaboration with external stakeholders. (Bibri & Allam, 2022).

### 2.1. Definition and Key Concepts

A community of practice (CoP) is a concept that identifies and explains the essential elements of maintaining the functioning of a group of people in the same or similar roles. Nurtured around the basic characteristics of a shared domain, community, and practice, it provides a useful test for evaluating the success prospects of informal learning tools and methods. We concede that these assumptions are not always entirely true in all informal educational settings. People can become powerful learners even if they do not share and seek joint understandings but are practicing alone and motivated for personal rewards. In some cases, similar goals are shared in informal gatherings of individualistic activities, while in less self-centered communities, knowledge-hoarding actions can be the acceptable norm, which is not seen as conflicting with joint enjoyment. However, we argue that the likelihood and potential of a group of people to

become powerful learners grow when a community's culture begins to embrace the sharing of their practices and learning activities. (Abedini, Abedin, & Zowghi, 2021).

The sharing of elements of the culture can then cascade through the community because the development of shared understandings commonly follows from shared activities. When combined with the socially oriented learning theory of situated cognition, the CoP becomes a powerful tool for focusing management design and practice. While situated cognition emphasizes the significance of group or community experiences, knowledge sharing and learning at the group level will still depend on the sum of the individual experiences within it. The framework of communities of practice does not forget the learner's previous experiences or the power of applying these to the full span of the learning curve; it is a new focus for developing individual and organizational performance. (Azeem, Ahmed, Haider, & Sajjad, 2021).

2.2. Importance in Learning Environments
Communities of practice with co-constructed knowledge can have a powerful effect in educational communities. They provide opportunities for shared understanding and the collaborative construction of knowledge. Through effective control of some sociocultural dimensions of such communities, they can provide strong collaborative benchmarking which serves to drive individuals along developmental pathways towards enhanced personal practice, capabilities, and capacity. People come to these communities with their current stock of knowledge and beliefs, together with their practices and experiences forming their "previous existing knowledge" bases. Through their engagement in the collaborative discussions and sharing with their "community," it has been shown that participants can construct new knowledge, shake previous beliefs and opinions, and enhance syntheses through the sharing of differing perspectives. (Parsons, 2021).

People remember 90% of what they say and do, compared to 20% of what they read, and 30% of what they observe. Through discussion and other collaborative practice, participants come to understand not only what they believe, but why, and how their own synthesis has been achieved. Constructivist theory claims that new knowledge should be co-constructed, a notion that supports. Collaborative activities have been found to assist in the construction of mutual knowledge, the development of language, and the sharing of differing viewpoints and beliefs. While this may argue for collaborative content construction as a valuable adjunct to content sharing, such spaces and practice can extend to become what is termed a "community of practice." Such a community of collaborative practice has been found to engender mutual support and encouragement through sharing common practice, inquiry, and "being." Members in these communities are found to engage in learning activities more through interest and passion than extrinsic motivation. Such collaborative learning activities seem to be "like riding a bike." (Lipponen, 2023)

## 3. Digital Spaces and Technology

Digital spaces have become a prominent feature of contemporary educational ecosystems. In these digital spaces—those which we call collaborative learning ecosystems—people can assemble to collaborate, form networks, share knowledge, and create new products. These digital spaces come in many different forms and include overlapping and interacting media: social media, digital spaces and forums dedicated to particular interests, and digital environments dedicated specifically to learning, such as various learning and course management systems. (Lamb, Carvalho, Gallagher, & Knox, 2022).

These digital approaches to knowledge generation, exchange, and co-creation are often referred to as 'social' or 'participatory' media. The digital technologies that facilitate these collaborations allow us to envisage "what might be different if digital spaces were as basic to our understanding of collaboration as the office or the conference room?" Indeed, "what difference would it make to how we understand what education should look like if it is not physically located in a single building but dispersed in digital spaces?" Virtual and online technologies are sometimes disparaged as low-level substitutes for 'real' and in-person forms of interaction, but in our ever more global, connected, and technology-based society, the reality of interactions "at a distance" becomes increasingly important. Clearly, digital spaces with "a host of capabilities that virtual cohabitation and proximity cannot offer" may become centers for the type of learning we need in a world characterized by increasing diversity and globalization. Related to this, technologies can provide access to a wider variety of learning materials: lecture programs, discussion archives, resource links, blogs, notes, group projects, discussions, videos, images, and interactives. Such flexibility accommodates both "cognitive" and "constructivist" styles of learning. Thus, they can support the "affective" and "cognitive orientation towards a range of learning styles." (Alam, 2021).

### 3.1. Types of Digital Spaces

Offering a digital space in which members can find and maintain their relationships is essential for online or blended communities of practice to exist. There is a proliferation of platforms that enable the creation and maintenance of communities of practice or various kinds of collaborative spaces. It is beyond the scope of this text to provide an exhaustive list of these platforms. Rather, we want to distinguish the various types of digital spaces that have become associated with supporting communities of practice. (Abedini, Abedin, & Zowghi, 2021).

These digital spaces include: 1. Online forums – a vast array of software enables the hosting of threaded discussions where users can raise new topics and respond to existing ones. There are typically many ongoing discussions and no specific categorization of what users should talk about. 2. Social media networks – typically involve the creation of personal profiles including an image and some biographical information. Extensive use of multimedia means that it is appropriate for sharing information, pictures, and videos. The networks are designed for interactions where 'friends' can follow each other and share content and ideas. 3. Collaborative software – tools that enable people to

work together on shared documents, presentations, or spreadsheets. Documents are stored in the cloud and changes to them can be seen in real time. These are often used by formal work groups or organizations but can also be used for more open processes such as hackathons. 4. Learning management systems (LMS) – systems designed to support educators in their administration, the sharing of resources, and the encouragement of communication and collaboration among their students. Tools include virtual classrooms, quizzes, and file-sharing areas. They might be any of the above groups or specific tools for constructionists. (Turnbull, Chugh, & Luck, 2023)

One of the highlights of the creation of the above spaces and tools is that they can support different preferences and learning styles. A more formal discussion topic might be better suited to an LMS, where there could be strict guidelines on what makes a good response. Alternatively, a loosely structured thread might be more appropriate for an online forum. It is worth emphasizing the importance of the platform for the community. Designing an effective learning space is not just a matter of setting up a system and then picking up the conversation where one 'left off.' These spaces carry their own cultures and affordances. In practice, many communities that incorporate a computer-mediated component have made considered investments in their spaces and have sometimes gone to the effort of designing something from scratch. These platforms run the spectrum from highly minimal and clunky text-based forums to the highly graphic, multimedia environment of commercial social networking sites. While the social environments can be used for serious work, the incorporation of banal and trivial discussion can create a casualizing effect on the discussion culture. (Sun & Suthers, 2021).

It must also be appreciated that none of these communication spaces are hermetically sealed off from public exposure, and we always need to consider privacy and user access. Certain discussions will always be more safely held within more private areas. It is important to note that platform or service choice may be – or may have already been – made in collaboration with service providers. User experience design and interface, data protection, mobility, chat room server location and accessibility, private personal learning groups off the radar for employers/schools, and additional user interfaces are some of the factors that need further consideration before choosing the kind of spaces you are going to use. (Beverungen, Kundisch, & Wünderlich, 2021).

3.2. Role of Technology in Facilitating Collaboration

Technology can greatly facilitate connection, interaction, and dialogue among learners, creating digital spaces that serve as extensions of instructional content in some cases. Systems like Zoom, Google Meet, Microsoft Teams, and Adobe Connect all allow for synchronous conversations and video conferencing from anywhere with an internet connection. Similarly, collaborative documents, including student project groups or graduate assistants, allow for real-time editing and learning interaction within the article itself. Of course, these systems are only as accessible as the devices used to access them and the strength of connectivity, making synchronous activities difficult, if not

impossible, for students and other participants in rural or otherwise disconnected areas. (Zhai & Wibowo, 2023).

Other web-based interfaces, including discussion forums, blogs, or microblogging applications, allow for asynchronous discussion in more of a network or community setting. Asynchronous technologies are not tied to time or place and allow for deep and longer-term reflection on topics by learners. Combining the asynchronous and synchronous can be both complex and enriching. At their best, these tools help with connecting diverse people across great distances and blurring departments and borders. Furthermore, they create a safe space for those in marginalized groups to engage in discussion in a way that may not be currently possible, disrupting existing power differentials if designed thoughtfully. The use of these technologies also helps to further the process of learning, as now not only are students learning content, but also learning technology and online privacy or professionalism. Some of these digital tools even provide features to assist those who have disabilities, where settings can be adjusted for heightening contrast, dictating content, reading aloud, or even including sign language interpreters. (Hirschel & Humphreys, 2021).

While advancing inclusive design is a positive step, potential downsides to using certain technology include digital distractions, as well as the need for digital literacy, which is not currently equally held. Further, if one does not have access to the computer of choice or the bandwidth required to engage fully, it can limit one's participation and engagement, thus fracturing the spaces and promoting inequity in the course or learner ecosystem. The choice of what and how technology will be used within the classroom and online becomes a central choice for educators and must be a decision made with care and critical awareness. Technologies like those mentioned above, if harnessed appropriately, can serve as access points to maximize the educational trajectory of communities of learners. (Yu, 2022).

## 4. Design Principles for Collaborative Learning Ecosystems

The successful collaborative learning ecosystems have been constructed with six principles as their foundation. First among these design elements is that inclusive ecosystems enable the ultimate goal of a "mixed community of practice," which provides a platform for the voices of all community members. By design, learning ecosystems must be intergenerational, mixed-class, and intersectional, and thus the particular identity, expertise, or capabilities of the participants should be made irrelevant by the activities themselves. Second, those activities must provide an array of choices and pathways for participants to collaborate and build knowledge, whatever their interests or expertise. Moreover, ecosystems should also include affordances for these participants to exercise and display the capabilities that are central to their identity. In this design, educators and museum professionals ask, "What do learners need to know to participate in this activity? What do learners need to bring with them to fully participate in it?" The commitment to an open, inclusive design is essential to ensure that learners are engaged in the ways that work best for them—including

communication and cultural practices that are important within their peer group. (Kinder, Stenvall, Six, & Memon, 2021).

Third, feedback is essential. Good feedback should be authentic, adaptive, and work within the community of practice. Incorporating high-quality feedback into any learning activity improves its ability to sustain engagement. Rigorous feedback must also be present at the individual, small group, and ecosystem levels so that participants can make strategic choices to support their learning and acquisition of 21st-century skills. Fourth, it is essential that learning ecosystems be designed in ways that enact and make possible new ways of knowing. The emphasis here is on creating learning opportunities where the content is managed and generated by the participants through inquiry and power-sharing and that will, ideally, address contemporary issues and mirror the ways that knowledge is developed and critiqued in communities of professionals. (Ogunyemi, Quaicoe, & Bauters, 2022).

### 4.1. User-Centered Design

User-centered design is a fundamental attribute of the approach to designing collaborative learning ecosystems. Later on, we will discuss the first few steps of the systematic design of a collaborative learning ecosystem centered on the needs, preferences, and context of the user, whether this user is an individual, an organization, or an entire community. Learning is an intensely personal activity, and the most effective learning occurs when learners are actively engaged in their own construction of understanding and knowledge and when learning exists in the context of relevant and meaningful problem-solving. Understanding the unique needs and settings of each environment is necessary for the creation of environments in which learning and collaboration will thrive. The intended clientele or end-users of an educational technology product or service must serve as informants and engaged partners in the design and development process. (Durak, et al., 2024).

There are numerous ways in which information can be gathered from learners about their learning preferences, styles, experiences, and aspirations. This information can be obtained through surveys, interviews, usability testing, early-stage piloting, and other techniques applied in the front-end analysis phase of a new or modified product or service. By understanding the learners and their context within the collaborative community, a designer can anticipate areas in which user support or tools will be required, enabling a system designed from the start for rapid incarnation of changes that would benefit users in the long term. Including all learners and ensuring that they are pleased with and engaged in their context of learning results in greater participation and achievement, which often leads to greater learning retention. Much of the work in the development and design of learning technologies and communities of practice, as well as the researchers who will improve learning and educational technologies in the future, will depend on a learning-centered perspective in the field of UCD and HCI to ensure a more inclusive and receptive environment for all users. (Hoadley, 2023).

4.2. Flexibility and Scalability

A second principle that must be embraced when designing learning ecosystems is flexibility. An ecosystem should incorporate enough diversity in its structure to accommodate different learning styles, rich social interaction, or just different ways of approaching knowledge. This means offering varied navigation strategies to allow a range from the "just tell me what to do" to those who want to skip the lessons and start an eyewitness account discussion. But this flexibility is not only within the system design; the system should also be able to change or be changed as new practice communities emerge or members take up practice across boundaries. Tools may change, information may become more attention-worthy, or practices lost in relevance and not worth supporting. An adaptive ecosystem may differentiate between an experienced audience and the novice one, altering its communications strategy and resources over time. This is particularly critical when thinking of integrating support for practice. (Akkem, Kumar, & Varanasi, 2023).

Applying the principles of flexibility and scalability can help designers better understand why certain learning practices and communities endure, while others flounder and have to be constantly propped up. Scalability. An increasing number of educators are concerned to find ways to improve learner progress and achievement. Learning environments should cater to the development of broader sets of abilities rather than the more specific training of knowledge or skills. For many institutions, where advances are being made, the growing possibility of numbers of "learners" as well as the diversity of potential interactions is becoming an important factor. Besides the pressures of "massification" already stretching some provision to breaking point, there is a greater range of students and expectations making the presence of a range of teaching and learning strategies important. A number of institutions are trying to respond by distinguishing between the different elements that constitute a program and finding ways in which provision is more modular. Pragmatism in global strategy may have already rendered our teaching redundant! The best learning experiences may be those where students themselves are defining the learning environment from the outset! Subsequently, the learning environment may need to be scalable, changing and "growing" as the student population and potential contact groups change. In closely related settings, as new collaborative courseware technologies mature, the intention is to move from empirically validated individual tutoring advice to the use of scalable tools to generate a preference model. (Ng, Leung, Su, Ng, & Chu, 2023).

## 5. Case Studies

Researchers across the educational levels have previously developed collaborative learning ecosystems, known by different names in each setting. This section provides five case studies that illustrate how these systems of formal and informal communities of practice work in an educational setting. All of these case studies include practical tips and lessons learned from their experiences, along with some evidence of the success of their efforts. From a professional development program for teachers at an independent K-12 school to a collaboration between librarians and educators at a community college,

these examples will illustrate how educators across multiple grade levels and settings can create communities of learning that can have a positive impact on the greater academic community. These case studies demonstrate the idea in practice of what we've explored in this early section: collaborations that work feature clear communication, shared goals, and a supportive culture. (Wang, Yu, Bell, & Chu, 2022).

Many of the hallmarks of communities of practice are happening in a foundation-level board that has established several modes of embedded peer learning for new educators. The team is in the process of building a written matrix for describing different levels of practice for skills, proficiencies, and dispositions required of teachers. Some of the foundation board members meet year-round on various projects, such as revising or revisiting the policies and procedures manual, writing a teacher semantics definition handbook, and often engage other educators in the process. The board is taking formative questions regarding new member induction and embedded peer learning as we move toward a formal staff reprogramming and partnership. (Mathis, 2022).

5.1. Successful Implementations
Some implementations of collaborative learning ecosystems in both academic and professional environments have been described as successful based on the ability of the community of practice to continue thriving after their initial creation. In academic environments, this includes an initial implementation and sustained continuation of the ecosystem as part of a program, case conferences in the Bedside and Bench Learning Ecosystem, and the Cardiovascular Sciences Translational Institute. These ecosystems have been successful at maintaining alignment with their original goals. In concert with this constitution and ongoing involvement of the learners, the ecosystems leverage a variety of resources, such as physicians and medical education professionals for the former, and resources designed for a lay audience for the latter and the research instruments for their own work. (Garcia, 2021).

Professional organizations in the area of business analytics and AI, and in the area of data science, have focused on licensing structured ecosystem programs with their associated training modules and resulting certifications from participating members and thus have invested in creating a high-quality training experience for a broad and global audience. Over the past four years, their main community has significantly grown, with a substantial increase in unique engagements and participations. These examples include a focus on learning and transfer of training, where professional practitioners are exposed to core client listening sessions and understandings in addition to the academic content. As such, they advance practical knowledge and community practice within work. Success in this domain involves both evidence of skill mastery in professional practice and a positive experience at the strategic and operational levels of the client organization. There is communication between the designers, leaders, and supports as well as between the participants. In addition to a collection of design principles, we also provide detailed examples of community practice. Participant experiences are discussed in conjunction with the details of the various communities. Such a collection could be a resource to both practitioners and designers of other communities of practice, given the

variety of environments in which these communities operate. Success stories and areas for struggle exist within a variety of academic and professional environments and contexts, and their sharing could help to catalyze additional work. Success stories might also provide insights to practitioners working in populations similar to those included in the examples. (Tien, Ngoc, & Anh, 2021).

5.2. Challenges and Lessons Learned

The implementation of collaborative learning ecosystems might face technical, organizational, pedagogical, and managerial issues. The critique is that once these same problems in governance and management are found in highly funded multi-actor projects, more modest activities will not be able to overcome them. Being aware of such unintentional bias towards corporatist perspectives is a very early step in thinking of ways to address it, once we acknowledge the underlying assumption at the core of the projection of life world visions into broader organizational and governance contexts. (Fergusson, van der Laan, Imran, & Ormsby, 2021).

At best, such reflections might counterbalance the normal course of action. If this were the case, space and vision for counter-cultural activities might indeed be preserved and supported, and sustainable communities of practice, resting in collaborative ecosystems both online and offline, might actually unfold. When addressing the question of what it is in the proposed issue, we should first acknowledge the issues and difficulties encountered and then try to understand what might have made the difference, building our ideas on viable practices on one hand, and on the latest theories and epistemological frameworks in use in what addresses learning and cooperative collaboration dynamics. (Arndt, Ng, & Huang, 2021).

Some common challenges in nurturing learning communities are: sustaining members' initial interest and commitment; ensuring diversity of topics and practices; participants' overcommitment; lack of resources, time, or technological infrastructure to maintain the network/ecosystem; and failure to respect and take into account physical co-presence periodically elsewhere. Some important lessons learned, challenges, and ways forward would entice a fair number of scholars and practitioners to do some stock-taking of their initiatives and intentions. (Fergusson, van der Laan, Imran, & Ormsby, 2021)

## 6. Conclusion

In conclusion, this study has sought to understand the ways in which individuals currently work collaboratively to share knowledge and practice in complex community settings outside of university settings. We suggest that a key contribution of our work is its focus on collaborative learning ecosystems in practice. We suggest that support for short-term problem solving via digital platforms in communities of practice has limitations. Rather, drawing on communities of inquiry and the literature on teaching excellence, we suggest that social learning from and with peers engaged in a similar form of professional activity over a longer period of time has greater transformative potential.

Given the transformational expansion of possibilities in shared digital spaces, we argue that teachers, doctoral students, researchers, and other curriculum designers must focus more explicitly on developing participants' capacity to engage in digital spaces. In short, we suggest that these findings point to an imperative to find ways to integrate and foreground these collaborative approaches within our modules and communal spaces more broadly. This study suggests that teachers use such online collaborative activities as vehicles for connection, communication, and action on real learning issues. Undoubtedly, there is still further work to be done. Future research should enable a sharing of principles around the use of digital communication and collaborative technologies. Ongoing research is needed to track how such digital and pedagogical practices evolve to support and advance communities of practice and collaborative ventures generally.

6.1. Key Findings and Implications for Practice
In digital places of learning, educators are keen to engage learners in pedagogical partnerships, in co-creating the learning experience and in sharing expertise. However, while these pedagogical partnerships have been effective for enabling student representation and engagement, little has been published about the strategies that are conducive to these pedagogical partnerships. This section draws on our research findings and presents ingredients that are required in supporting numerous constructive collaborations in digital spaces.

The ideal ingredients for a successful collaborative learning ecosystem were revealed through an interpretative analysis of one interview and two thematic focus groups with eight participants each, which were informed by one hundred survey responses. Findings from this data gave insight into the kinds of factors that were important for enabling collaborations, including concepts like trust, clear objectives, making the implicit explicit, communication, recognizing power dynamics, feedback, and evaluation. The findings suggest some practical implications for educators working with various communities of practice in day-to-day activities, using digital spaces for collaborative practices. The findings suggest that it is important to take some time to set out very clear goals and to explore others' expectations in collaboratively using digital space. It is also useful if these spaces support individuals in becoming and feeling safe and confident in starting to collaborate. The findings have some implications for what one should consider valuing in collaborative outputs, the ways in which feedback ought to be forwarded, and the considerations when it comes to evaluating the space. These are detailed as sub-principles. Overall, the findings suggest that by making very explicit the expectations of a collaborative initiative in a digital space, by building respect, trust, and confidence in its use between the attendees, and by providing feedback that is tailored, constructive, and leads to a sense of developmental progress, all as a part of transparent evaluation processes, it can make the digital learning experience a deeply engaging journey with significant outcomes. Therefore, collaborative practice can have a large and positive ripple effect. These findings, detailed below, also support the assertion that good flows among staff and participants lead to positive outcomes for all within digital communities.

## 6.2. Future Directions for Research

This paper has outlined the concept of collaborative learning ecosystems, formulated a set of propositions for current research, and proposed potential strategies for exploration. However, many areas remain underexplored. This section examines the future directions for research into collaborative learning ecosystems. The ongoing reimagining of education will continue to explore the potential for e-learning and digital collaboration in educational settings. Research possibilities include the use of technology for facilitating micro-collaboration, language learning, training, livelihood development, or job seeking. Furthermore, current educational research devotes significant attention to AI, personalized learning, gathering big data, and immersive technologies. As the exploitation of such technologies produces tangible explorations of AI for social good, there are both ethical alignments and research opportunities in this direction. Continued longitudinal studies may investigate cross-cultural learning, developing curriculum ties with higher education, or extending studies beyond the K-9 program to vocational training. Additionally, researchers may focus on migrants, other populations of displacement, indigenous learning, and/or the broader category of "schools and other learning environments" as distributed communities of practice, thereby enhancing global and personal connectivity. Other researchers may explore variations in the use of digital platforms for partnerships, passion projects, and collaborative problem-solving. As student ages range from preschool to university, research may involve collaborations with commercial companies, non-profits, NGOs, or government agencies. Such research opportunities permit the exploration of creative collaborations in which students contribute to meeting an authentic need outside of schools. Longitudinal research exploring the impacts of such collaborations on community expansion, strengthening cohesive collaboration, and peacebuilding could subsequently be extended to mature ecosystems of young professionals who want to remain connected to communities of learning and practice. Finally, continued media ethnographies will remain important in understanding the relationships between various—and multimodal—'spaces' of collaborative learning habitus, whether physical, digital, or mixed reality.

This paper has outlined a framework of collaborative learning ecosystems that proposes a number of ways that researchers might explore variations in digital or mixed-reality technologies that support digital collaborative learning communities across educational and/or working life transitions. It has, in this way, formulated a set of nine propositions for researchers to investigate. The pandemic has reinforced the need to further such an agenda in examining futures of education.

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